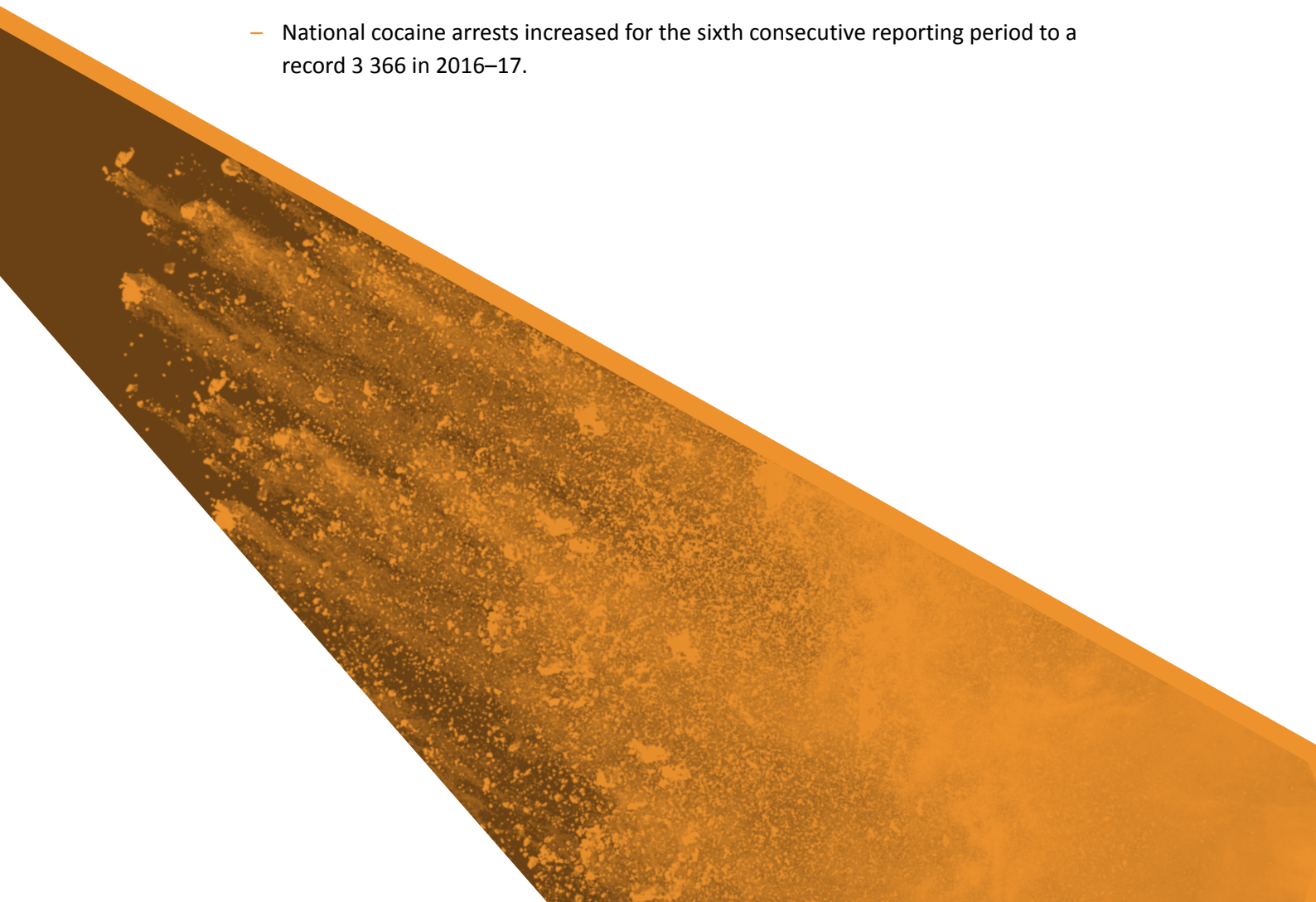
COCAINE

KEY POINTS

- Colombia remains the largest cultivator of coca in the world. The weight of cocaine seized globally has continued to increase and is at record levels.
  - Drug profiling data of both border and domestic seizures indicates the continued prominence of Colombia as a source country for cocaine in Australia.
- Indicators of cocaine supply and demand in Australia point to a potential expansion of the market in 2016–17.
  - Both the number and weight of cocaine detections at the Australian border increased to record levels in 2016–17.
  - The National Wastewater Drug Monitoring Program identified cocaine consumption in capital city and regional sites in all states and territories, with average consumption increasing between August 2016 and August 2017.
  - Both the number and weight of cocaine seized nationally in 2016–17 are the highest on record, with a six-fold increase in the weight of cocaine seized this reporting period.
  - National cocaine arrests increased for the sixth consecutive reporting period to a record 3 366 in 2016–17.



MAIN FORMS

Cocaine (benzoylmethylecgonine) is a naturally occurring psychoactive alkaloid and stimulant found in specific varieties of the coca plant, in particular *Erythroxylum coca* (*E. coca*) and *Erythroxylum novogranatense* (*E. novogranatense*).

- *E. coca* and *E. novogranatense* are native to the Andes region of western South America.
  - *E. coca* is cultivated in the Plurinational State of Bolivia (Bolivia) and Peru.
  - *E. novogranatense* is cultivated in Colombia and Central America.
- The two most common forms of cocaine are hydrochloride salt and cocaine base.
  - Powdered hydrochloride is the most common form of cocaine available in Australia, which can be snorted, rubbed into the gums or dissolved in water and injected.
  - Cocaine base, often referred to as 'crack'[1], has a rock crystal appearance and is readily converted into vapour with heat, making it suitable for inhalation. Crack cocaine is not commonly encountered in Australia (Baker et al. 2004; US DEA 1993).

INTERNATIONAL TRENDS

Globally, the total area of coca bush cultivation continues to increase, led by successive increases in the area under cultivation in Colombia since 2013. Whereas coca bush cultivation in Peru and Bolivia has declined, the 2016 *Colombia Cultivation Survey* reports a 52.0 per cent increase in Colombia's total area under coca cultivation between 2015 and 2016—from 96 000 hectares in 2015 to 146 000 hectares in 2016 (UNODC 2017; UNODC 2017a).

Global cocaine use, according to the *2017 World Drug Report*, has remained stable over the past six years, albeit with marked differences between regions. Despite increases in cocaine seizures in Europe, available data do not yet reflect a corresponding increase in cocaine use in Europe. In contrast, several indicators suggest the number of cocaine users in the United States (US) continues to increase. A combination of national surveys, workplace drug testing, and statistics on cocaine-involved drug poisoning deaths indicate that since 2014, the number of estimated cocaine users in the US has continued to increase (UNODC 2017; US DEA 2017).

According to the 2017 World Drug Report, there was a 32.0 per cent increase in the reported weight of cocaine seized globally between 2014 and 2015. At 864 tonnes, the total weight of cocaine seized in 2015 represents the highest weight ever reported. Colombia accounted for 34.0 per cent of the total weight of cocaine seized globally in 2015, with more than 70.0 per cent of global cocaine seizures in 2015 occurring in Central and South America. The US reported a 62.0 per cent increase in the weight of cocaine seized between 2013 and 2015, with the weight of cocaine seized in European Union member states also continuing to increase, reaching over 80 tonnes in 2015 (UNODC 2017).

In 2016, the total number of cocaine seizures reported by World Customs Organization (WCO) agencies decreased 19.8 per cent, from 6 077 in 2015 to 4 871 in 2016. However, the total reported weight seized increased 175.4 per cent, from 65 631 kilograms in 2015 to 180 773 kilograms in 2016 (WCO 2017).

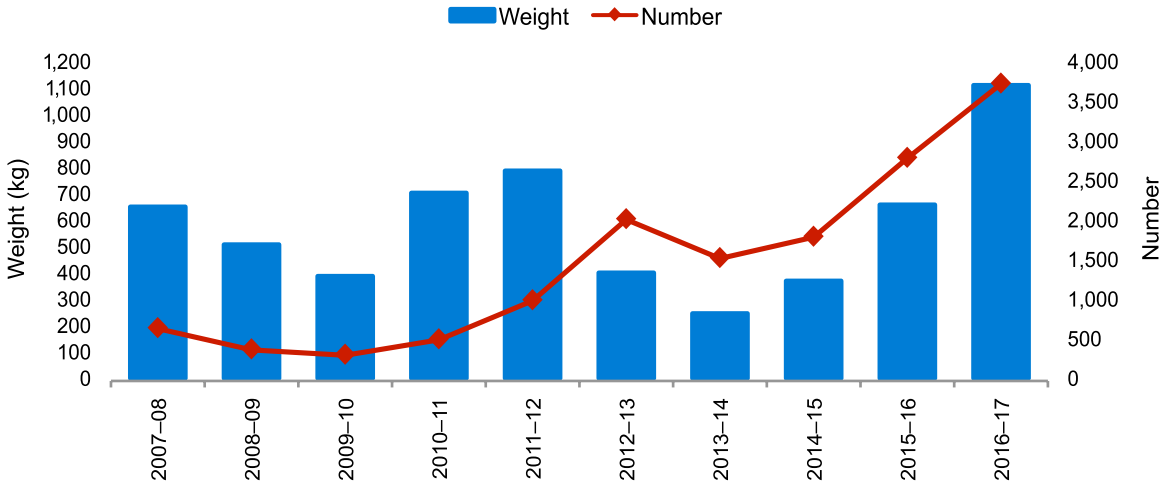
1 The term crack refers to the crackling sound produced by the rock as it is heated.

DOMESTIC TRENDS

AUSTRALIAN BORDER SITUATION

Both the number and weight of cocaine detections at the Australian border increased for the third consecutive reporting period in 2016–17 to record levels. The number of cocaine detections increased 33.8 per cent this reporting period, from 2 777 in 2015–16 to a record 3 715 in 2016–17. The weight of cocaine detected increased 68.8 per cent this reporting period, from 657.1 kilograms in 2015–16 to a record 1 109.5 kilograms in 2016–17 (see Figure 19). In 2016–17, 127 detections of cocaine weighed 1 kilogram or more. With a combined total weight of 1 037.6 kilograms, these 127 detections account for 3.4 per cent of the number and 93.5 per cent of the weight of cocaine detected at the Australian border.[2]

FIGURE 19: Number and weight of cocaine detections at the Australian border, 2007–08 to 2016–17 (Source: Department of Home Affairs)



IMPORTATION METHODS

In 2016–17, detections of cocaine occurred in the international mail, air and sea cargo and air passenger/crew streams. This reporting period the international mail stream accounted for 94.3 per cent of the number and 25.0 per cent of the weight of cocaine detected at the Australian border. The air cargo stream accounted for 4.9 per cent of the number and 45.7 per cent of the weight of cocaine detected this reporting period. The air passenger stream accounted for 0.8 per cent of the number of detections and 6.4 per cent of the weight of cocaine detected in 2016–17, while the sea cargo stream accounted for less than 0.1 per cent of the number of detections and 22.9 per cent of the weight of cocaine detected this reporting period.[3]

EMBARKATION POINTS

In 2016–17, 47 countries were identified as embarkation points for cocaine detected at the Australian border, compared with 54 countries in 2015–16. By weight, the US was the primary embarkation point for cocaine detections in 2016–17. Other key embarkation points by weight this reporting period include South Africa, Canada, Mexico, the United Kingdom, Brazil, France, Chile, Singapore and Trinidad and Tobago.

2 See Appendix 1 for significant border detections of cocaine in 2016–17.
3 Figures for importation methods of cocaine detected in 2016–17 will be available on the Crime Statistics Australia website. See <http://crimestats.aic.gov.au/>.

DRUG PROFILING

The Australian Federal Police (AFP) Forensic Drug Intelligence (FDI) team operates a forensic drug profiling capability through the National Measurement Institute (NMI), which is used to identify regions of origin and manufacturing trends for samples of cocaine submitted from seizures made at the Australian border. The capability also allows for comparisons within and between seizures to identify distinct batches of drugs, the origin of drugs, or to demonstrate links between groups involved in illicit drug manufacture or trafficking. Only certain drug types are examined and not every seizure of drugs is analysed and profiled. The following data relate to seizures investigated by the AFP between 2009 and June 2017 from which samples were submitted to the NMI for routine analysis and profiling.[4]

While the figures presented only reflect those seizures that are amenable to profiling, the profiling results are noteworthy as they highlight the continuing supply of cocaine from Colombian sources dominating the Australian market (see Tables 13 and 14).

- In contrast to previous reporting periods, a notable decrease in Peruvian cocaine has been identified.
- A small number of samples which could not be clearly categorised and were identified as 'Peruvian or Bolivian'.

The majority of the total weight of cocaine is often attributed to one or more large seizures, which can influence the proportion of cocaine samples attributed to a specific geographic origin.

- In 2016 a large proportion of the bulk weight of cocaine seized was found to originate from Colombia, with 501 kilograms of cocaine seized during Operation OKESI found to be of Colombian origin.

TABLE 13: Geographical origin of coca leaf used to produce cocaine as a proportion of analysed AFP border seizures, 2009–June 2017[5] (Source: Australian Federal Police, Forensic Drug Intelligence)

Year	Colombia %	Peru %	Bolivia%	Mixed %	Unclassified %
Jan–Jun 2017	61.1	–	–	33.3	5.6
2016	75.9	0.9	–	9.3	13.9
2015	53.6	13.1	2.4	5.9	25.0
2014	47.9	43.8	1.4	6.9	–
2013	64.1	28.2	–	5.1	2.6
2012	55.3	29.1	–	5.9	9.7
2011	55.9	35.3	–	5.9	2.9
2010	55.2	30.2	1.0	6.3	7.3
2009	44.9	32.7	2.0	10.2	10.2

4 Profiling data relate to seizures investigated by the AFP between 2009 to June 2017, and from which samples were submitted to the National Measurement Institute for routine analysis and profiling. For all reporting years, the data represents a snapshot across the applicable reporting period. These figures cannot reflect seizures that have not been submitted for forensic examination due to prioritisation of law enforcement resources or those that have passed through the border undetected. Certain seizures/samples, such as those containing swabs or trace material, have been omitted from the analysis as they are not amenable to chemical profiling. It is difficult to extrapolate the impact of any observed border trends on drugs reaching consumers i.e. street level seizures in Australia. Samples from selected state and territory jurisdictions are submitted for chemical profiling as part of the Enhanced National Intelligence Picture on Illicit Drugs (ENIPID) project.

5 This data may also include seizures destined for Australia which occurred offshore.

TABLE 14: Geographical origin of coca leaf used to produce cocaine as a proportion of total bulk weight of analysed AFP border seizures, 2009–June 2017[6] (Source: Australian Federal Police, Forensic Drug Intelligence)

Year	Colombia %	Peru %	Bolivia%	Mixed %	Unclassified %
Jan–Jun 2017	99.1	–	–	0.9	<0.1
2016	84.1	1.8	–	–	14.1
2015	49.9	8.9	0.1	34.7	6.4
2014	67.2	31.8	0.9	0.1	–
2013	9.9	90.0	–	–	0.1
2012	23.7	74.3	–	1.3	0.7
2011	51.3	44.2	–	4.4	0.1
2010	96.3	3.2	<0.1	–	0.4
2009	91.3	6.8	<0.1	–	1.9

The Enhanced National Intelligence Picture on Illicit Drugs (ENIPID) project extends this profiling to include state and territory seizures involving heroin, methylamphetamine, MDMA and cocaine. This enables detection of similarities between supply routes into different jurisdictions, links between different criminal groups, as well as comparison of trends between jurisdictions. The Proceeds of Crime Act (POCA) funded ENIPID project officially concluded on 30 June 2016. Since then, the ENIPID capability has been integrated into core AFP FDI duties to ensure its continued delivery through AFP Forensics.

Profiling data from 2016 indicates that Colombia was the dominant source of cocaine submitted to the ENIPID project, both as a proportion of all analysed samples and as a proportion of all analysed cases in all jurisdictions.

- The exception was Western Australia, where a higher proportion of analysed samples were classified as having mixed/unclassified origin.
- For the first six months of 2017 there was a comparable split between Colombian and mixed/unclassified samples. This is different to previous reporting periods where a more defined incidence of Colombian cocaine was noted (see Tables 7 and 8 in Appendix 2).

DOMESTIC MARKET INDICATORS

According to the 2016 National Drug Strategy Household Survey (NDSHS), the proportion of the Australian population aged 14 years or older who reported using cocaine at least once in their lifetime increased, from 8.1 per cent in 2013 to 9.0 per cent in 2016. In the same survey, the proportion reporting recent[7] cocaine use also increased, from 2.1 per cent in 2013 to 2.5 per cent in 2016 (AIHW 2017).

In a 2016 national study of regular injecting drug users, the proportion of respondents reporting the recent[8] use of cocaine decreased, from 13.0 per cent in 2015 to 11.0 per cent in 2016. This increased to 13.0 in 2017. Within this user population, the reported median days of cocaine use in the six months preceding interview decreased, from 4 days in 2015 to 3 days in 2016. This remained unchanged in 2017.[9]

6 This data may also include seizures destined for Australia which occurred offshore.
7 In the NDSHS, recent use refers to reported use in the 12 months preceding interview.
8 In both the Illicit Drug Reporting System (IDRS) and Ecstasy and Related Drugs Reporting System (EDRS), recent use refers to reported use in the six months preceding interview.
9 A figure for this data will be available on the Crime Statistics Australia website. See <http://crimestats.aic.gov.au/>.

- In the same study, the proportion of respondents reporting cocaine as their drug of choice has remained stable at 1.0 per cent since 2015 (Karlsson & Burns 2018; Stafford & Breen 2017).

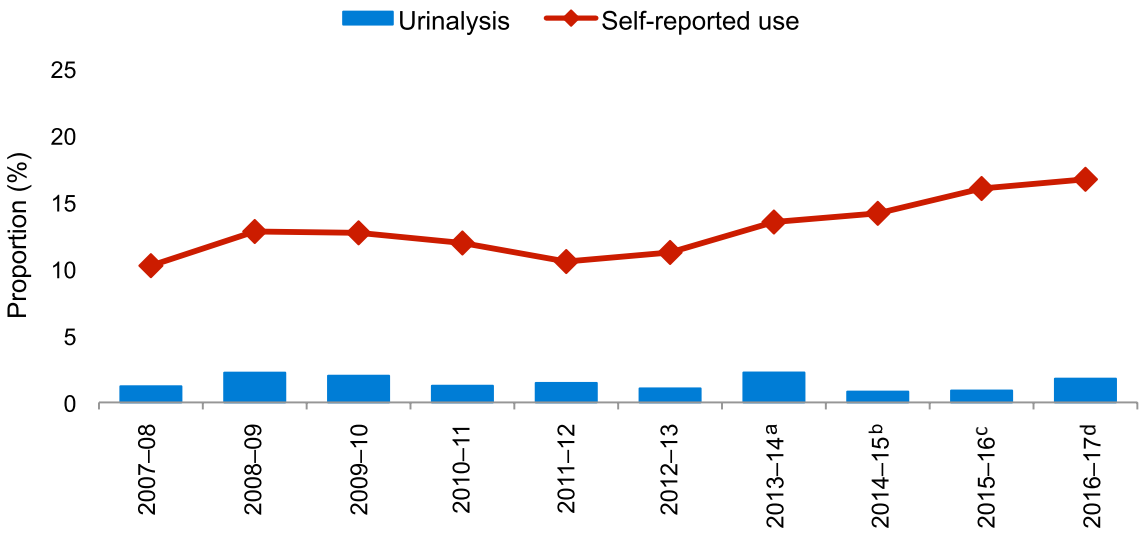
In a 2016 national study of regular ecstasy users, the proportion of respondents reporting the recent use of cocaine increased, from 42.0 per cent in 2015 to 47.0 per cent in 2016. This further increased to 48.0 per cent in 2017. Within this user population, the reported median days of cocaine use in the six months preceding interview has remained stable at 3 days since 2015.[10]

- In the same study, the proportion of respondents reporting cocaine as their drug of choice remained stable at 8.0 per cent in 2016. In 2017, this decreased to 6.0 per cent (Uporova et al. 2018; Stafford & Breen 2017a).

The Drug Use Monitoring in Australia (DUMA) program, which examines drug use and offending patterns among police detainees, comprises an interviewer-assisted self-report survey and the voluntary provision of a urine sample which is subjected to urinalysis to detect licit and illicit drug use.[11]

- The proportion of detainees testing positive to cocaine[12] increased this reporting period, from 0.9 per cent in 2015–16 to 1.8 per cent in 2016–17.
- The self-reported recent[13] use of cocaine also increased this reporting period, from 16.0 in 2015–16 to 16.7 in 2016–17 (Figure 20).

FIGURE 20: National proportion of detainees testing positive for cocaine compared with self-reported recent use, 2007–08 to 2016–17 (Source: Australian Institute of Criminology)



a. Urine was collected in the third and fourth quarter of 2013 and the first quarter of 2014.
b. Urine was collected in the third quarter of 2014 and the first and second quarter of 2015.
c. Urine was collected in the third quarter of 2015 and the first and second quarter of 2016.
d. Urine was collected in the third quarter of 2016 and the first quarter of 2017.

10 A figure for this data will be available on the Crime Statistics Australia website. See <http://crimestats.aic.gov.au/>.
11 Detainees can participate in the survey without providing a urine sample. Cases with missing data are excluded from the relevant analysis.
12 Cocaine and its metabolite can be detected in urine for 24 to 36 hours after administration.
13 Recent use in the DUMA program refers to self-reported use in the 12 months prior to arrest.

Wastewater analysis has become the standard for measuring population-scale consumption of a range of different chemical compounds. The underlying concepts involved in wastewater analysis are well-established in Australia and have been applied to a wide range of licit and illicit drugs. Estimates of drug consumption in a population can be back-calculated from measured concentrations of drug metabolites (excreted into the sewer system after consumption) in wastewater samples. In Australia, the National Wastewater Drug Monitoring Program (NWDMP) monitors drug consumption through wastewater analysis.

- During this period, cocaine consumption was detected at both capital city and regional sites in all states and territories.
- Estimated average cocaine consumption was higher in capital city sites than in regional sites.
- Population-weighted averages for cocaine consumption in capital city and regional sites increased from August 2016 to August 2017.[14]

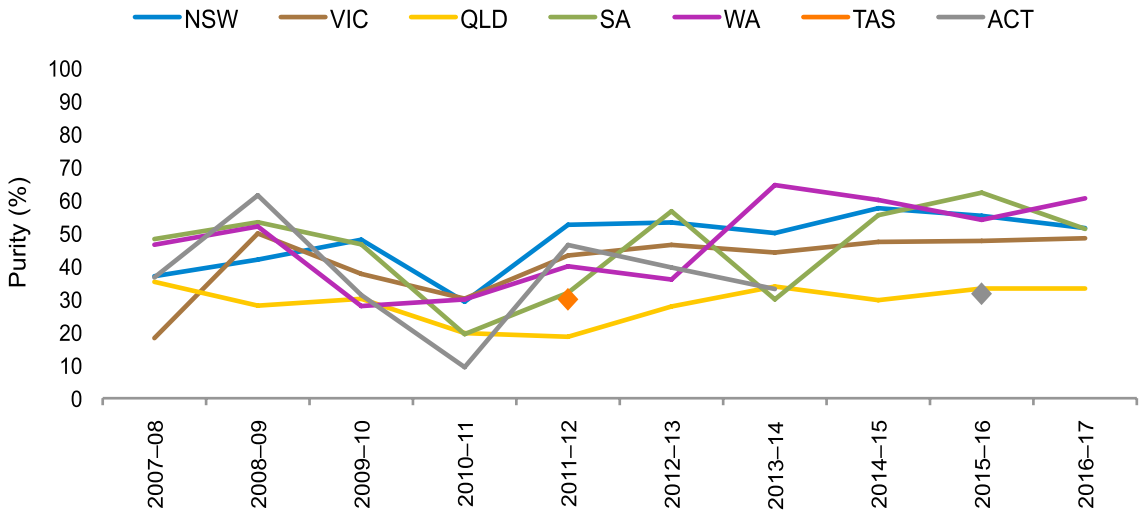
PRICE

Nationally, the price for 1 gram of cocaine ranged between $200 and $600 in 2016–17, compared with a price range between $50 and $1 000 in 2015–16. Nationally, the price of 1 kilogram of cocaine remained stable this reporting period, ranging between $180 000 and $300 000.

PURITY

Figure 21 illustrates the annual median purity of analysed cocaine samples over the last decade. Since 2007–08, the annual median purity of cocaine has ranged between 9.5 per cent and 64.5 per cent. In 2016–17, the annual median purity of cocaine ranged from 33.2 per cent in Queensland to 60.5 per cent in Western Australia. In 2016–17, Victoria and Western Australia reported an increase in the annual median purity of cocaine, while New South Wales and South Australia reported a decrease and Queensland remained stable. This reporting period, the quarterly median purity of cocaine ranged between 21.0 per cent in Western Australia in the third quarter of 2016 and 76.4 per cent in South Australia in the second quarter of 2017.

FIGURE 21: Annual median purity of cocaine samples, 2007–08 to 2016–17



14 The NWDMP tests for 14 substances including nicotine, alcohol, methylamphetamine, amphetamine, cocaine, MDMA, MDA, JWH-018, JWH-073, mephedrone, methylone, oxycodone, fentanyl and heroin. The public NWDMP reports are available on the ACIC website. See <https://www.acic.gov.au/publications/intelligence-products/national-wastewater-drug-monitoring-program-report>.

AVAILABILITY

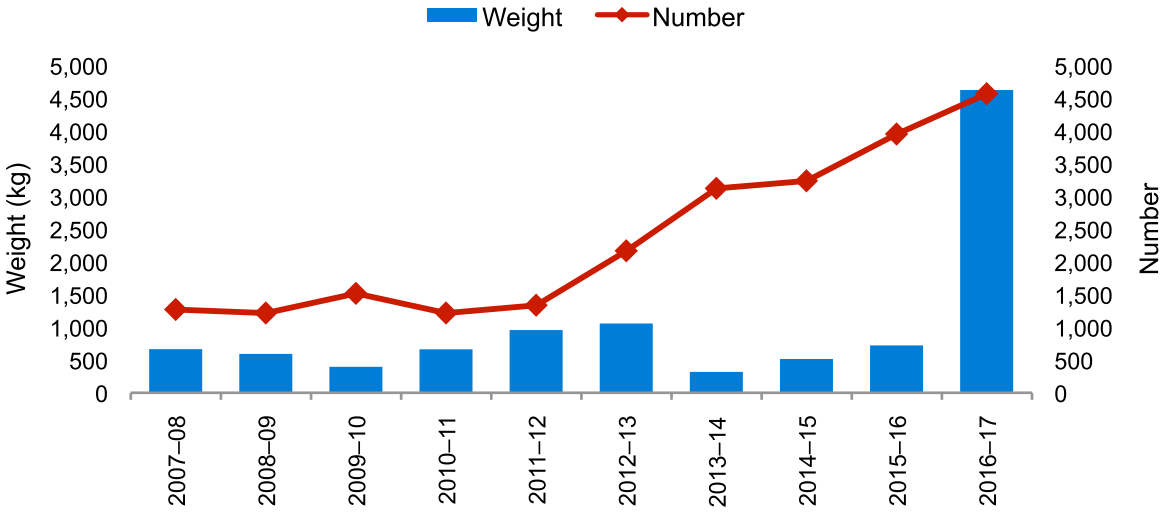
In a 2016 national study of regular injecting drug users, of the respondents able to comment on the availability of cocaine, 61.0 per cent reported cocaine as easy or very easy to obtain, a decrease from 74.0 per cent in 2015. In 2017 this further decreased to 59.0 per cent (Karlsson & Burns 2018; Stafford & Breen 2017).

In a 2016 national study of regular ecstasy users, of the respondents able to comment on the availability of cocaine, 55.0 per cent reported cocaine as easy or very easy to obtain, a decrease from 61.0 per cent in 2015. This figure remained stable in 2017 (Uporova et al. 2018; Stafford & Breen 2017a).

SEIZURES AND ARRESTS

Both the number and weight of national cocaine seizures increased to record levels in 2016–17. The number of national cocaine seizures increased 15.6 per cent this reporting period, from 3 951 in 2015–16 to a record 4 567 in 2016–17. The weight of cocaine seized nationally increased 540.6 per cent, from 721.6 kilograms in 2015–16 to 4 623.3 kilograms in 2016–17 (see Figure 22).

FIGURE 22: National cocaine seizures, by number and weight, 2007–08 to 2016–17



South Australia reported the greatest percentage increase in the number of cocaine seizures this reporting period, with Tasmania reporting the greatest percentage increase in the weight of cocaine seized. New South Wales continues to account for the greatest proportion of national cocaine seizures, accounting for 70.4 per cent of the number and 84.5 per cent of the weight seized nationally in 2016–17 (see Table 15).

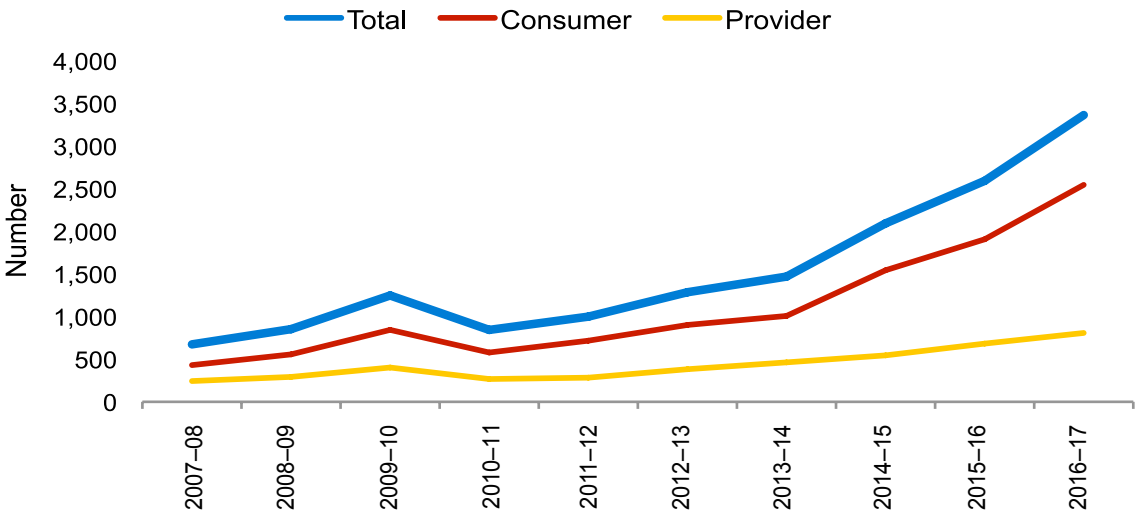
TABLE 15: Number, weight and percentage change of national cocaine seizures, 2015–16 and 2016–17

	Number			Weight (grams)		
State/Territory[a]	2015–16	2016–17	% change	2015–16	2016–17	% change
New South Wales	2 716	3 216	18.4	513 689	3 908 711	660.9
Victoria	549	319	-41.9	59 055	457 204	674.2
Queensland	336	436	29.8	132 599	51 767	-61.0
South Australia	22	66	200.0	1 341	4 199	213.1
Western Australia	230	316	37.4	14 205	13 834	-2.6
Tasmania	12	22	83.3	30	187 128	623 660.0
Northern Territory	18	51	183.3	458	323	-29.5
Australian Capital Territory	68	141	107.4	321	182	-43.3
Total	**3 951**	**4 567**	**15.6**	**721 698**	**4 623 348**	**540.6**

a. Includes seizures by state and territory police and Australian Federal Police for which a valid seizure weight was recorded.

The number of national cocaine arrests increased 29.9 per cent this reporting period, from 2 592 in 2015–16 to a record 3 366 in 2016–17. Consumer arrests continue to account for the greatest proportion of arrests, comprising 75.6 per cent of national cocaine arrests in 2016–17 (see Figure 23).

FIGURE 23: Number of national cocaine arrests, 2007–08 to 2016–17



The Australian Capital Territory reported the greatest percentage increase in cocaine arrests this reporting period. New South Wales continues to account for the greatest proportion of national cocaine arrests, accounting for 50.1 per cent in 2016–17 (see Table 16).

TABLE 16: Number and percentage change of national cocaine arrests, 2015–16 and 2016–17

	Arrests		
State/Territory[a]	2015–16	2016–17	% change
New South Wales	1 301	1 687	29.7
Victoria	455	621	36.5
Queensland	458	539	17.7
South Australia	114	135	18.4
Western Australia	197	241	22.3
Tasmania	9	9	0.0
Northern Territory	14	27	92.9
Australian Capital Territory	44	107	143.2
Total	**2 592**	**3 366**	**29.9**

a. The arrest data for each state and territory include Australian Federal Police Data.

NATIONAL IMPACT

Colombia, the largest cultivator of coca in the world, accounted for 34.0 per cent of the weight of cocaine seized globally in 2015. By weight, global cocaine seizures in 2015 increased to the highest level ever reported, with 2016 data indicating a further increase in the weight of cocaine seized.

Indicators of cocaine demand—including surveys of drug users, police detainees and wastewater analysis—suggest an increase in cocaine use in Australia.

- According to the 2016 NDSHS, both reported cocaine use in lifetime and recent use increased from 2013.
- According to a national survey of police detainees, both the proportion of detainees self-reporting cocaine use and those testing positive to cocaine increased in 2016–17.
- According to the NWDMP, cocaine consumption was detected at both capital city and regional sites in all states and territories, with average cocaine consumption higher in capital city sites than in regional sites.

Indicators of cocaine supply include border detection, seizure, arrest and purity data.

- Both the number and weight of cocaine detections at the Australian border in 2016–17 increased to record levels.
- Nationally, the number of cocaine seizures, arrests and the weight of cocaine seized this reporting period also increased to record levels.
- The median purity of cocaine fluctuated in 2016–17.
- Forensic cocaine profiling this reporting period identified the continued prominence of Colombia as a source country for cocaine in Australia, with an increased proportion of mixed/unclassified samples in the ENIPID data.

REFERENCES

Alcohol and Drug Foundation (ADF) 2017, *Drug Facts, Cocaine*, viewed 11 December 2017, <https://adf.org.au/drug-facts/cocaine/>.

Australian Institute of Health and Welfare (AIHW) 2017, *National Drug Strategy Household Survey 2017: detailed findings,* Drug Statistics series no. 31, Canberra, viewed 27 November 2017, <https://www.aihw.gov.au/getmedia/15db8c15-7062-4cde-bfa4-3c2079f30af3/21028.pdf>.

Baker, A., Lee, N.K. & Jenner, L. (Eds) 2004, *Models of intervention and care for psychostimulant users, 2nd Edition,* National Drug Strategy Monograph Series No. 51, Australian Government Department of Health and Ageing, Canberra, viewed 11 December 2017, <http://www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-modpsy-toc~drugtreat-pubs-modpsy-2~drugtreat-pubs-modpsy-2-3~drugtreat-pubs-modpsy-2-3-pcoc>.

Karlsson, A and Burns, L 2018, *Australian Drug Trends 2017: Findings from the Illicit Drug Reporting System (IDRS),* Australian Drug Trends Series No. 181, National Drug and Alcohol Research Centre, University of New South Wales, Sydney.

Stafford, J. and Breen, C. 2017, *Australian Drug Trends 2016: Findings from the Illicit Drug Reporting System (IDRS),* Australian Drug Trends Series No. 163, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, viewed 27 November 2017, <https://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/national-idrs_2016_finalwith-customs.pdf>.

Stafford, J, & Breen, C 2017a, *Australian trends in ecstasy and related drug markets 2016, Findings from Ecstasy and Related Drugs Reporting System (EDRS),* Australian Drug Trends Series No. 172, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, viewed 27 November 2017, <https://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/National_EDRS_%202016_FINALwith%20customs.pdf>.

United Nations Office on Drugs and Crime (UNODC) 2017, *World Drug Report 2017.*

United Nations Office on Drugs and Crime (UNODC) and Gobierno de Colombia July 2017a, *Colombia: Monitoreo de territorios afectados por cultivos ilícitos 2016*, viewed 6 December 2017, <http://www.unodc.org/documents/colombia/2017/julio/CENSO_2017_WEB_baja.pdf>.

United States Department of Justice, Drug Enforcement Administration (US DEA) Intelligence Division, Strategic Intelligence Section 1993, *Coca cultivation and cocaine processing: an overview* (Executive Summary), viewed 6 December 2017, <http://www.druglibrary.org/schaffer/govpubs/cocccp.htm>.

United States Department of Justice, Drug Enforcement Administration (US DEA) 2017, *2017 National Drug Threat Assessment*, viewed 6 December 2017, <https://www.dea.gov/docs/DIR-040-17_2017-NDTA.pdf>.

Uporova, J, Karlsson, A, Sutherland, R and Burns, L 2018, *Australian trends in ecstasy and related drug markets 2017, Findings from Ecstasy and Related Drugs Reporting System (EDRS),* Australian Drug Trends Series No. 190, National Drug and Alcohol Research Centre, University of New South Wales, Sydney.

World Customs Organization (WCO) 2017, *Illicit Trade Report 2016*, WCO, Brussels.