

Drug related hospital stays in Australia 1993 - 2014

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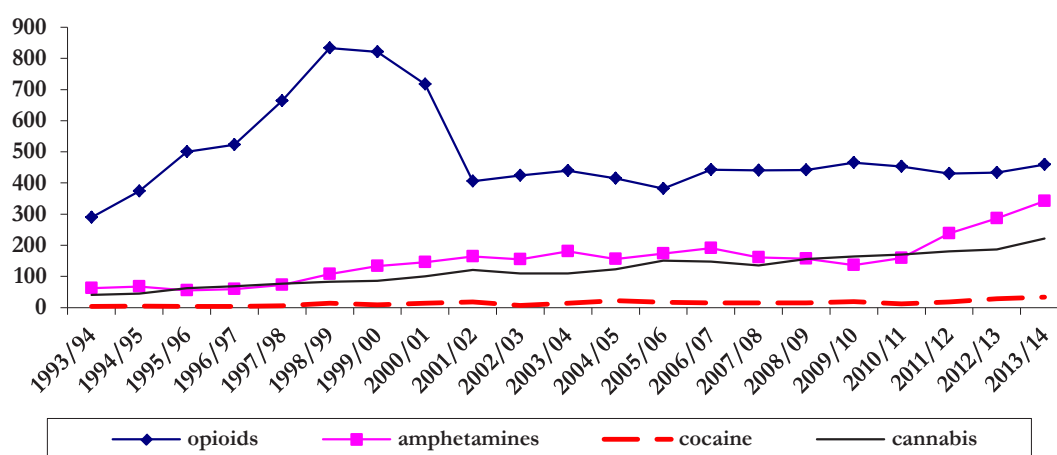
Introduction

- + This bulletin presents data on drug-related hospital separations in Australia from 1993-2014 for the following drug types: opioids, cocaine, amphetamines and cannabis.
- + A hospital separation is defined as an episode of care for an admitted patient, which may refer to a total hospital stay (from admission to discharge), or a portion of a hospital stay beginning or ending in a change of type of care, or transfer to another hospital.
- + At the time of separation, a principal (i.e. main) diagnosis, and up to 40 secondary diagnoses may be made. The data presented in this bulletin include only hospital separations where opioids, cocaine, amphetamines or cannabis were determined to be the principal reason for the hospital stay. The data presented will therefore be an under-estimate of the total number of drug-related hospital admissions.
- + Hospital separations are coded according to the World Health Organization's (WHO) International Statistical Classification of Diseases (ICD) and Related Problems. The ICD 10th revision (ICD 10 AM) (National Centre for Classification in Health, 1998) was used to code data dating from 1999 to the present in South Australia (SA), Western Australia (WA), and Queensland (QLD). The remaining jurisdictions commenced using ICD 10 AM codes in 1998. Prior to this, the ICD 9th revision (ICD 9 CM) (National Coding Centre, 1996) was used to code hospital separations.
- + Due to the different ways in which psychosis and withdrawal codes are treated in the ICD9 and ICD10 coding structure, we have undertaken separate analysis of amphetamine and cannabis related psychosis separations from 1999/00 onwards.
- + Separations across drug types, reported from 1993 to 2014 do not include separations for withdrawal or psychosis.
- + Appendix A provides the ICD codes used in this bulletin.
- + As problems associated with drug use occur largely in youth to middle age, hospital separations are presented as numbers per million persons aged 15-54, calculated using the Australian Bureau of Statistics estimated resident population figures as at 30 June each year.
- + All figures referred to in this bulletin are rates per million population.
- + It should be noted that variations in coding practices may exist across jurisdictions.

Drug-related hospital separations

Figure 1 shows the rates of hospital separations per million persons for each of the four drug types over the 20 year time period (1993-2014). Rates were highest for opioids across the entire period, followed by amphetamines and cannabis, then cocaine.

Figure 1: Rates per million persons of principal drug-related hospital separations in Australia among persons aged 15-54, by drug type, 1993-2014



Opioid-related hospital separations

For the purposes of this bulletin, opioid-related hospital separations are defined as those separations where opioids were recorded as the principal diagnosis. See Appendix A for the ICD codes used in this analysis.

TRENDS OVER TIME

- + Opioid-related hospital separations steadily increased between 2001/02 and 2009/10, and have remained relatively stable over the four years to 2013/14 (Figure 2). There were 459 separations per million persons recorded in 2013/14.
- + In 2013/14, opioid dependence accounted for approximately half (52%) of all principal opioid-related separations in Australia. In 2000/01 separations for opioid dependence accounted for approximately two thirds (67%) of all opioid related separations.
- + Over time there has been an increase in separations due to poisoning from opioids other than heroin (including morphine, oxycodone, and codeine) which accounted for 21% of all opioid-related separations in 2013/14. These poisonings accounted for 7% of all opioid-related separations in 2000/01.
- + Separations due to heroin poisoning comprised 8% of all opioid-related separations in 2013/14 among Australians aged 15 to 54.

Opioid-related hospital separations continued...

JURISDICTIONAL ANALYSIS

- + Opioid-related separations have been highest in New South Wales (NSW) over the 21 year period except for a couple years. In 2013/14 there were 618 separations per million persons recorded in NSW. Separations in NSW trended downwards between 2006/07 and 2009/10. They have remained relatively stable since this time (Figure 2).
- + Separations in Queensland (QLD) were the next highest and show a steady increase over the past 4 years. There were 485 separations per million persons recorded in 2013/14).
- + Western Australia (WA) also recorded relatively high rates of opioid-related separations between 2008/09 and 2010/11, with separations declining over the past 3 years. There were 299 separations per million persons recorded in 2013/14.
- + Victoria (VIC) has recorded fluctuations in opioid related separations and South Australia (SA) recorded a decline in the past 2 years (424 (VIC) and 206 (SA) per million persons were recorded in 2013/14).
- + Separations in Tasmania (TAS) have increased since 2009/10 with 394 separations per million persons in 2013/14. Trends in the Northern Territory (NT) and the Australian Capital Territory (ACT) have fluctuated at lower levels (Figure 2).

AGE ANALYSIS

- + In 2013/14, the 30 to 39 year age group accounted for the largest proportion (34%) of opioid-related separations (Figure 3).
- + Over time there were different trends apparent across different age groups. Separations among Australians aged 30 to 39, 40 to 49 and 50 to 59 years have increased since 2001/02, with the 2013/14 rates recorded among those older than 40 being higher than rates recorded in 2000/01.
- + Separations among the 20 to 29 year age group have been declining since 2009/10.
- + Opioid-related separations have remained relatively stable among Australians aged 10 to 19 years and were lowest among this age group in 2013/14 (Figure 3).

TRENDS IN OTHER DATA

- + At the national level, trends among a sentinel group of people who inject drugs (surveyed for the Illicit Drug Reporting System – IDRS) show that while the prevalence of heroin use has remained stable, the frequency of use has increased significantly. One-third (31%) of the sample reported daily use in 2015, and the median days of use was 90 in the preceding six months. These figures are at the highest level since 2000 (Stafford and Breen 2016).
- + In contrast, the proportion of the sample reporting recently injecting morphine has declined (Stafford and Breen, 2016). With the exception of the NT, where daily morphine injection was common, and QLD and TAS (use was approximately twice weekly), patterns of morphine injecting was sporadic across Australia (Stafford and Breen, 2016).
- + The prevalence of oxycodone injection among this group has stabilised over the past few years (31% in 2013 and 28% in 2014), and patterns of use are much more sporadic than those for morphine. NSW participants reported the most frequent injection of oxycodone over the past 6 months at just under once per week on average, while the national average was reported as fortnightly injection (Stafford and Breen, 2016).

Figure 2: Rates per million persons of principal opioid-related hospital separations in Australia among persons aged 15-54, 1993-2014

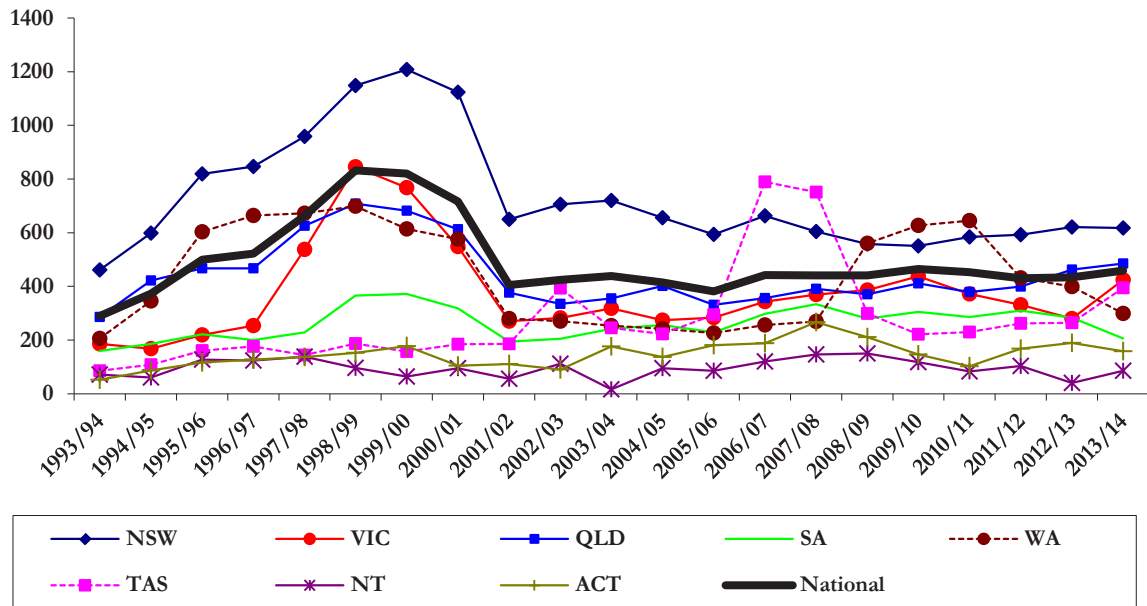
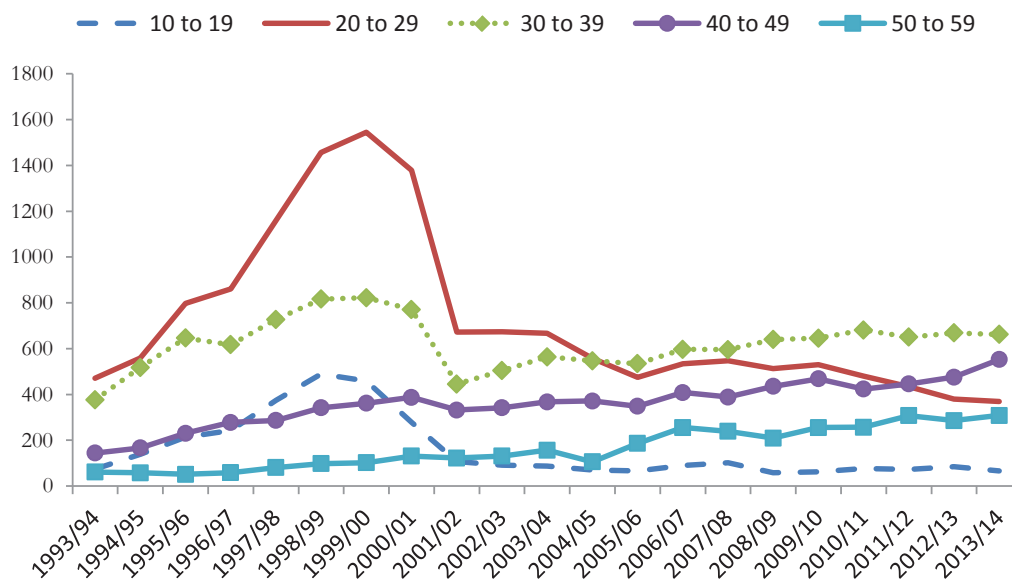


Figure 3: Rates per million persons of principal opioid-related hospital separations in Australia by ten year age group, 1993-2014





Amphetamine-related hospital separations

For the purposes of this bulletin, amphetamine-related hospital separations are defined as those separations where amphetamines (including methamphetamine) were recorded as the principal diagnosis. See Appendix A for the ICD codes used in this analysis. Amphetamine-related hospital separations also include separations for ecstasy.

TRENDS OVER TIME

- + The 2013/14 amphetamine-related separations represented the highest number recorded at 4,414 separations.
- + Separations steadily increased since the mid 90's, and peaked at 180 per million persons in 2003/04 and again at 190 in 2006/07. Since 2009/10, separations have more than doubled from 136 separations per million persons to 341 per million persons in 2013/14 (Figure 4).
- + Over time, separations for amphetamine dependence have accounted for an increasing proportion of amphetamine-related separations in Australia, from 30% in 1999/00 to 46% in 2013/14.
- + In 2013/14 amphetamine psychosis separations were relatively high at 2,697 (208 per million persons), representing more than one-third (38%) of the total separations for amphetamine combined (psychosis - 2,697, amphetamine-related (use and poisoning) – 4,414).
- + Separations for amphetamine psychosis steadily increased to 2005/06 and have increased again since 2009/10 across all jurisdictions (Figure 5).

JURISDICTIONAL ANALYSIS

- + Over the past three years amphetamine-related separations were at the highest level to date in NSW, VIC, and WA (at 423, 371, and 361 per million persons respectively – Figure 4). All three jurisdictions recorded steady increases over the last 4 years.
- + QLD and SA have also recorded increases at lower levels (270 and 197 per million persons in 2013/14).
- + TAS and the ACT recorded the lowest rates of amphetamine-related separations relative to the other jurisdictions (146 and 122 separations per million persons respectively – Figure 4), with increases recorded over the past 4 years.

AGE ANALYSIS

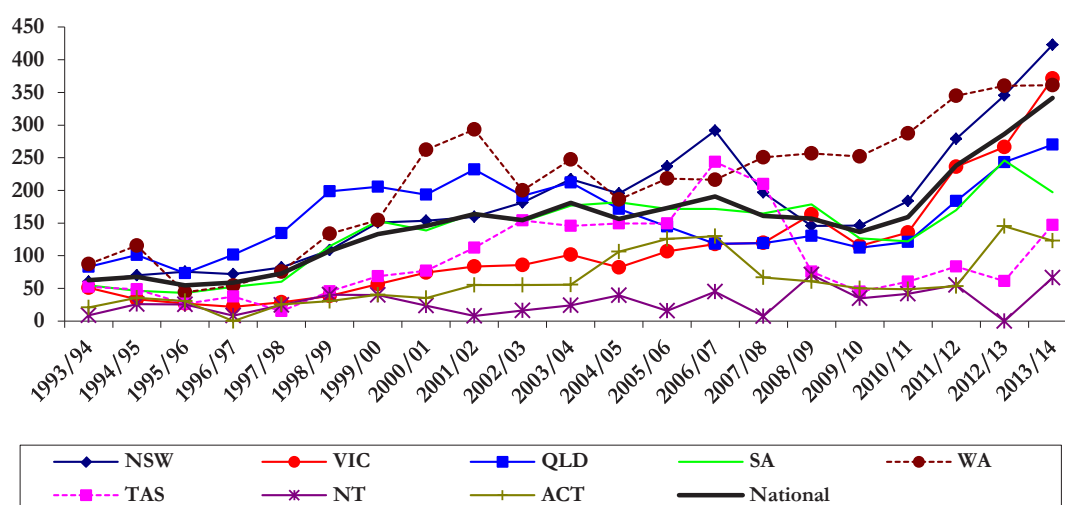
- + Over time, amphetamine-related separations have been highest among the 20 to 29 year age group, followed by the 30 to 39 year age group (Figure 6).
- + Amphetamine-related separations among the 20 to 29 and 30 to 39 year age groups have more than doubled over the past four years.
- + Separations among the 40 to 49 year olds have tripled over the past four years and separations among the 10 to 19 year olds have increased at a lower rate.
- + Separations among the 50 to 59 year olds have remained low (Figure 6).

Amphetamine-related hospital separations continued...

TRENDS IN OTHER DATA

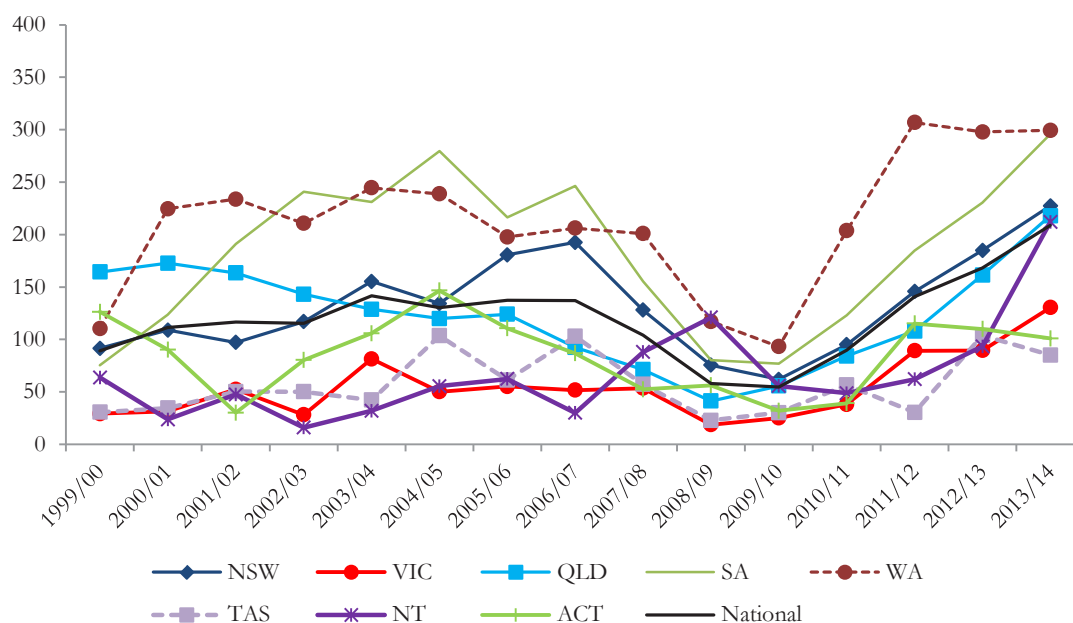
- + Law enforcement data are consistent with the noted increase in amphetamine-related hospital separations. The Australian Customs and Border Protection Service detected a record number (2,367) of amphetamine-type-stimulant seizures, in 2013/14 (Australian Customs and Border Protection Service, 2015).
- + The Australian Crime Commission documented a high number of clandestine laboratories detected (744) in 2013/14, with the majority manufacturing methamphetamine (Australian Crime Commission, 2015).
- + Trends among a sentinel group of people who inject drugs (surveyed for the Illicit Drug Reporting System – IDRS) show a continued increase in the prevalence of crystal methamphetamine use since 2010 (Stafford and Breen, 2016), and an increase in the proportions injecting crystal methamphetamine weekly or more often (Degenhardt et al, in press).
- + Data from the 2013 National Drug Strategy Household Survey (NDSHS) showed that although the prevalence of past year methamphetamine use remained stable at 2.1% in the general population, there was a change in the main form used from powder to crystalline (51% in 2010 reported mostly using powder methamphetamine compared to 29% in 2013, and 22% in 2010 reported mostly using crystal methamphetamine compared to 50% in 2013). There has also been a significant increase in the proportion of methamphetamine users reporting weekly or more often methamphetamine use (from 9.3% in 2010 to 15.5% in 2013) (<http://www.aihw.gov.au/alcohol-and-other-drugs/ndshs/2013/illicit-drug-use/#illicit>).
- + Recent research on the estimates of numbers of dependent methamphetamine users in Australia has shown that 1) the rates of dependent methamphetamine use has increased since 2009/10; 2) rates were highest among Australians aged 25 to 34 years; and 3) rates of dependent methamphetamine use had increased in Australians aged 15 to 24 year (Degenhardt et al, 2016).

Figure 4: Rates per million persons of principal amphetamine-related hospital separations in Australia among persons aged 15-54, 1993-2014



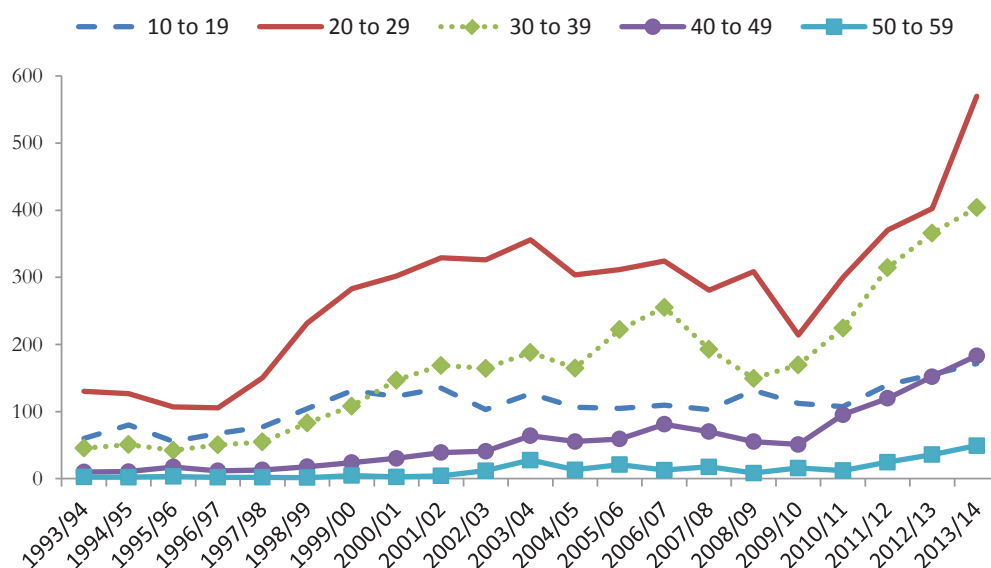
NB: These figures do not include amphetamine-psychosis separations. These are reported separately in Figure 5.

Figure 5: Rates per million persons of amphetamine-psychosis hospital separations in Australia among persons aged 15-54, 1999-2014



NB: Amphetamine-psychosis separations in WA may be overestimated due to a new facility joining the collection in 2010, and different coding practices employed. However, other amphetamine separations reported in Figure 4 show an increasing trend in WA.

Figure 6: Rates per million persons of principal amphetamine-related hospital separations in Australia by ten year age group, 1993-2014



Cannabis-related hospital separations

For the purposes of this bulletin, cannabis-related hospital separations are defined as those separations where cannabis was recorded as the principal diagnosis. See Appendix A for the ICD codes used in this analysis.

TRENDS OVER TIME

- + Cannabis-related separations have steadily increased since 1993/94, with figures recorded in 2013/14 representing the highest rates over the entire period at 2,861 - 221 separations per million persons (Figure 7).
- + Separations for cannabis dependence accounted for an increasing proportion of all cannabis-related separations in Australia, from 55% in 1999/00 to 74% in 2013/14.
- + Separations for cannabis psychosis represented one-third (33%) of the total separations for cannabis at 109 per million persons (i.e. 1,418 separations for psychosis and 2,861 for cannabis use and poisoning combined).

JURISDICTIONAL ANALYSIS

- + Cannabis-related separations have remained consistently highest in NSW. Steady increases have been recorded in NSW since 1993/94 (from 55 per million persons in 1993/94 to 381 separations per million persons in 2013/14) (Figure 7). This increase has largely been driven by cannabis dependence, comprising 82% of cannabis-related separations in NSW in 2013/14.
- + TAS recorded the second highest rates of cannabis-related separations. The increase to 2013/14 was driven by separations for cannabis dependence (accounting for 51% of the separations).
- + QLD has also recorded steady increases in cannabis-related separations, while trends have fluctuated in the remaining jurisdictions (Figure 7).
- + NT has consistently recorded the highest rates of cannabis psychosis separations. Figures more than tripled in the NT from 2012/13 to 2013/14. The numbers of separations are small and this data should be interpreted with caution.
- + Cannabis psychosis separations have increased across all jurisdictions except VIC over the past 3 years (Figure 8). Separations in VIC have remained relatively stable during this period.

AGE ANALYSIS

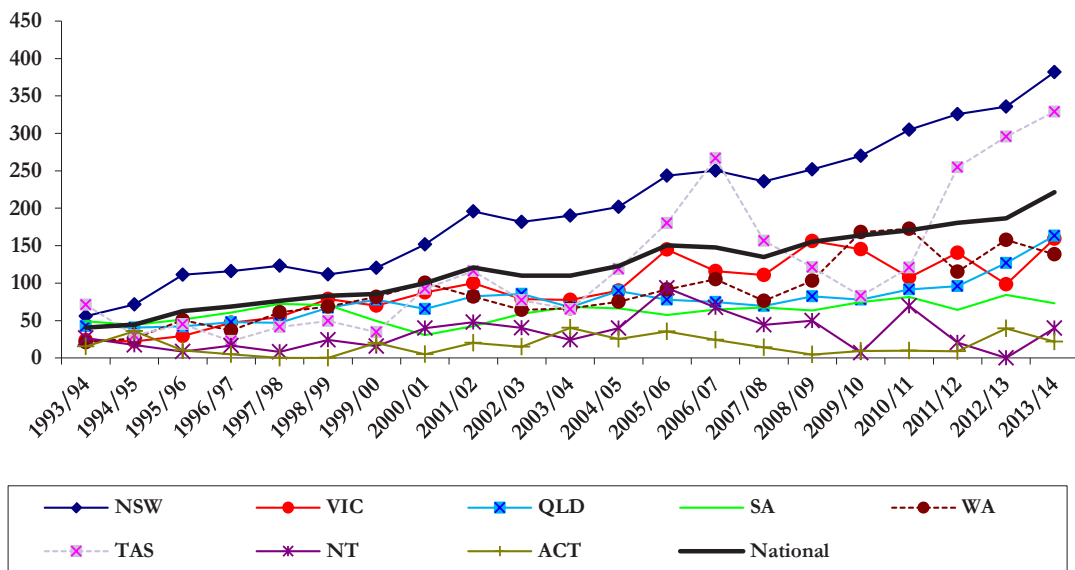
- + In 2013/14, the 20 to 29 year age group accounted for the largest proportion (42%) of all cannabis-related separations, and these were primarily for dependence. Separations among this age group have almost doubled since 2009/10 (Figure 9).
- + Steady increases in cannabis-related separations have also been recorded among the 30 to 39 and 40 to 49 year age groups since 2009/10.
- + Cannabis-related separations among the 10 to 19, and 50 to 59 year olds remain lower, and have remained stable over the past 4 years (Figure 9).

TRENDS IN OTHER DATA

- + The 2013 National Drug Strategy Household Survey reported a stable trend in past year prevalence of cannabis use among Australians at 10.2% (Australian Institute of Health and Welfare, 2014).

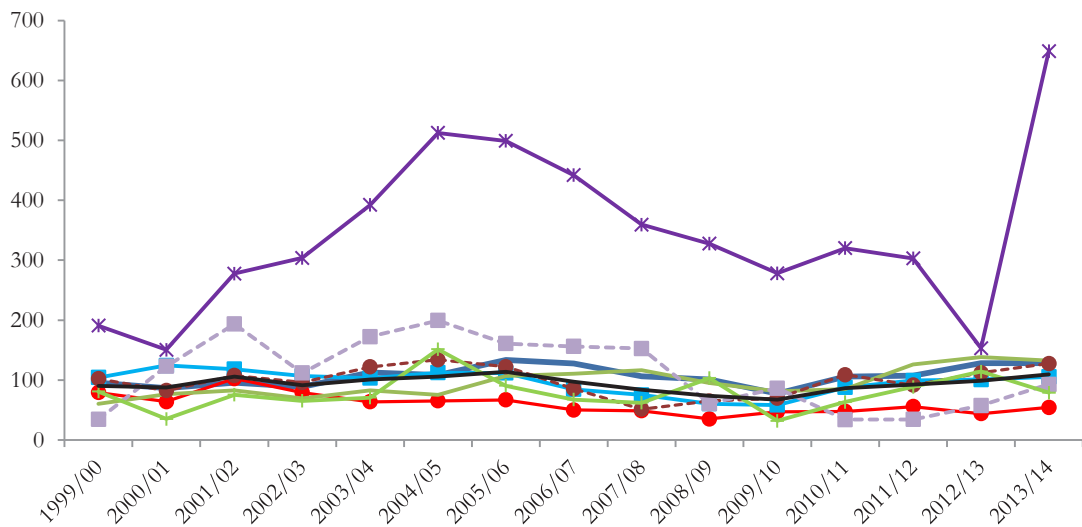
Cannabis-related hospital separations continued...

Figure 7: Rates per million persons of principal cannabis-related hospital separations in Australia among persons aged 15-54, 1993-2014



NB: These figures do not include cannabis-psychosis separations. These are reported separately in Figure 8.

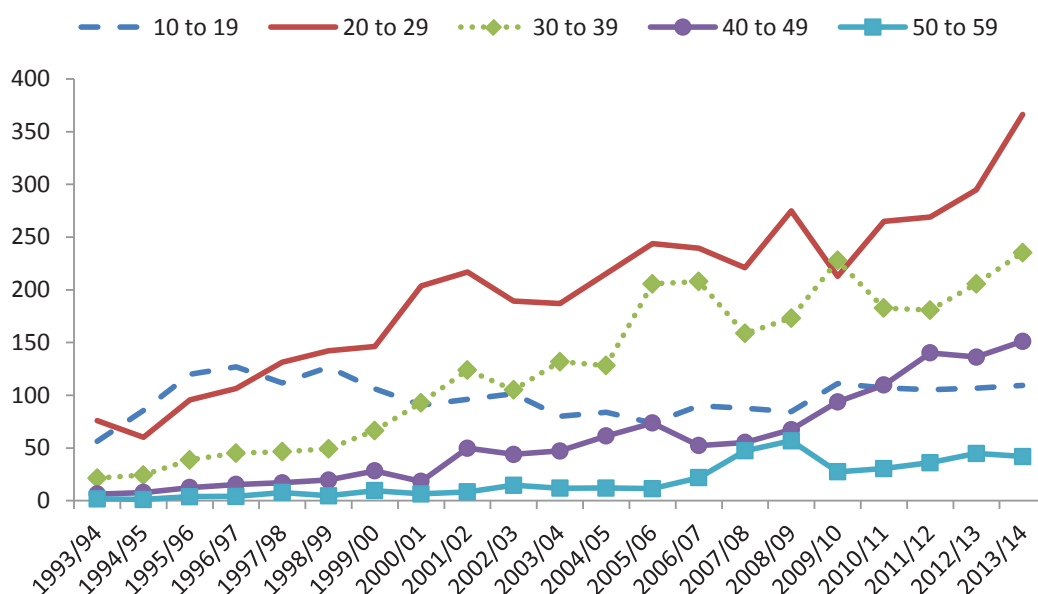
Figure 8: Rates per million persons of principal cannabis-psychosis hospital separations in Australia among persons aged 15-54, 1999-2014



NB: High rates of cannabis-psychosis in the NT are based on low numbers and should be interpreted with caution.

Cannabis-related hospital separations continued...

Figure 9: Rates per million persons of principal cannabis-related hospital separations in Australia by ten year age group, 1993-2014



Cocaine-related hospital separations

For the purposes of this bulletin, cocaine-related hospital separations are defined as those separations where cocaine was recorded as the principal diagnosis. See Appendix A for the ICD codes used in this analysis.

TRENDS OVER TIME

- + Cocaine-related separations were the lowest of the four drug types during the entire period (Figure 10). Separations increased between 1993/94 and 2004/05 (peaking at 22 per million persons). Separations were the highest on record in 2013/14 at 34 separations per million persons.

JURISDICTIONAL ANALYSIS

- + NSW accounted for the majority (81%) of all cocaine-related separations recorded in Australia in 2013/14 (Figure 10).
- + NSW recorded the highest number of cocaine-related separations (87 per million persons in 2013/14) during the entire period, and these separations have increased markedly since 2010/11.
- + The increase in NSW has been driven primarily by cocaine dependence. In 2013/14, three quarters (75%) of NSW cocaine-related separations were for dependence.
- + The remaining jurisdictions recorded much lower numbers of cocaine-related separations throughout the time period (Figure 10).

Cocaine-related hospital separations continued...

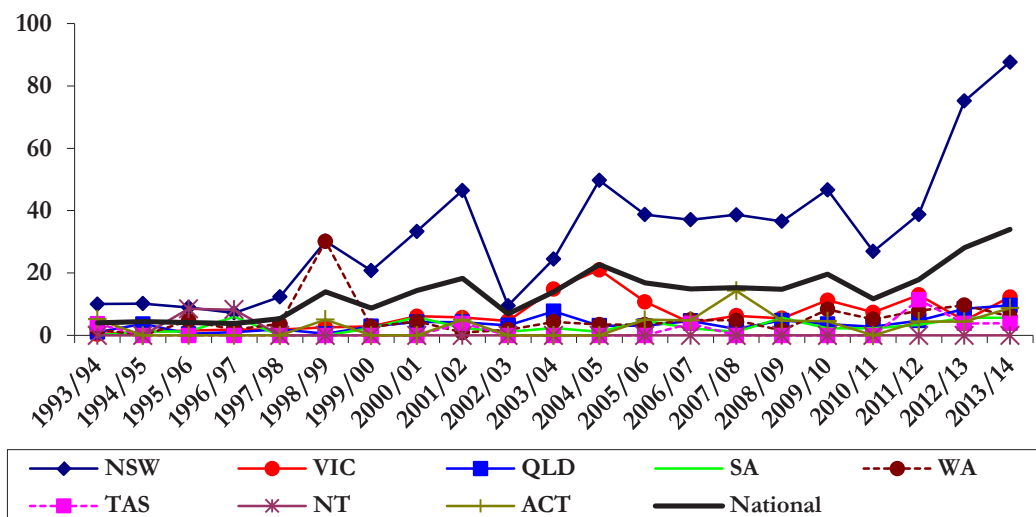
AGE ANALYSIS

- + The 30 to 39 year age group continued to account for the largest proportion of cocaine-related separations (32% in 2013/14) followed by the 20 to 29 year olds (29%) (Figure 11).
- + There have been increases in the rates of separations among Australians aged 20 to 49 years over the past three years (Figure 11).

TRENDS IN OTHER DATA

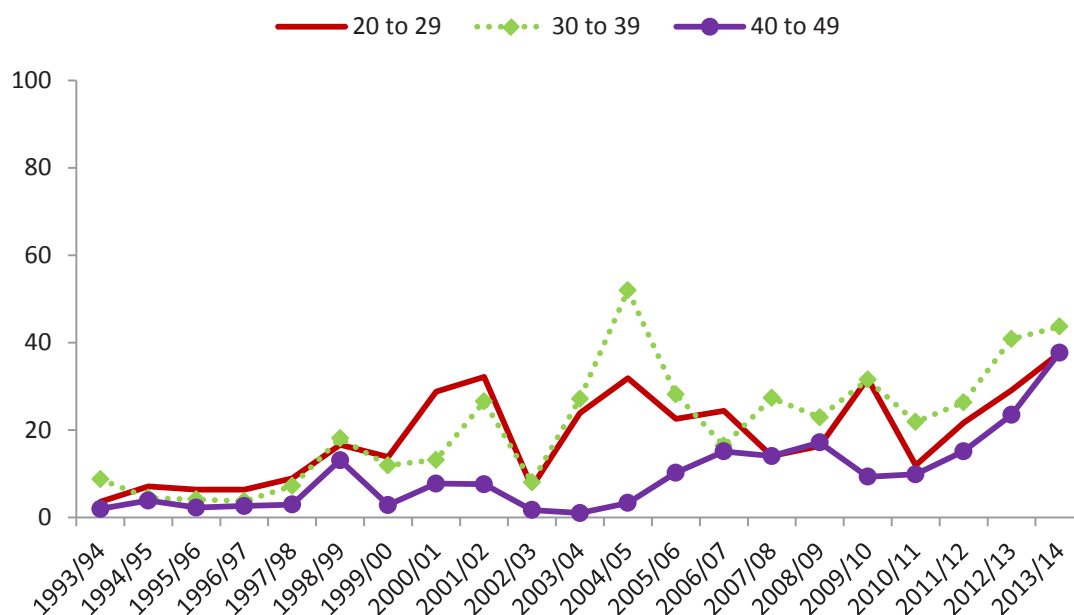
- + The trends seen in cocaine-related hospital separations in NSW are consistent with trends in cocaine use among people surveyed for both the IDRS and EDRS (Sindicich and Breen, 2016; Stafford and Breen, 2016), with use being most prevalent in NSW.
- + The number of cocaine seizures detected at the border by the Australian Customs and Border Protection Service has increased since 2010 (Australian Customs and Border Protection Service 2015).
- + Trends in cocaine-related separations should be interpreted with caution due to relatively small numbers in many jurisdictions.

Figure 10: Rates per million persons of principal cocaine-related hospital separations in Australia among persons aged 15-54, 1993-2014



Cocaine-related hospital separations continued...

Figure 11: Rates per million persons of principal cocaine-related hospital separations in Australia by ten year age group, 1993-2014



NB: Data for the 10 to 19 and 50 to 59 year age groups is not shown as numbers are small

Summary and Implications

- + Opioid-related separations have stabilised at a higher level, although increases are particularly apparent among 40 to 49 year old Australians. Presentations continue to be for both acute (poisoning) and chronic (dependence) conditions related to opioid use.
- + Heroin poisoning presentations remain stable and there is an upward trend in poisoning due to other opioids.
- + Continued vigilance with respect to prescribing of pharmaceutical opioids, as well as monitoring for signs of misuse and dependence is important, particularly among Australians who may be likely to have comorbid medical conditions that increase the risk of overdose.
- + Amphetamine-related separations reached unprecedented numbers in 2013/14, and have steadily increased since 2009/10. Dependence (46%) followed by psychosis (38%) accounted for the largest proportion of separations indicative of both acute and chronic conditions related to amphetamine use. Separations for dependence have increased over time, consistent with recent research showing that rates of dependent methamphetamine use have increased in Australia (Degenhardt et al, 2016). Separations are most prevalent among younger Australians aged 20 to 39 years and separations have more than tripled among Australians aged 40 to 49 years. Currently there are no effective pharmacological treatments for methamphetamine dependence in Australia (Brensilver, Heinzerling and Shoptaw, 2013).

Summary and Implications continued...

- + Engaging people early in evidence based psychological treatment for methamphetamine related problems is critical, as well as increased access to treatment (Degenhardt et al, 2016). Education about the mental health problems, including psychosis, associated with methamphetamine use is also important.
- + Cannabis-related separations have continued to increase over time in Australia and the vast majority (74%) of these are for cannabis dependence. These separations are most prevalent among young Australians aged 20 to 29 years, indicative that some users are developing problems with their cannabis use at a young age.
- + Early intervention and engagement of cannabis users in treatment, as well as education about the mental health problems, including psychosis, associated with cannabis use is important. The National Cannabis Prevention and Information Centre (NCPIC - <https://ncpic.org.au/>) provides free access to a range of important resources to assist users in managing and quitting cannabis use:
- + Cocaine-related separations in NSW continue to account for the majority of separations nationally and have continued to increase over the past 3 years. Two thirds (68%) of these separations are for cocaine dependence, and separations are most prevalent among Australians aged 30 to 39.

Summary and Implications

Information contained in this bulletin comes from the National Hospital Morbidity Database. This database is fundamental to the monitoring capacity of the National Illicit Drug Indicators Project. These data provide invaluable information about trends in drug-related harms in Australia, as well as the context within which these trends can be understood. Each additional year of data adds further value to the project and, in conjunction with other available data sources, provides a reliable framework within which to inform evidence-based drug policy in Australia.

We would like to acknowledge the Australian Institute of Health and Welfare, and all of the State and Territory Health Departments, for providing us with access to the National Hospital Morbidity Database.

Appendix A

OPIOID-RELATED HOSPITAL SEPARATIONS

The following ICD-9-CM (from 1993/94 to 1998/99) and ICD-10-AM (from 1999/00 to 2013/14) codes were used to examine trends in opioid-related hospital separations:

ICD-9 diagnosis	ICD-10 diagnosis	ICD-9-CM	ICD-10-AM
Opium poisoning	Opium poisoning	96500	T400
Heroin poisoning	Heroin poisoning	96501	T401
Methadone poisoning	Methadone poisoning	96502	T403
Morphine/codeine/pethidine poisoning	Other opioids poisoning (including morphine, codeine, oxycodone)	96509	T402
Morphine/codeine/pethidine poisoning	Other synthetic narcotics poisoning (including pethidine)	96509	T404
Morphine/codeine/pethidine poisoning	Other and unspecified narcotics poisoning	96509	T406
Opioid type dependence (including heroin, methadone, morphine, opium)	Opioid dependence syndrome	3040	F112
Opioid and other drug dependence	No equivalent	3047	N/A
Opioid use disorder	Opioid acute intoxication	3055	F110
Opioid use disorder	Opioid harmful use	3055	F111

Note: Withdrawal codes for ICD-9-CM were not drug specific, and accordingly, for comparability purposes, these separations have been left out of the analysis.

AMPHETAMINE-RELATED HOSPITAL SEPARATIONS

The following ICD-9-CM (from 1993/94 to 1998/99) and ICD-10-AM (from 1999/00 to 2013/14) codes were used to examine trends in amphetamine-related hospital separations:

ICD-9 diagnosis	ICD-10 diagnosis	ICD-9-CM	ICD-10-AM
Psychostimulant poisoning	Poisoning by psychostimulants (excluding cocaine)	9697	T436
Amphetamine & other psychostimulant dependence (methylphenidate, phenmetrazine)	Stimulant dependence syndrome	3044	F152
Amphetamine or related sympathomimetic use disorder	Stimulant acute intoxication	3057	F150
Amphetamine or related sympathomimetic use disorder	Stimulant harmful use	3057	F151
N/A	Stimulant psychotic disorder	N/A	F155

Note: Withdrawal and psychosis codes for ICD-9-CM were not drug specific, and accordingly, for comparability purposes, these separations have been left out of the long term trend analysis.

Appendix A continued...

CANNABIS-RELATED HOSPITAL SEPARATIONS

The following ICD-9-CM (from 1993/94 to 1998/99) and ICD-10-AM (from 1999/00 to 2013/14) codes were used to examine trends in cannabis-related hospital separations:

ICD-9 diagnosis	ICD-10 diagnosis	ICD-9-CM	ICD-10-AM
Cannabis poisoning	Cannabis poisoning	9696	T407
Cannabis dependence	Cannabis dependence syndrome	3043	F122
Cannabis use disorder	Cannabinoids acute intoxication	3052	F120
Cannabis use disorder	Cannabinoids harmful use	3052	F121
N/A	Cannabis psychotic disorder	N/A	F125

Note: Withdrawal codes for ICD-9-CM were not drug specific, and accordingly, for comparability purposes, these separations have been left out of the long term trend analysis.

COCAINE-RELATED HOSPITAL SEPARATIONS

The following ICD-9-CM (from 1993/94 to 1998/99) and ICD-10-AM (from 1999/00 to 2013/14) codes were used to examine trends in cocaine-related hospital separations:

ICD-9 diagnosis	ICD-10 diagnosis	ICD-9-CM	ICD-10-AM
Cocaine dependence	Cocaine dependence syndrome	3042	F142
Cocaine use disorder	Cocaine acute intoxication	3056	F140
Cocaine use disorder	Cocaine harmful use	3056	F141

Note: The ICD-9-CM cocaine poisoning code includes procaine, tetracaine and lignocaine poisoning and accordingly, cannot be translated to an ICD-10-AM poisoning code. Withdrawal and drug-induced psychosis codes for ICD-9-CM were not drug specific, and accordingly, for comparability purposes, these separations have been left out of the analysis.

RELATED LINKS

For more information on NDARC research, go to <http://ndarc.med.unsw.edu.au/>

For more information on Drug Trends research go to <http://drugtrends.org.au/>

For more information about the AIHW, go to <http://www.aihw.gov.au/>

For more information on ICD-10, go to <http://www.who.int/whosis/icd10/>

References

- AUSTRALIAN CRIME COMMISSION (2015). Illicit Drug Data Report 2013–14. Canberra: Australian Government.
- AUSTRALIAN CUSTOMS AND BORDER PROTECTION SERVICE (2015). Annual Report 2014–15. Canberra: Australian Customs and Border Protection Service.
- AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2014). National Drug Strategy Household Survey detailed report 2013. Drug statistics series no. 28. Cat. no. PHE 183. Canberra: AIHW.
- BRENSILVER, M., HEINZERLING, K.G. & SHOPTAW, S. (2013). Pharmacotherapy of amphetamine type stimulant dependence: an update. *Drug and Alcohol Review* 32: 449-460.
- DEGENHARDT, L., SARA, G., MCKETIN, R., ROXBURGH, A., DOBBINS, T., FARRELL, M., BURNS, L. & HALL, W.D. (in press) Crystalline methamphetamine use and methamphetamine-related harms in Australia, *Drug and Alcohol Review*.
- DEGENHARDT, L., LARNEY, S., CHAN, G., DOBBINS, T., WEIER, M., ROXBURGH, A., HALL, W.D. & MCKETIN, R. (2016). Estimating the number of regular and dependent methamphetamine users in Australia, 2002-2014, *Medical Journal of Australia*, 204 (4) pp153.e1-153.e6.
- SINDICICH, N. & BREEN, C. (2016). Australian trends in ecstasy and related drug markets; Findings from the Ecstasy and related Drug Reporting System (EDRS). Sydney, National Drug and Alcohol Research Centre, UNSW Australia.
- STAFFORD, J. & BREEN, C. (2016). Australian Drug Trends 2015. Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trend Series. No. 145. Sydney, National Drug and Alcohol Research Centre, UNSW Australia.

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