

# Drug-related hospitalisations and drug-induced deaths in the Australian population by remoteness area of usual residence, 2018-2019

N. Man<sup>1</sup>, A. Chrzanowska<sup>1</sup>, R. Sutherland<sup>1</sup>, L. Degenhardt<sup>1</sup>, A. Peacock<sup>1,2</sup>

<sup>1</sup> National Drug and Alcohol Research Centre, UNSW Sydney <sup>2</sup> School of Psychology, University of Tasmania, Hobart, Australia

## Introduction

There are reports of differences in prevalence of drug use and harms between cities and regional/remote areas in Australia. Information on geographic distribution of drug use and harms is crucial to planning and policies around reduction of drug-related harms.

## Aim

- 1) Describe and compare overall rate of drug-induced deaths and drug-related hospitalisations by remoteness area of usual residence in Australia in 2018-2019.
- 2) Describe and compare rate of drug-induced deaths and drug-related hospitalisations involving specific drugs by remoteness area.

## Methods

### Identification of drug-induced deaths and drug-related hospitalisations

- Drug-related hospitalisations completed in the financial year 2018-19 were identified from the principal diagnosis in the National Hospital Morbidity Database<sup>2</sup>.
- Preliminary data on drug-induced deaths occurring in the years 2018 and 2019 were identified from the underlying cause of death in the Australian Bureau of Statistics' Cause of Death Unit Record File<sup>1</sup>.
- The drug-related ICD codes and other details on their identification are described in our published bulletins on drug-induced deaths<sup>1</sup> and drug-related hospitalisations<sup>2</sup>.

### Remoteness area and involvement of specific drugs

- Data on the remoteness area of usual residence was classified, using the Australian Statistical Geography Standard (ASGS)<sup>3</sup>, into five categories: Major Cities, Inner Regional, Outer Regional, Remote and Very Remote Australia.
- ICD-10-AM under principal and up to 19 additional diagnoses and ICD-10 under multiple causes of death were used to identify the involvement of opioids, amphetamines, cocaine and cannabinoids in drug-induced deaths and drug-related hospitalisations, respectively.

Table: Definition of drug type involved

Drug classification	ICD-10-AM or ICD-10
Opioids	T40.0-T40.4, T40.6, F11.0-F11.9
Amphetamines and other stimulants	T43.6, F15.0-F15.9
Cocaine	T40.5, F14.0-F14.9
Cannabinoids	T40.7, F12.0-F12.9

NB: More than one drug may be involved in a death or hospitalisation and a single drug class may include more than one drug. We have not exhaustively identified all drugs that may be involved.

### Statistical analysis

- Overall age-standardised rates and by drug type involved are presented for each remoteness area. An [online visualization and overview](#) is available for interested viewers.

## Results: Drug-related hospitalisations

- Overall rate of drug-related hospitalisations was highest in outer regional areas (292 hospitalisations per 100,000 person years) where there was also the highest rate of drug-related hospitalisations involving amphetamines and other stimulants compared with other remoteness areas ([Figure](#)).
- This was followed by remote and very remote areas (282 hospitalisations per 100,000 person years) where there was the highest rate of drug-related hospitalisations involving cannabinoids compared with other remoteness areas.
- Major cities had the highest rate of hospitalisations involving opioids (51 per 100,000 person years) and cocaine (9.0 per 100,000 person years).

## Results: Drug-induced deaths

- Overall rate of drug-induced deaths was highest in inner regional areas (8.0 deaths per 100,000 person years) where there was also the highest rate of drug-induced death involving opioids, amphetamines and cannabinoids ([Figure](#)).
- Rate of drug-induced deaths were lowest in remote and very remote areas

## Limitations and Implications

- Administrative differences between jurisdictions and remoteness areas may impact on estimates.
- ICD coding determine the drug types that could be studied, e.g. amphetamines and other stimulants could not be further broken down by specific drugs involved.

There are important differences between remoteness areas in drug harms and the type of drugs involved as indicated by hospitalisation and mortality data. The data suggest that targeted and specific health and treatment service provision is needed to reduce harms in the different regions of Australia. Differences between geographical areas within each remoteness area (e.g. by jurisdiction) will also need to be analysed to inform stakeholders.

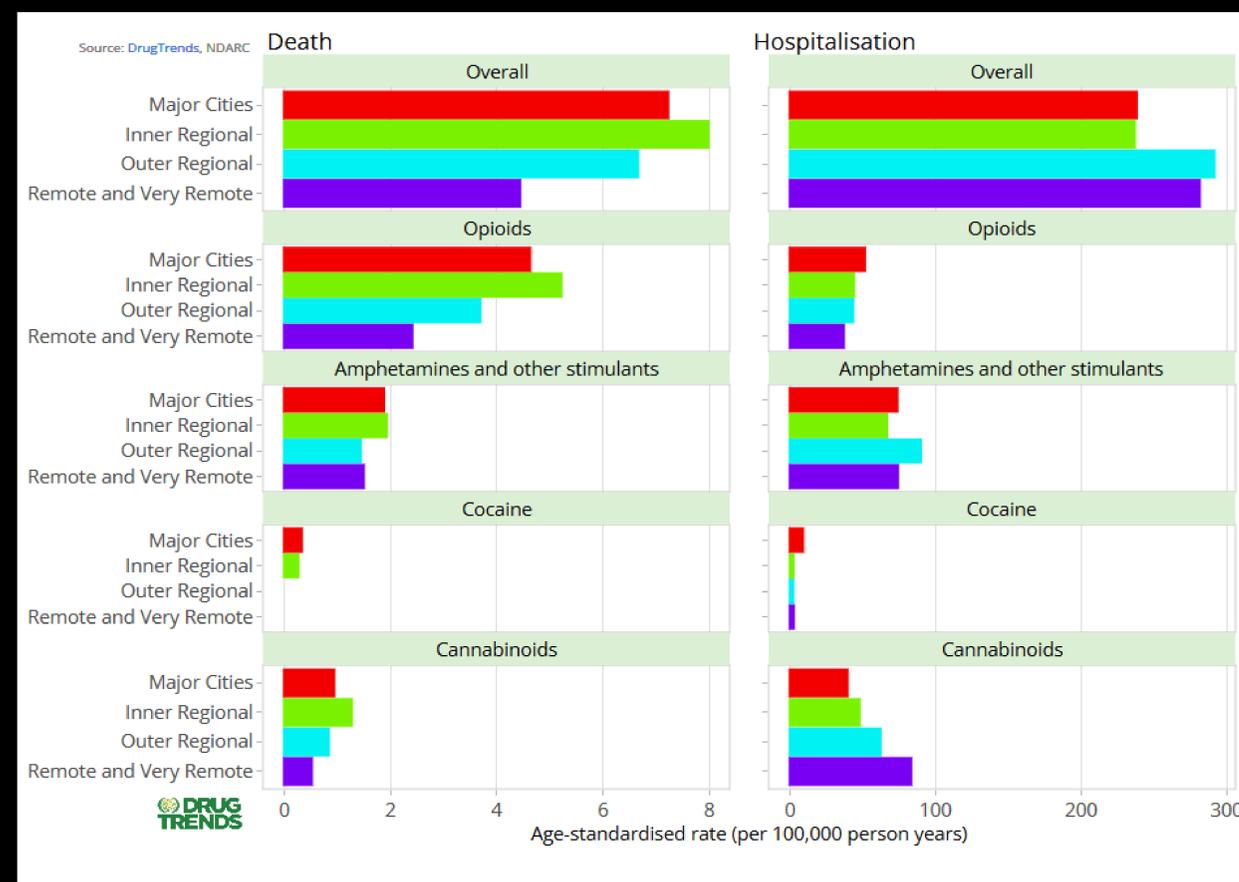
## References

1. Chrzanowska, A., Man, N., Sutherland, R., Degenhardt, L. & Peacock, A. (2021). [Methods for "Trends in drug-induced deaths in Australia, 1997-2019"](#) Drug Trends Bulletin Series. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney.
2. Chrzanowska, A., Man, N., Sutherland, R., Degenhardt, L. & Peacock, A. (2021). [Methods for "Trends in drug-related hospitalisation in Australia, 1999-2019"](#) Drug Trends Bulletin Series. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney.
3. Australian Bureau of Statistics (2016) [Australian Statistical Geography Standard \(ASGS\)](#) ABS Cat No. 270.0.55.005

**Acknowledgements:** The authors acknowledge all state and territory Registries of Births, Deaths and Marriages, the Coroners and the National Coronial Information System (NCIS) for enabling COD URF data to be used for this publication. We also acknowledge the Australian Institute of Health and Welfare for data from the National Hospital Morbidity Database. Drug Trends is funded by the Australian Government Department of Health under the Drug and Alcohol Program.

Contact: Nicola Man ✉ [n.man@unsw.edu.au](mailto:n.man@unsw.edu.au)  
✉ [DrugTrends@unsw.edu.au](mailto:DrugTrends@unsw.edu.au) ☎ +61 (2) 9385 0333

Figure 1: Drug involved in drug-induced deaths and drug-related hospitalisations by remoteness area, 2018-19



NB: Remoteness area could not be determined for 2.0% and 3.2% of drug-induced deaths and drug-related hospitalisations, respectively.