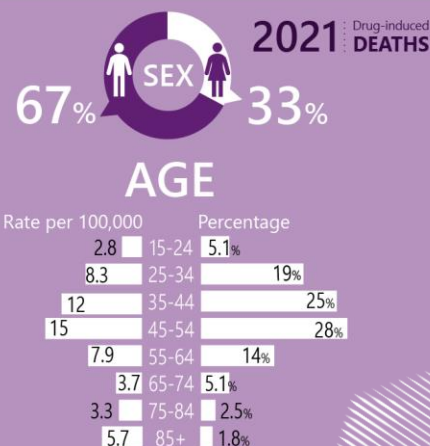




DRUG INVOLVEMENT

(deaths per 100,000 population)

4.4	Opioids
4.3	Antiepileptic, sedative-hypnotic and anti-parkinsonism drugs
2.2	Amphetamine-type stimulants
1.8	Antidepressants
1.6	Antipsychotics & neuroleptics
0.66	Non-opioid analgesics
0.44	Cannabinoids
0.35	Cocaine



There were 435 registered overdose and other drug-induced deaths (excluding alcohol and tobacco) in [Victoria](#) in 2021, which is equivalent to 1.0% of all registered deaths in this jurisdiction.

The rate fluctuated between 2002 and 2019, with a peak of 8.5 deaths per 100,000 people in 2017. The preliminary age-standardised rate of drug-induced deaths was 6.6 deaths per 100,000 people in 2021 ([Figure 1](#)). This rate was lower by 17% than the estimated rate in 2020 (8.0 deaths per 100,000 people), noting that estimates for 2020 and 2021 are subject to revision and may increase (Table 1).

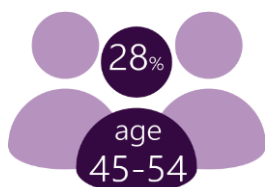
Sex



In 2021, males accounted for 67% (292 deaths) of drug-induced deaths. The rate of drug-induced deaths was also higher among males than females (9.2 versus 4.2 deaths per 100,000 people, respectively). The rate among females was lower by 26% compared to 2020 (5.7 deaths per 100,000 people) while the male rate was stable (Table 1).

Age

In 2021, drug-induced deaths were most common among the 45-54 age group (28%, 120 deaths).



The rate was also highest in the 45-54 age group (15 deaths per 100,000 people), since the 35-44 age groups recorded a significant 24% decrease in the rate of drug-induced deaths from 2020 (16 versus 12 deaths per 100,000 people, respectively) (Table 2).

Remoteness Area of Usual Residence

The greatest proportion of drug-induced deaths in 2021 occurred among people residing in major city areas (79%, 343 deaths), and the highest rate was also observed among people in major city areas (6.7 deaths per 100,000 people).

Victoria has shown a pattern of consistently higher or similar rate in regional and remote versus major city areas since 2009, however 2021 was the first year that the rate of drug-induced deaths in regional and remote areas (6.0 deaths per 100,000 people) declined below the rate in major city areas. Both rates were lower compared to the rates in 2020 but the difference was not statistically significant (Table 3).

Intent of Drug Overdose Deaths

In 2021, 98% (427 deaths) of drug-induced deaths were due to [overdose](#). Unintentional drug overdose accounted for 74% (314 deaths) and intentional drug overdose for 24% (102 deaths) of these deaths in 2021. The estimated rate of unintentional overdose deaths was lower in 2021 compared to 2020 (4.9 versus 6.1 deaths per 100,000 people, respectively), while the rate of intentional overdose deaths remained stable (Table 4).

Place of Occurrence



In 2021, the location of the incident underlying death was coded as home for the majority (76%, 332 deaths) of drug-induced deaths.

Drug Involvement

In Victoria, the three most common drug types involved in drug overdose deaths in 2021 were:

- **opioids** (4.4 deaths per 100,000 people, 283 deaths),
- **antiepileptic, sedative-hypnotic and anti-parkinsonism drugs** (4.3 deaths per 100,000 people, 279 deaths),
- **amphetamine-type stimulants** (2.2 deaths per 100,000 people, 142 deaths) ([Figure 2](#)).

Comparison of estimated rates of drug overdose deaths for Victoria identified lower rates in 2020 as compared to 2021 in overdose deaths involving:

- antidepressants (1.8 versus 2.7 deaths per 100,000 people),
- opioids (4.4 versus 5.4 deaths per 100,000 people), and
- antiepileptic, sedative-hypnotic and anti-parkinsonism drugs (4.3 versus 5.1 deaths per 100,000 people), noting that estimates for 2020 to 2021 are subject to revision and may increase (Table 5).

Figure 1. Age-standardised rate per 100,000 people of drug-induced deaths, by sex, Victoria, 2002-2021.

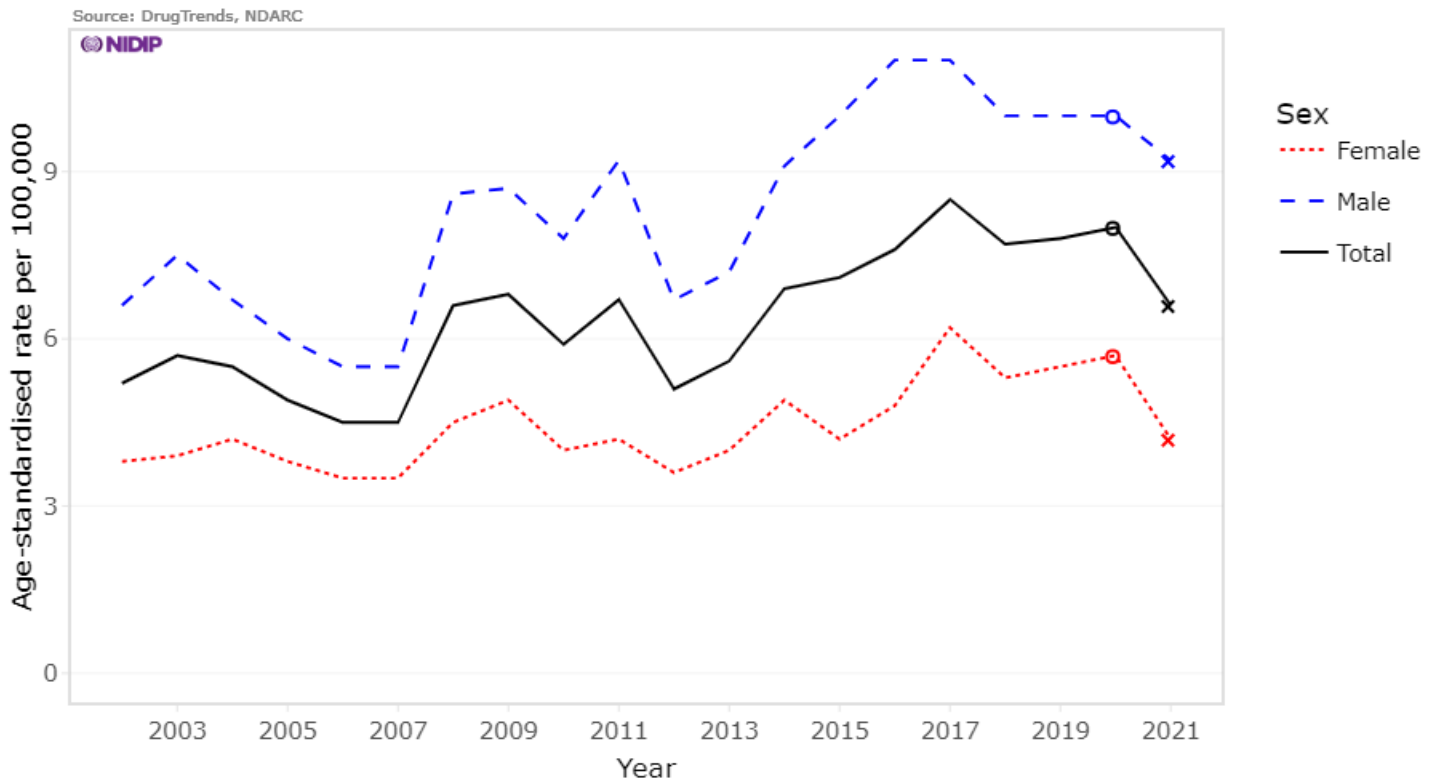
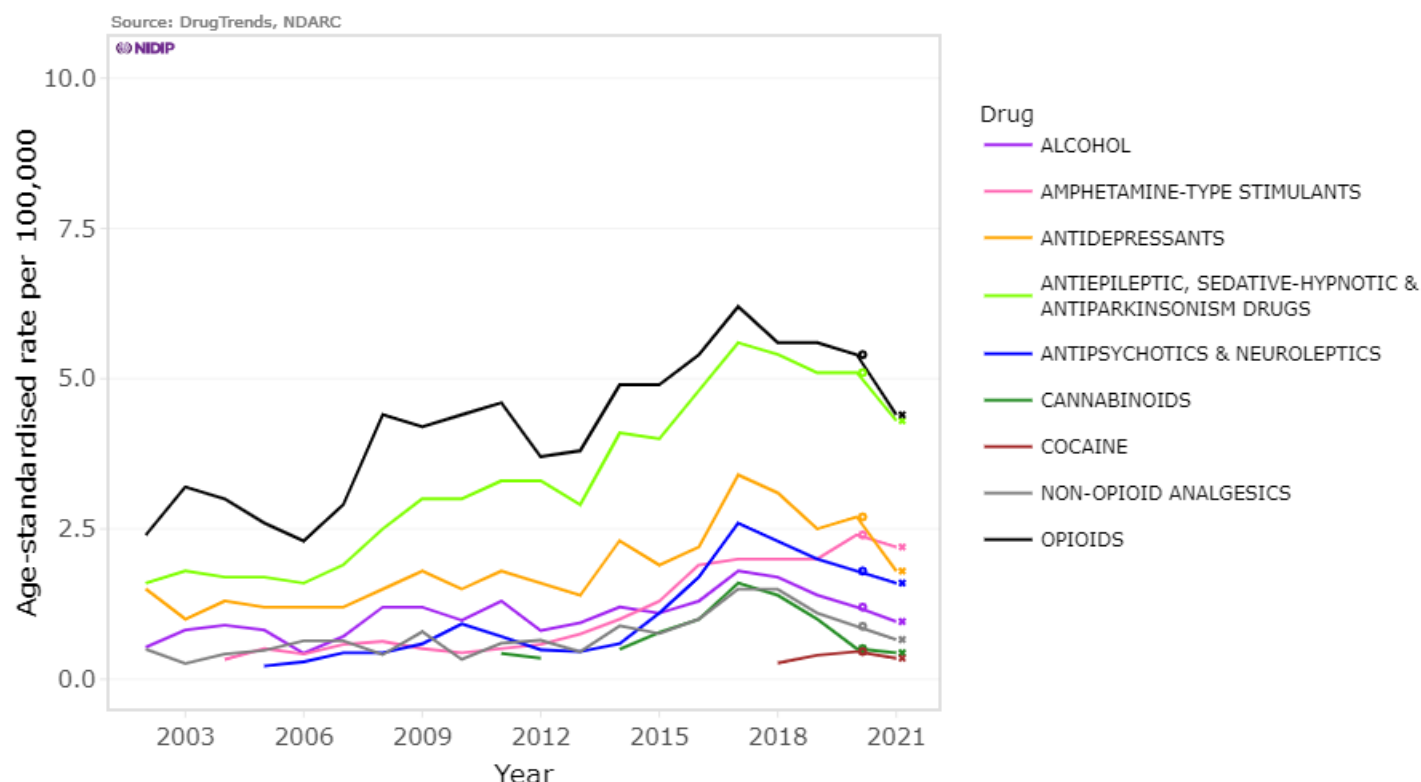


Figure 2. Age-standardised rate per 100,000 people of drug overdose deaths, by drug class, Victoria, 2002-2021.

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here.

Causes of death data for 2020 and 2021 are not final and thus are subject to further revision. The symbol 'o' indicates revised estimates and 'x' preliminary estimates. Age-standardised rates were not calculated if the number of deaths was less than or equal to 10 (please refer to our [methods](#) document for details). Suppressed data are visible as gaps in the data series.

Table 1. Age-standardised rate per 100,000 people of drug-induced deaths in Victoria in 2020 and 2021, and average percent change (APC) for difference between 2021 and 2020 (with 95% confidence intervals), by sex

Sex	Rate in 2020 (95% CI)	Rate in 2021 (95% CI)	APC (95% CI)
Female	5.7 (4.9, 6.5)	4.2 (3.5, 5)	-26 (-40, -7.6)
Male	10 (9.3, 12)	9.2 (8.1, 10)	-12 (-25, 3.0)
Total	8.0 (7.3, 8.7)	6.6 (6.0, 7.3)	-17 (-27, -5.6)

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2020 and 2021 are preliminary and thus are subject to further revision. 95% confidence intervals for the age-standardised rate and average percent change are shown in brackets. Please refer to our [methods](#) document on 'Presentation of results' for interpretation of average percent change. Please also refer to our [methods](#) document on 'Data source' and 'Coding of deaths' for details on the data used.

Table 2. Crude rate per 100,000 people of drug-induced deaths in Victoria in 2020 and 2021, and average percent change (APC) for difference between 2021 and 2020 (with 95% confidence intervals), by age

Age	Rate in 2020 (95% CI)	Rate in 2021 (95% CI)	APC (95% CI)
15-24	4.6 (3.2, 6.3)	2.8 (1.7, 4.2)	-39 (-66, 6)
25-34	9.0 (7.3, 11)	8.3 (6.6, 10)	-7.5 (-32, 26)
35-44	16 (13, 18)	12 (9.8, 14)	-24 (-41, -1.8)
45-54	15 (13, 18)	15 (12, 17)	-4.5 (-26, 24)
55-64	9.1 (7.1, 12)	7.9 (6, 10)	-13 (-40, 25)
65-74	5.8 (4.0, 8.1)	3.7 (2.3, 5.6)	-36 (-64, 12)

75-84	4.6 (2.6, 7.6)	3.3 (1.6, 5.8)	-29 (-71, 65)
85+	8.1 (4.0, 14)	5.7 (2.5, 11)	-29 (-75, 94)

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2020 and 2021 are preliminary and thus are subject to further revision. 95% confidence intervals for the crude rate and average percent change are shown in brackets. Please refer to our [methods](#) document on 'Presentation of results' for interpretation of average percent change. The estimates for the 0-14 years age group are not presented due to sensitivity of the data. Please also refer to our [methods](#) document on 'Data source' and 'Coding of deaths' for details on the data used.

Table 3. Age-standardised rate per 100,000 people of drug-induced deaths in Victoria in 2020 and 2021, and average percent change (APC) for difference between 2021 and 2020 (with 95% confidence intervals), by remoteness area

Remoteness	Rate in 2020 (95% CI)	Rate in 2021 (95% CI)	APC (95% CI)
Major Cities	7.7 (7, 8.5)	6.7 (6, 7.5)	-13 (-25, 0.36)
Regional and Remote	8.0 (6.5, 9.7)	6.0 (4.8, 7.5)	-24 (-43, 1.1)

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2020 and 2021 are preliminary and thus are subject to further revision. 95% confidence intervals for the age-standardised rate and average percent change are shown in brackets. Please refer to our [methods](#) document on 'Presentation of results' for interpretation of average percent change. Please also refer to our [methods](#) document on 'Data source' and 'Coding of deaths' for details on the data used.

Table 4. Age-standardised rate per 100,000 people of overdose deaths in Victoria in 2020 and 2021, and average percent change (APC) for difference between 2021 and 2020 (with 95% confidence intervals), by intent

Intent	Rate in 2020 (95% CI)	Rate in 2021 (95% CI)	APC (95% CI)
Unintentional	6.1 (5.5, 6.8)	4.9 (4.3, 5.4)	-20 (-31, -7.6)
Intentional	1.5 (1.2, 1.8)	1.5 (1.2, 1.8)	-1.9 (-25, 29)

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2020 and 2021 are preliminary and thus are subject to further revision. 95% confidence intervals for the age-standardised rate and average percent change are shown in brackets. Please refer to our [methods](#) document on 'Presentation of results' for interpretation of average percent change. Please also refer to our [methods](#) document on 'Data source' and 'Coding of deaths' for details on the data used.

Table 5. Age-standardised rate per 100,000 people of overdose deaths in Victoria in 2020 and 2021, and average percent change (APC) for difference between 2021 and 2020 (with 95% confidence intervals), by drugs involved

Drug	Rate in 2020 (95% CI)	Rate in 2021 (95% CI)	APC (95% CI)
Opioids	5.4 (4.9, 6.0)	4.4 (3.9, 5)	-19 (-30, -4.7)
Antiepileptic, sedative-hypnotic & antiparkinsonism drugs	5.1 (4.6, 5.7)	4.3 (3.8, 4.8)	-17 (-29, -2.8)
Amphetamine-type stimulants	2.4 (2, 2.8)	2.2 (1.9, 2.6)	-6.6 (-26, 18)
Antidepressants	2.7 (2.3, 3.2)	1.8 (1.5, 2.2)	-33 (-47, -16)
Antipsychotics & neuroleptics	1.8 (1.5, 2.2)	1.6 (1.3, 1.9)	-14 (-34, 12)
Alcohol	1.2 (0.98, 1.5)	0.96 (0.73, 1.2)	-22 (-44, 8.6)
Non-opioid analgesics	0.88 (0.67, 1.1)	0.66 (0.48, 0.89)	-26 (-50, 10)
Cannabinoids	0.51 (0.35, 0.72)	0.44 (0.29, 0.64)	-13 (-48, 44)
Cocaine	0.46 (0.31, 0.65)	0.35 (0.22, 0.53)	-23 (-55, 32)

Note: Deaths where conditions related to alcohol or tobacco comprised the underlying cause of death are not captured here. Causes of death data for 2020 and 2021 are preliminary and thus are subject to further revision. 95% confidence intervals for the age-standardised rate and average percent change (APC) are shown in brackets. Please refer to our [methods](#) document on 'Presentation of results' for interpretation of average percent change. Please also refer to our [methods](#) document on 'Data source' and 'Coding of deaths' for details on the data used.

ISSN XXXX ©NDARC, UNSW SYDNEY 2023

This report was prepared by researchers from the National Drug and Alcohol Research Centre for the Drug Trends program. The Drug Trends program is coordinated by the National Drug and Alcohol Research Centre, UNSW Sydney and undertaken in partnership with the Burnet Institute, National Drug Research Institute, University of Queensland, and University of Tasmania.

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. All other rights are reserved. Requests and enquiries concerning reproduction and rights should be addressed to NDARC, UNSW Sydney, NSW 2052, Australia.

Recommended citation: Chrzanowska A, Man N, Akhurst J, Sutherland R, Degenhardt L, Peacock A. Trends in overdose and other drug-induced deaths in Australia, 2002-2021. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2023. Available from: <http://doi.org/10.26190/m2gs-z325>

Please note that as with all statistical reports, there is the potential for minor revisions to data in this report. Please refer to the online version at [Drug Trends](#).

Please contact the Drug Trends team with any queries regarding this publication: drugtrends@unsw.edu.au.

Funding

The Drug Trends program is funded by the Australian Government Department of Health and Aged Care under the Drug and Alcohol Program.

Data source

We acknowledge all state and territory Registries of Births, Deaths and Marriages, the Coroners and the National Coronal Information System (NCIS) for enabling Cause of Death Unit Record File (COD URF) data to be used for this publication.

Acknowledgements

We wish to acknowledge Lauren Moran and the team at the Australian Bureau of Statistics for their assistance with the data and ICD-10 coding practices to ensure rigorous, comprehensive, and consistent reporting on drug-induced deaths in Australia.

We would like to acknowledge the contribution of those who have been involved in past reporting on drug-induced deaths by Drug Trends, specifically: A/Prof Timothy Dobbins, Dr Amanda Roxburgh, and A/Prof Lucinda Burns.

We acknowledge the traditional custodians of the land on which the work for this report was undertaken. We pay respect to Elders past, present, and emerging.

Related Links

- For interactive data visualisations accompanying this report, go to: https://drugtrends.shinyapps.io/Deaths_2021
- For full details of the methods underpinning this report, go to: <https://ndarc.med.unsw.edu.au/resource-analytics/trends-drug-induced-deaths-australia-2002-2021>
- For other Drug Trends publications on drug-related hospitalisations and drug-induced deaths in Australia, go to: <https://ndarc.med.unsw.edu.au/project/national-illicit-drug-indicators-project-nidip>
- For more information on NDARC research, go to: <http://ndarc.med.unsw.edu.au/>
- For more information about the ABS, go to: <http://www.abs.gov.au>
- For more information on ICD coding go to: <http://www.who.int/classifications/icd/en/>

- For more information on the Remoteness Areas Structure within the Australian Statistical Geography Standard (ASGS), go to: <https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.005>
- For more research from the Drug Trends program and to subscribe to our newsletter, go to: <https://ndarc.med.unsw.edu.au/program/drug-trends>
- For details on the collection, organisation and interpretation of NCIS data, go to: <https://www.ncis.org.au/about-the-data/explanatory-notes/>
- For statistics about case closure statistics in NCIS, go to: <https://www.ncis.org.au/about-the-data/operational-statistics/>