

# Age, period, and cohort trends of substance poisoning, alcohol-related disease, and suicide deaths in Australia, 1980-2019

Chrianna Bharat<sup>1</sup> & Ria E Hopkins<sup>1</sup>, Mark Chambers<sup>1</sup>, Louisa Degenhardt<sup>1</sup>, Amy Peacock<sup>1,2</sup>, Michael Farrell<sup>1</sup>, Wing See Yuen<sup>1</sup>, Nicola Man<sup>1</sup>, and Natasa Gisev<sup>1</sup>

1. National Drug and Alcohol Research Centre, UNSW Sydney, Australia; 2. School of Psychology, University of Tasmania, Australia

## Background

“Deaths of despair” is a concept grouping substance poisoning, alcohol-related disease, and suicide deaths together, positioning them as a distinct phenomenon.

To assess this concept, we undertook a side-by-side examination of these deaths in Australia, as a function of age, period, and cohort effects.

## Key takeaways

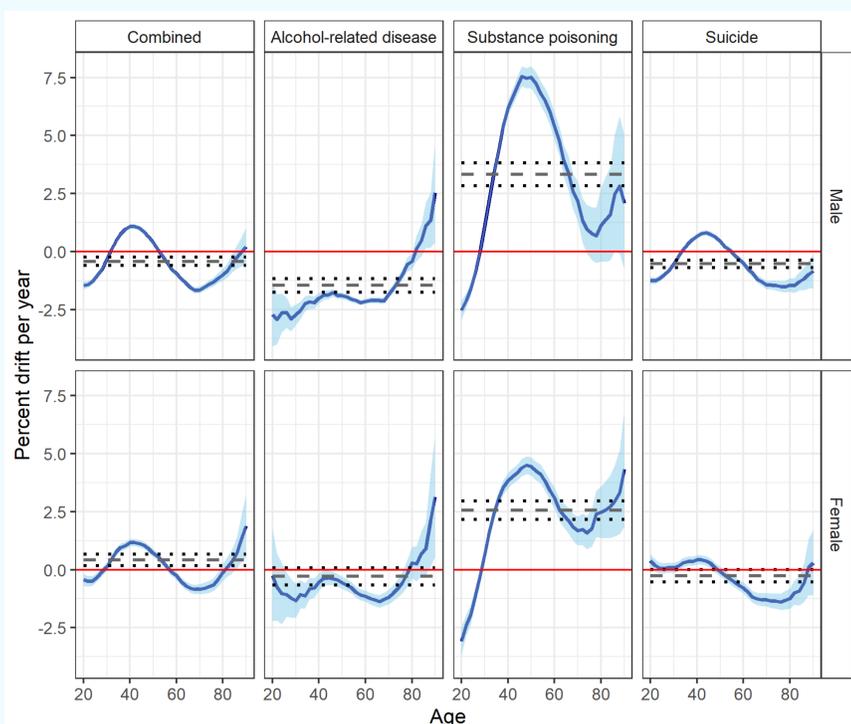
Combined trends were relatively stable over 40-years, but cause-specific deaths showed different and distinct patterns. Although there is value in considering these deaths as having shared influences and risks, these findings challenge notions of “deaths of despair” as a single unitary construct representing a distinct epidemiological phenomenon.

## Methods

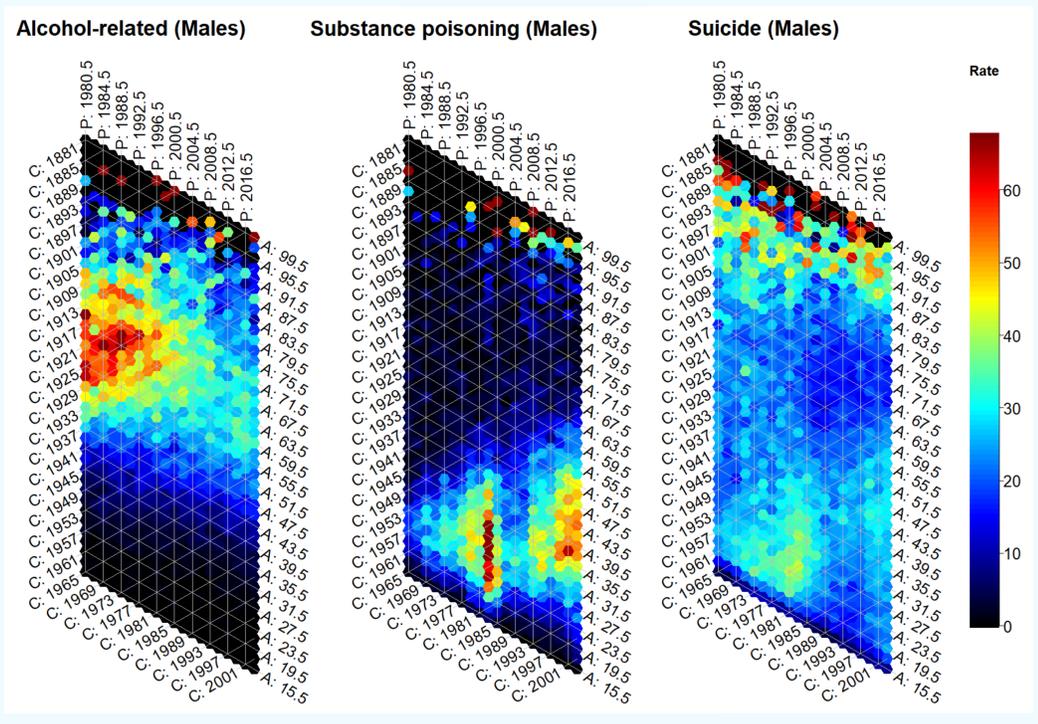
Deaths in Australia between 1980-2019 were examined. Age-specific annual percentage changes (net drifts) and birth cohort rate ratios are presented.

Age-period-cohort models were examined to investigate interrelated patterns of age at death (age), year of death (period), and year of birth (cohort).

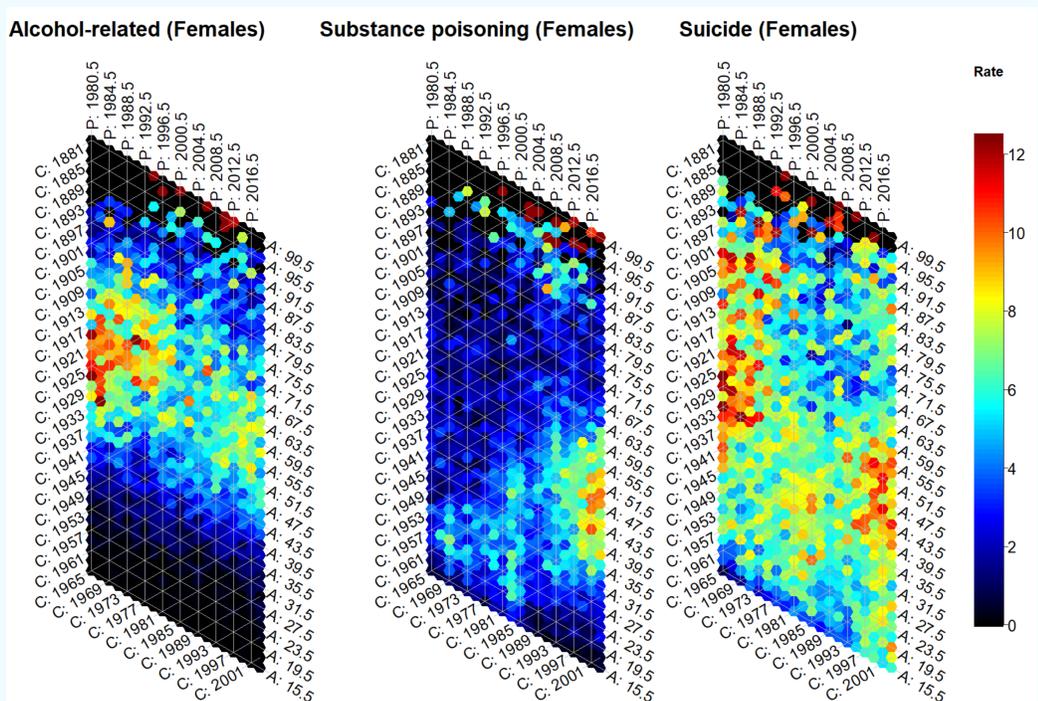
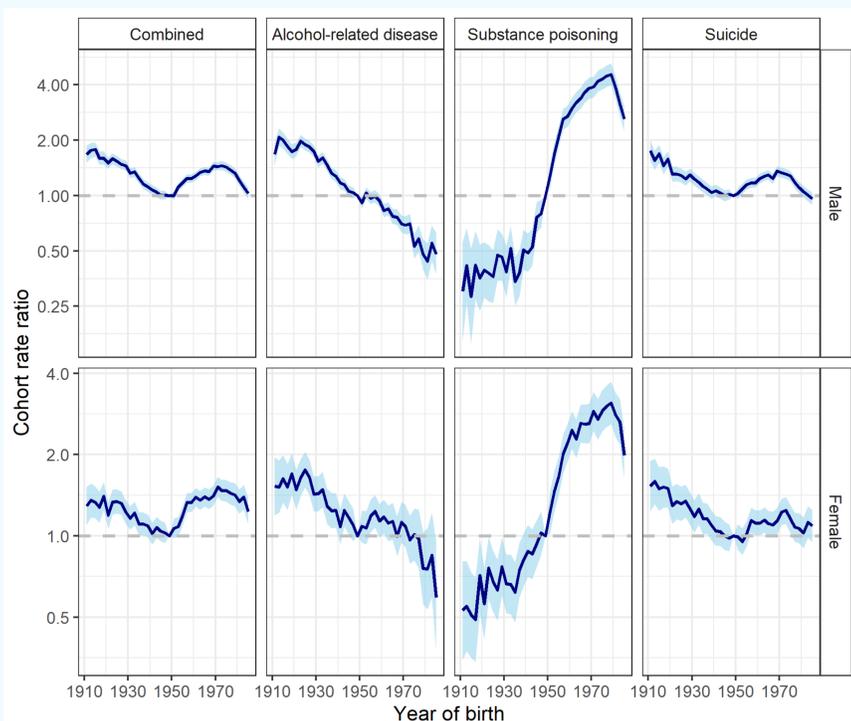
Age-specific annual percent change of rates of deaths. Dashed horizontal lines show annual percent changes averaged over all ages (net drifts) with 95% CIs.



Mortality rates for deaths by cause and sex with age (A), period (P), and cohort (C) axes



Birth-cohort rate ratios for deaths, by cause and sex. Ref birth year=1950.



## Acknowledgements

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## Paper

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