

# Prescription opioid discontinuation and mortality due to suicide or unintentional overdose

Scientia Associate Professor Natasa Gisev



**UNSW**  
**NDARC**  
National  
Drug & Alcohol  
Research Centre

# Acknowledgements

Dr Ria Hopkins

Dr Chrianna Bharat

Scientia Prof Louisa Degenhardt

A/Prof Christina Abdel-Shaheed

Prof Fiona Blyth

A/Prof Ramesh Walpola

Prof David Currow

Dr Aiden Cashin

Prof Sallie-Anne Pearson

**Funding:** NHMRC Project Grant (#1138442), NMHA Seed Grant



# Background

---

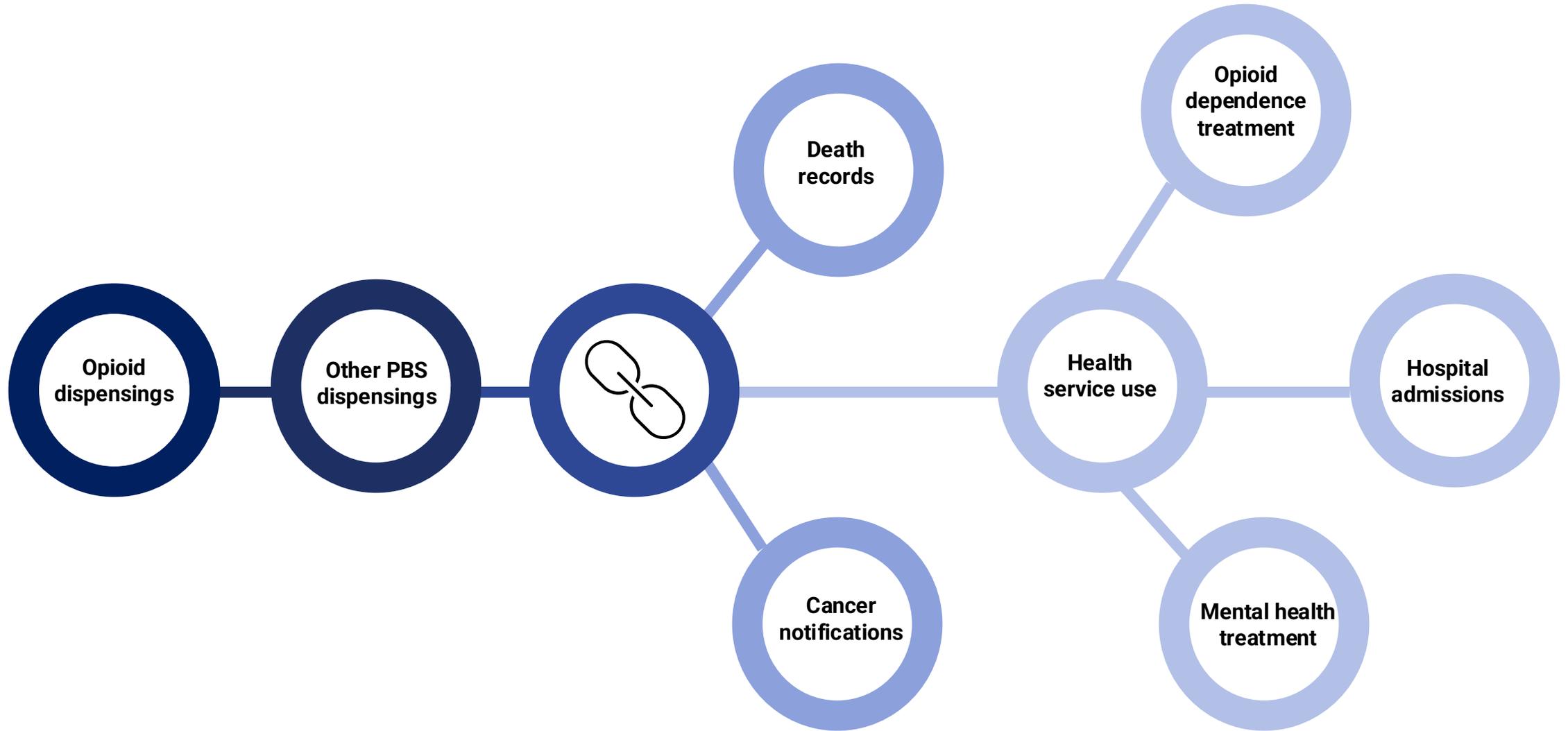
- Opioid analgesics are widely prescribed for pain, but long-term use can lead to dependence and overdose.
- Deprescribing is increasingly encouraged to improve safety, yet concerns remain about risks following discontinuation.
- Studies on the adverse outcomes of opioid discontinuation are conflicting, with studies primarily from the US and Canada, limiting generalisability.

# Aims

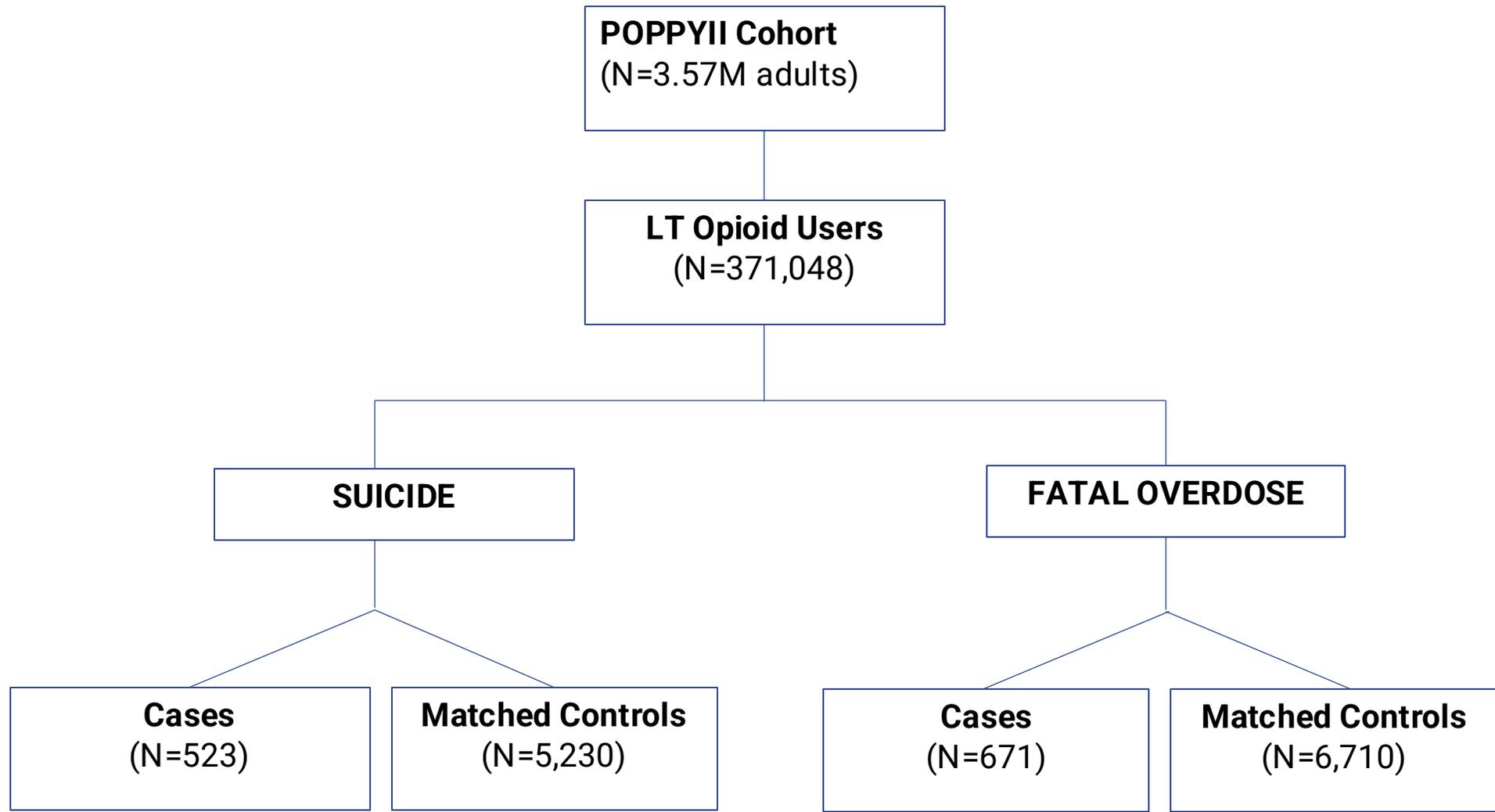
---

- This study aimed to examine associations between opioid discontinuation and:
  - Suicide
  - Fatal unintentional overdose

# POPPY II Study: New opioid users 2003-18



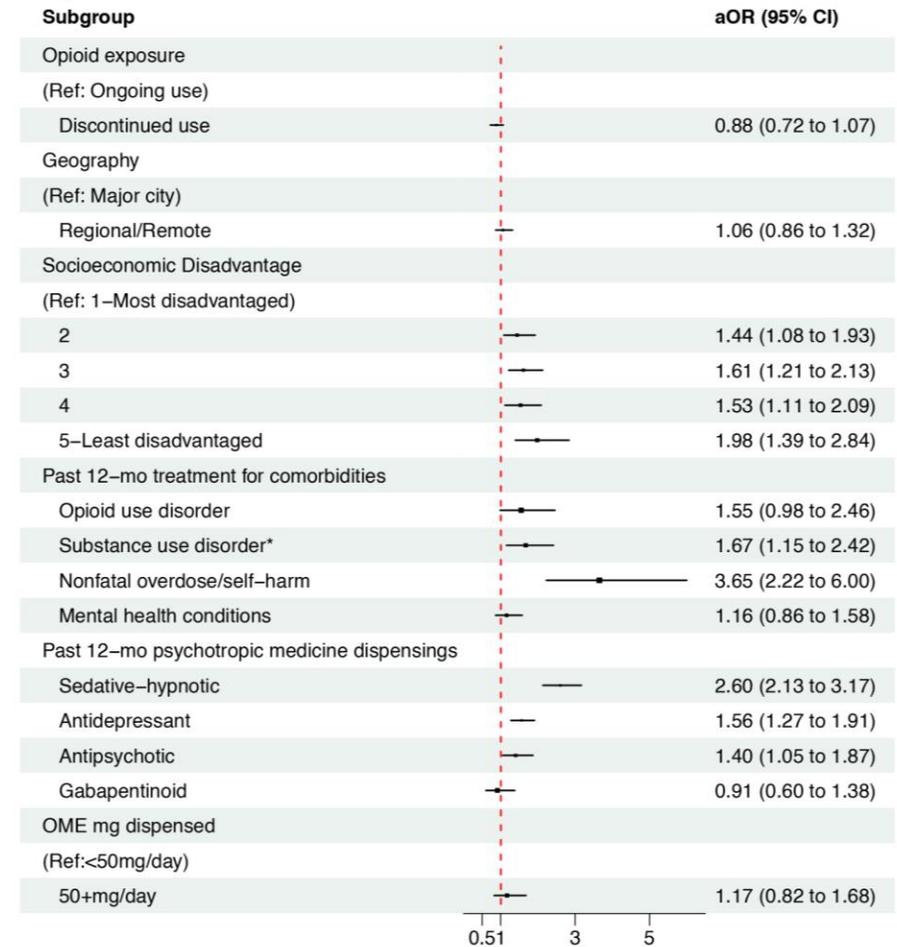
# Nested Case-Control Study



# Key Findings: Suicide (N=523)

**Adj. Odds of Suicide:  
0.88 (0.72-1.07)**

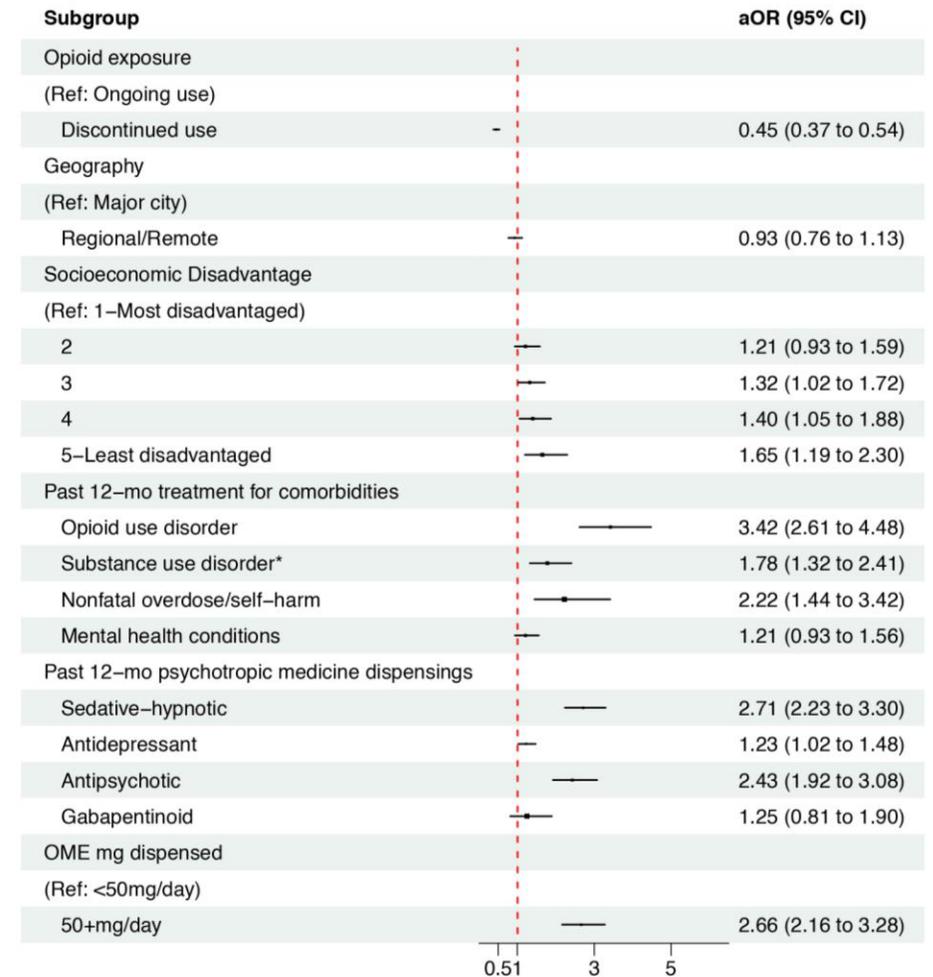
## Adjusted odds of suicide death



# Key Findings: Fatal Overdose (N=671)

**Adj. Odds of Fatal Overdose:  
0.45 (0.37-0.54)**

## Adjusted odds of fatal unintentional overdose



# Implications

---

- Discontinuation not linked to increased suicide or overdose risk.
- Findings contrast with US studies, highlighting local context.
- Support needed for high-risk groups during discontinuation.

# PAIN<sup>®</sup>

## Prescription opioid discontinuation and mortality due to suicide or unintentional overdose

Ria E. Hopkins<sup>a,\*</sup>, Chrianna Bharat<sup>a</sup>, Louisa Degenhardt<sup>a</sup>, Christina Abdel-Shaheed<sup>b</sup>, Fiona M. Blyth<sup>b</sup>, Ramesh Walpola<sup>c</sup>, David C. Currow<sup>d</sup>, Aidan G. Cashin<sup>c,e</sup>, Apo Demirkol<sup>f</sup>, Sallie-Anne Pearson<sup>g</sup>, Natasa Gisev<sup>a</sup>

### Abstract

There is limited and conflicting evidence about associations between prescription opioid discontinuation and mortality. Two nested case–control studies explored associations between prescription opioid discontinuation and death due to suicide or unintentional overdose. The studies were undertaken within a population-based cohort study linking dispensing data to health and mortality data sets for 371,048 adult residents of New South Wales, Australia, who were dispensed opioids for  $\geq 6$  months between July 1, 2003, and December 31, 2018. Cases were individuals with a suicide death or fatal unintentional overdose, matched using risk-set sampling to 10 controls by age, sex, and time. Opioid discontinuation, vs ongoing use, was measured using time-varying exposure periods quantified from dispensing records. Conditional logistic regression was undertaken, with models adjusted for sociodemographics, comorbidities including mental health conditions and substance use disorders, and psychotropic dispensings. Overall, 523 people died by suicide (median age 50 years [interquartile range 39–66], 368 male [70.4%]) and were matched to 5230 controls. Compared with people with ongoing opioid use, discontinuation was not associated with increased odds of experiencing a suicide death (adjusted odds ratio 0.88, 95% confidence interval 0.72–1.07). In addition, 671 people experienced a fatal unintentional overdose (median age 42 years [interquartile range 35–50], 395 male [58.9%]) and were matched to 6710 controls. Opioid discontinuation was associated with reduced odds of experiencing a fatal unintentional overdose (adjusted odds ratio 0.45, 95% confidence interval 0.37–0.54), relative to ongoing use, with the magnitude of this effect greatest when people were unexposed to opioids for  $>90$  days. These findings provide evidence that opioid discontinuation is not necessarily associated with adverse mortality outcomes.

**Keywords:** Analgesics, Opioids, Suicide, Overdose, Pharmacoepidemiology, Drug discontinuation

# Thank you

[n.gisev@unsw.edu.au](mailto:n.gisev@unsw.edu.au)



**UNSW**  
**NDARC**  
National  
Drug & Alcohol  
Research Centre