

# POPPY II Cohort Profile – a population-based linked cohort examining the patterns and outcomes of prescription opioid use in NSW, Australia, 2003-2018

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## Background

- There is significant concern about the increased use of prescription opioids over recent years in several countries including the US, Canada, the UK and Australia.<sup>1</sup>
- In Australia, opioid dispensing increased almost four-fold between 1990 and 2014.<sup>2</sup>
- There are no population-based Australian studies examining the long-term patterns and outcomes of people prescribed opioids.

## Aim

The overall aim of this study was to characterise people initiating opioids in New South Wales (NSW), Australia, between July 2003 and December 2018. Specific aims were to:

- Describe sociodemographic characteristics of NSW adult residents initiating prescribed opioids.
- Examine health status, including medical conditions, health service and prescribed medicine use prior to opioid initiation.
- Examine opioid use characteristics at the time of initiation, including type and number of opioids initiated, administration route, and amount dispensed.



## Methods

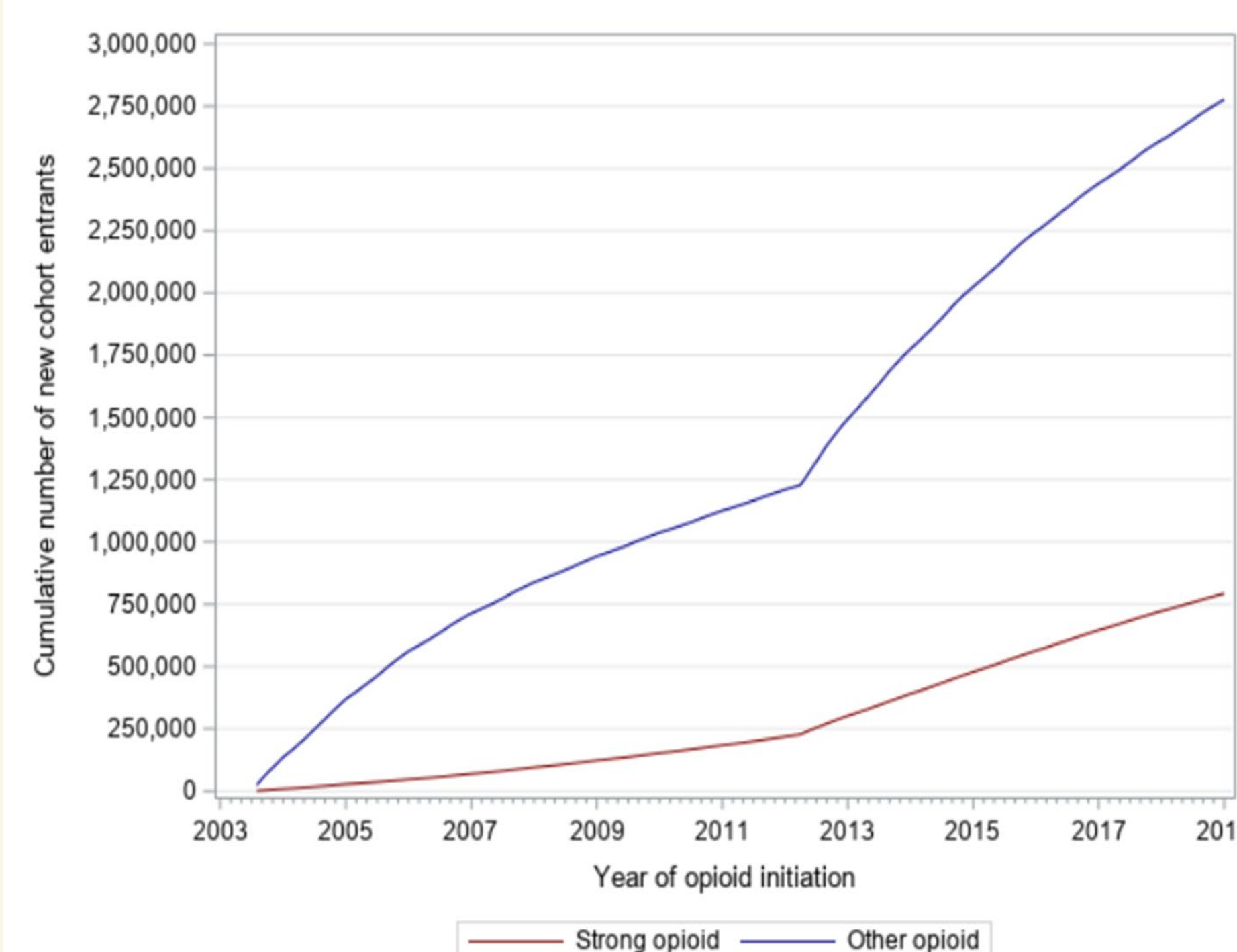
- Retrospective population-based cohort study of adult residents in NSW, Australia, initiating prescribed opioids through Australia's Pharmaceutical Benefits Scheme between July 2003 and December 2018
- Linked to nine other datasets containing information on socio-demographic and clinical characteristics, health service use, and adverse outcomes.
- To account for changes in data capture for subsidised medicines over this time, a sub-cohort of those who initiated prescribed opioids between 1st July 2013 and 31st December 2018 was also constructed.
- Evidence of medical conditions in the 12 months prior to and including the day of opioid initiation was identified using composite indicators incorporating dispensing histories, contact with inpatient hospital services, cancer registry notifications, and registrations for opioid agonist therapy
- Use of primary and acute health care services prior to and including the day of opioid initiation was identified using data from the Medicare Benefits Schedule (MBS) and inpatient hospital services data.

## Results

**Table 1: Key cohort characteristics**

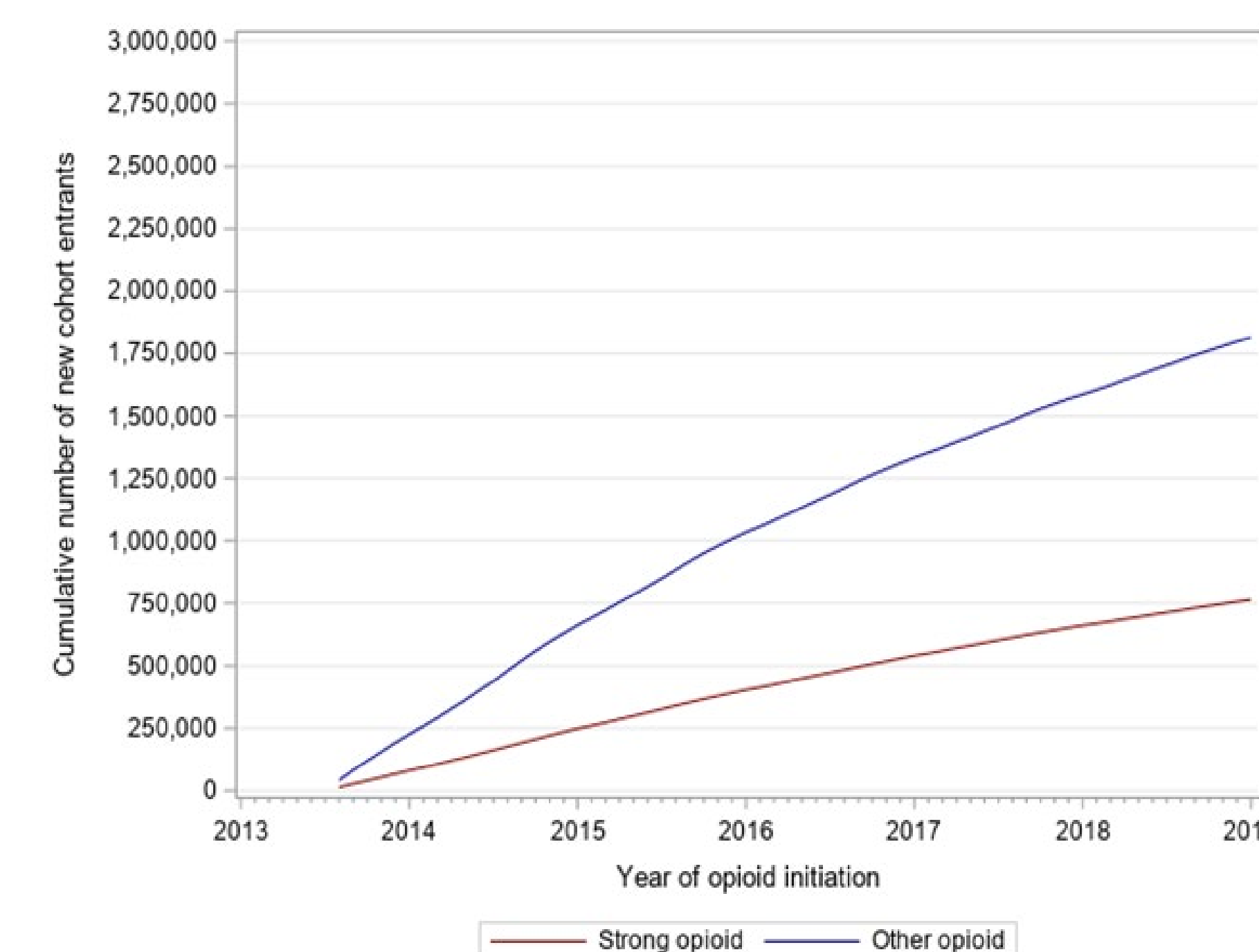
Characteristic	Overall cohort (2003-18)	Sub-cohort (2013-18)
	N (%)	N (%)
Female	1,879,968 (52.4)	1,351,658 (52.4)
Aged ≥ 65 years	956,325 (26.8)	670,081 (18.8)
Living in a major city	2,530,789 (71.4)	1,839,072 (71.9)
Living in most disadvantaged socio-economic area	651,908 (18.4)	446,221 (17.5)
<b>Medical conditions:</b>		
Cancer	207,261 (5.8)	139,726 (5.4)
Endocrine	144,148 (12.8)	392,310 (15.2)
Mental and neurological	1,131,633 (31.7)	888,615 (34.5)
Cardiovascular	1,769,304 (49.6)	1,245,964 (48.3)
Musculoskeletal	189,370 (5.3)	121,441 (4.7)
Respiratory	439,192 (12.3)	348,884 (13.5)
<b>Health service use:</b>		
Any GP visit	3,386,877 (94.9)	2,473,412 (95.9)
Any allied health practitioner visit	376,167 (10.5)	446,999 (17.3)
Any inpatient hospital admission	1,358,929 (38.1)	988,679 (38.3)
Initiated on a strong opioid	792,936 (22.2)	764,477 (29.6)

**Figure 1: Cumulative number of new cohort entrants per month by opioid type (strong vs other) – overall cohort**

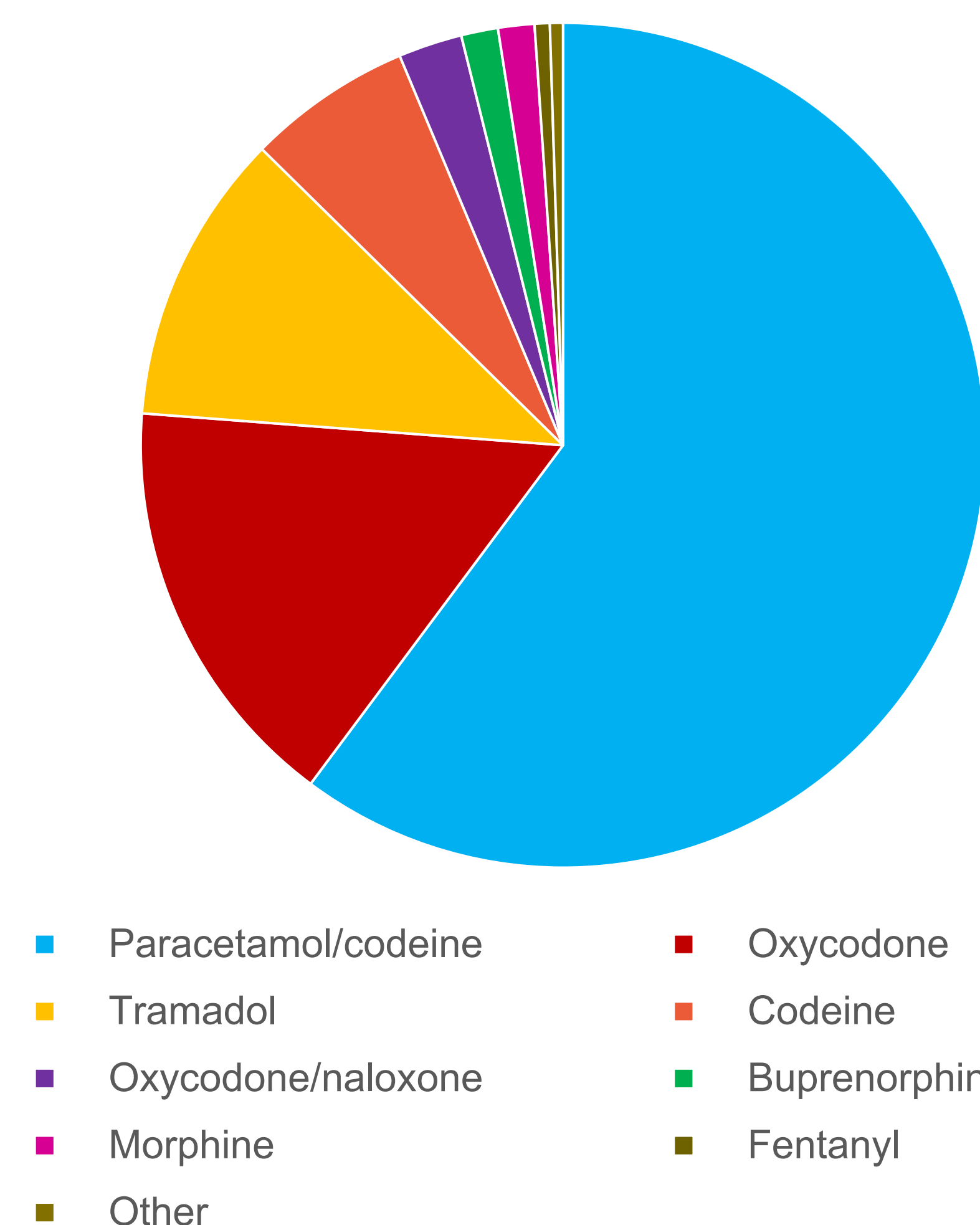


## Results (continued)

**Figure 2: Cumulative number of new cohort entrants per month by opioid type (strong vs other) – sub-cohort**



**Figure 3: Type of opioid initiated (overall cohort)**



The Difference is Research

## Discussion

- The sub-cohort is representative of approximately 27% of all people who initiated opioids nationally at this time.
- The socio-demographic characteristics of the cohort were broadly similar to the general NSW population.<sup>3</sup>
- Approximately 6% of the cohort had evidence of cancer treatment in the year prior to opioid initiation, roughly two and a half times the NSW prevalence of cancer (2.2%).<sup>4</sup>
- The percentage of people with depression (9.5%, 10%) was higher than the 12-month prevalence of Australians experiencing a depressive episode (4.1%).<sup>5</sup>
- Paracetamol/codeine, oxycodone, and tramadol were the most commonly initiated opioids, which is consistent with general pain management recommendations during the study period.

## Conclusion

- The POPPY II study is the largest post-marketing surveillance study of prescribed opioids in Australia, and one of the largest studies worldwide.
- Understanding the characteristics of the cohort will inform future work aimed at generating robust evidence of the course and outcomes of prescribed opioid use in the Australian community.

## References

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