Opioid dose trajectories and associations with clinical outcomes

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Disclosure of Interest

- This work is funded by an NHMRC Ideas Grant (#20029193)
- LP and SN are the recipients of NHMRC Investigator Grant (#2016909[EL1] and #2025894[L2]).
- All research funds were paid to the employing institution.

Background

- Each year, 2.6%–4.8% of Australians using opioids develop persistent opioid use.
- Various state and national policies have been implemented to reduce opioid access, alongside clinical guidelines emphasizing opioid dose reduction or cessation.
- However, tapering can lead to unintended harms.

Aim

This data linkage study examines opioid dose trajectories in long-term opioid users to assess the risks of opioid- and non-opioid-related ED presentations and hospitalizations

Method-Setting and Data Source

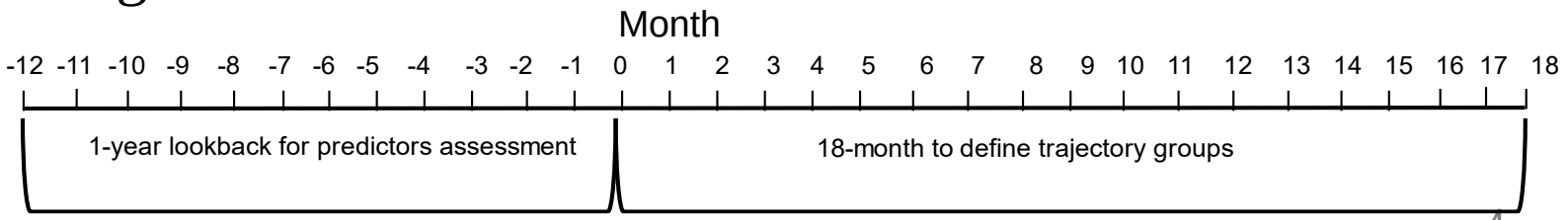
POLAR

Medications
Diagnoses
Demographic

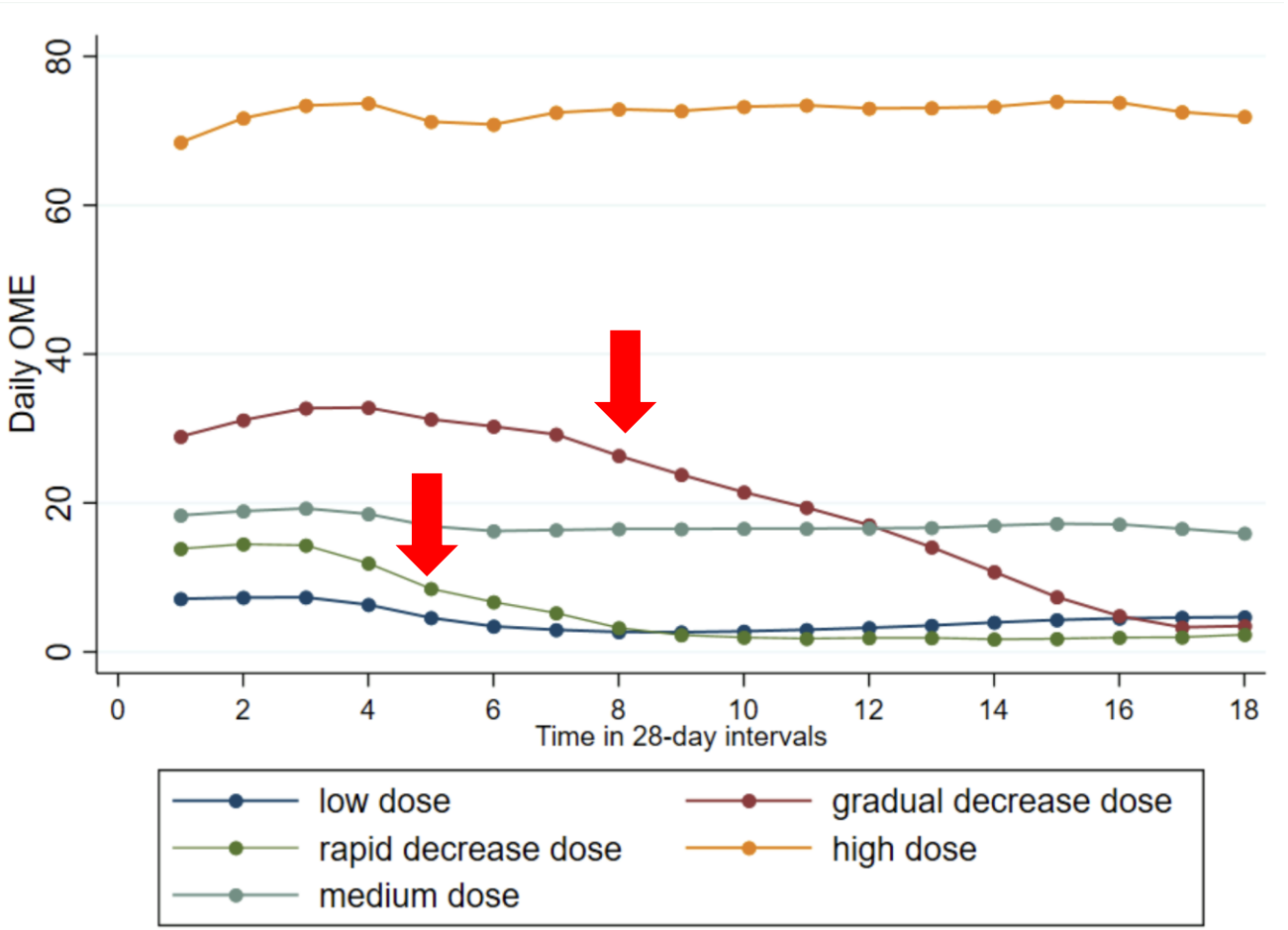
Hospital data

Eastern Health
Peninsula Health
Monash Health

- Inclusion: all adults aged ≥ 15 years at POLAR patient cohort entry in 2018, receiving long-term opioid analgesics between 1st January 2018 – 30st May 2021.
- Long-term opioid use: receiving opioid prescriptions beyond 90 days with a gap of less than 60 days between subsequent prescriptions.
- Exclusion: cancer patients
- Analysis: group-based trajectory models and Poisson regression models



Result



Opioid dose trajectories according to group-based trajectory model

Trajectory 1: Low-dose group (n=6612, 16.6%)

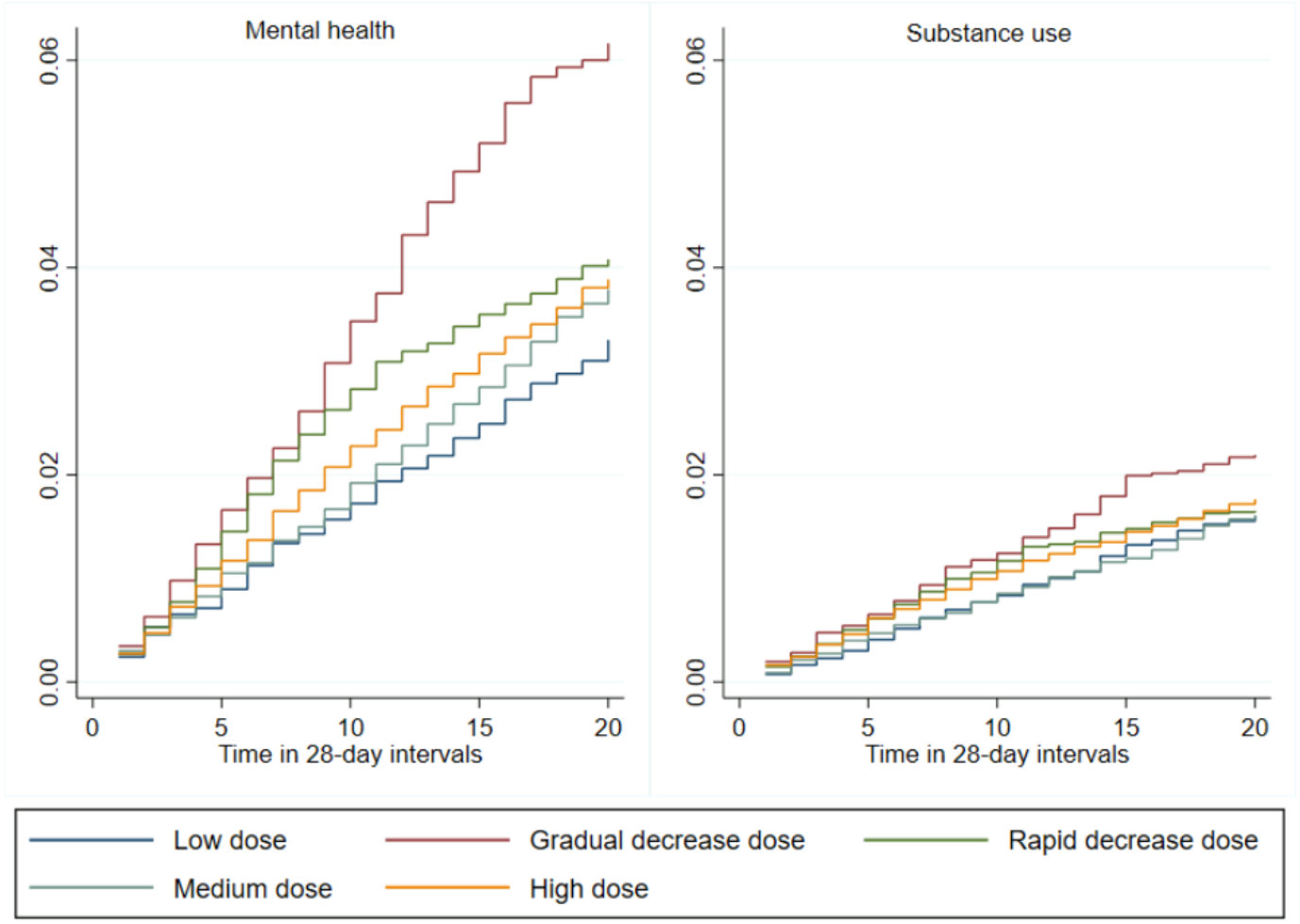
Trajectory 2: Medium-dose group (n=11283, 28.4%)

Trajectory 3: Rapid decrease dose group (n=8168, 20.5%)

Trajectory 4: Gradual decrease dose group (n=4609, 11.6%)

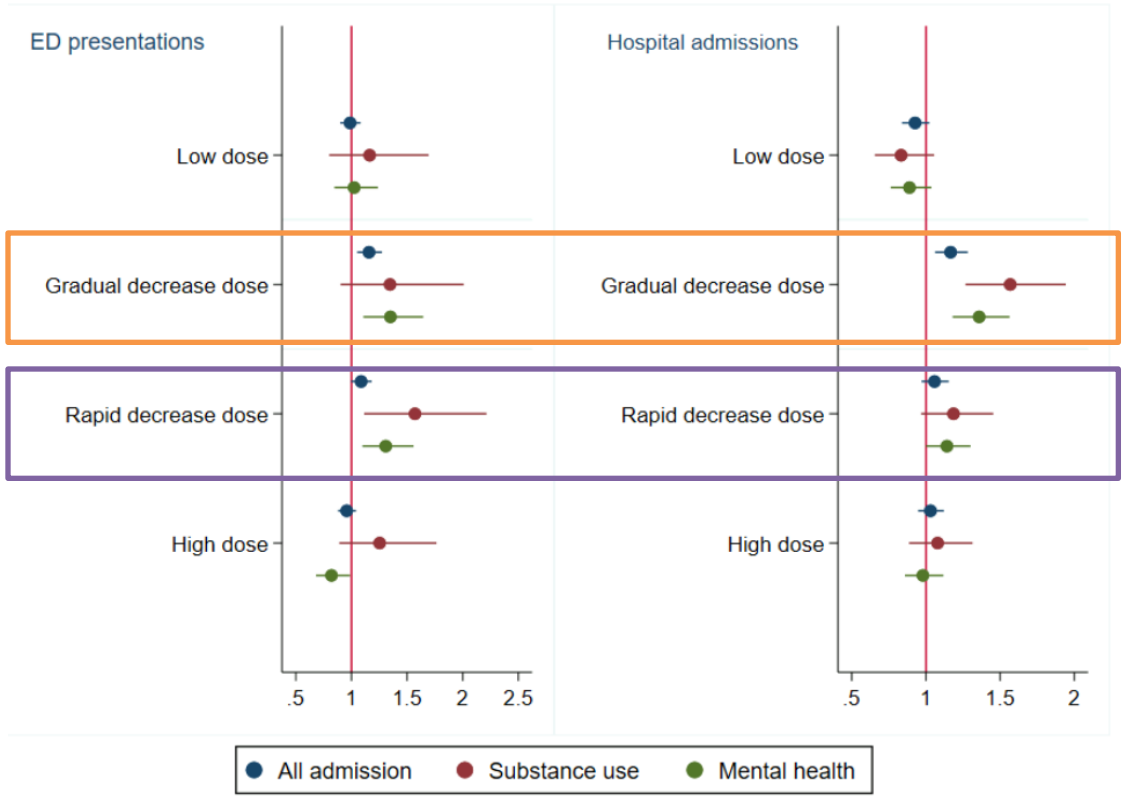
Trajectory 5: High dose group (n=9095, 22.9%)

Result



Cumulative incidence functions for ED presentations and hospital admissions due to mental health conditions or substance use by opioid dosing trajectory.

Result



Adjusted associations between opioid dose trajectories and study outcomes (reference group=medium dose trajectory).

Results were adjusted for age, sex, concession status, remoteness, SES, pain diagnosis, mental health diagnosis, other substance use disorder, Cambridge Multimorbidity Score, indication of previous ED presentations or hospital admissions and previous benzodiazepine and gabapentinoids prescriptions.

Conclusion

- Five prescription opioid dose trajectories were identified, with two showed decreasing dose patterns.
- Decreasing opioid dose trajectories were associated with a greater risk of adverse clinical outcomes, particularly those related to mental health.
- Longitudinal studies with more detailed temporal data are needed in the future to explore the causal relationships between opioid dose reductions and harms.

Acknowledgements

We acknowledge and thank the participating Primary Health Networks (Eastern Melbourne, South Eastern Melbourne and Gippsland Primary Health Networks), as owners of the de-identified data extracted from participating local general practices, alongside Outcome Health as data custodians.

Funding
NHMRC Ideas Grant (#20029193)
National Health and Medical Research Council Fellowships (#1163961, #2025894)

Thanks to my colleagues and coinvestigators

Prof. Suzanne Nielsen

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