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National Drug & Alcohol Research Centre

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UNSW AUSTRALIA

Problematic use of prescription medication: integrating research findings into practice approaches

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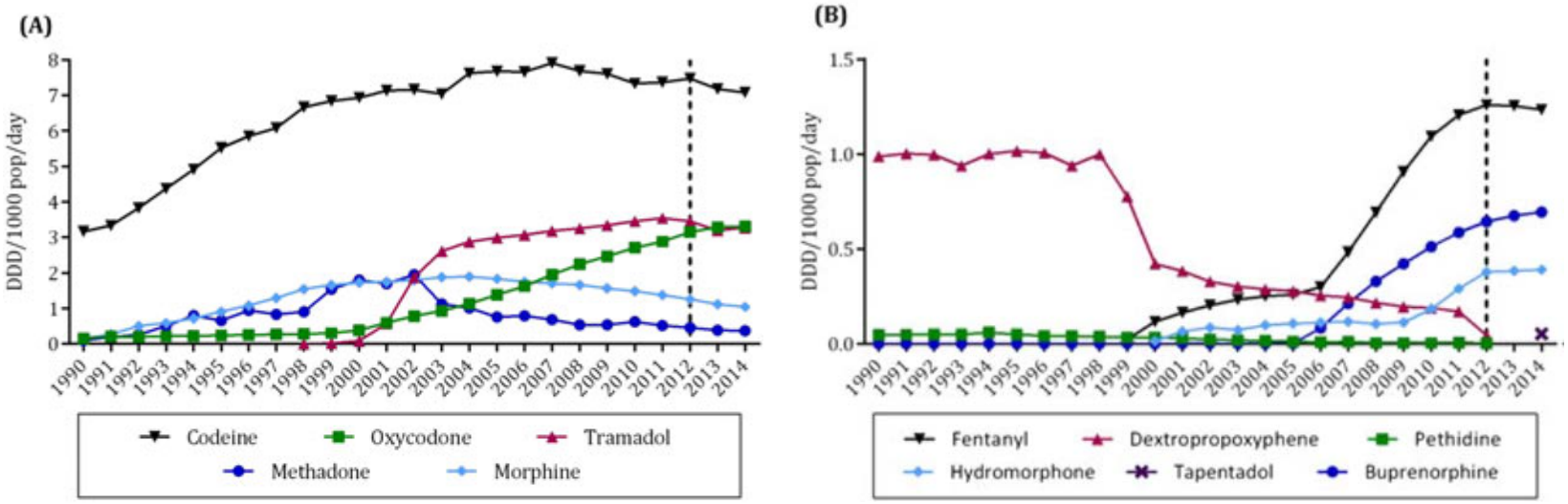
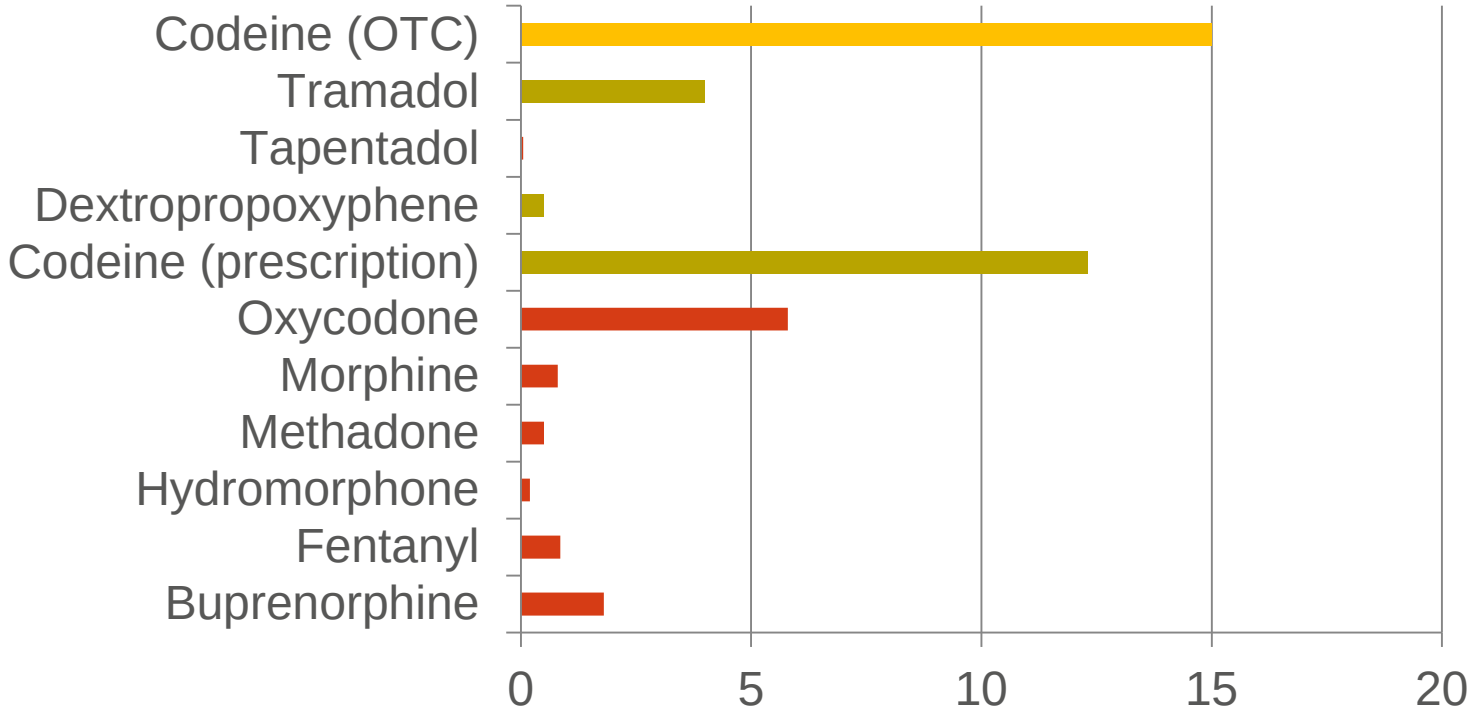
Opioid prescribing in Australia



Karanges et al (2016). British Journal of Clinical Pharmacology.

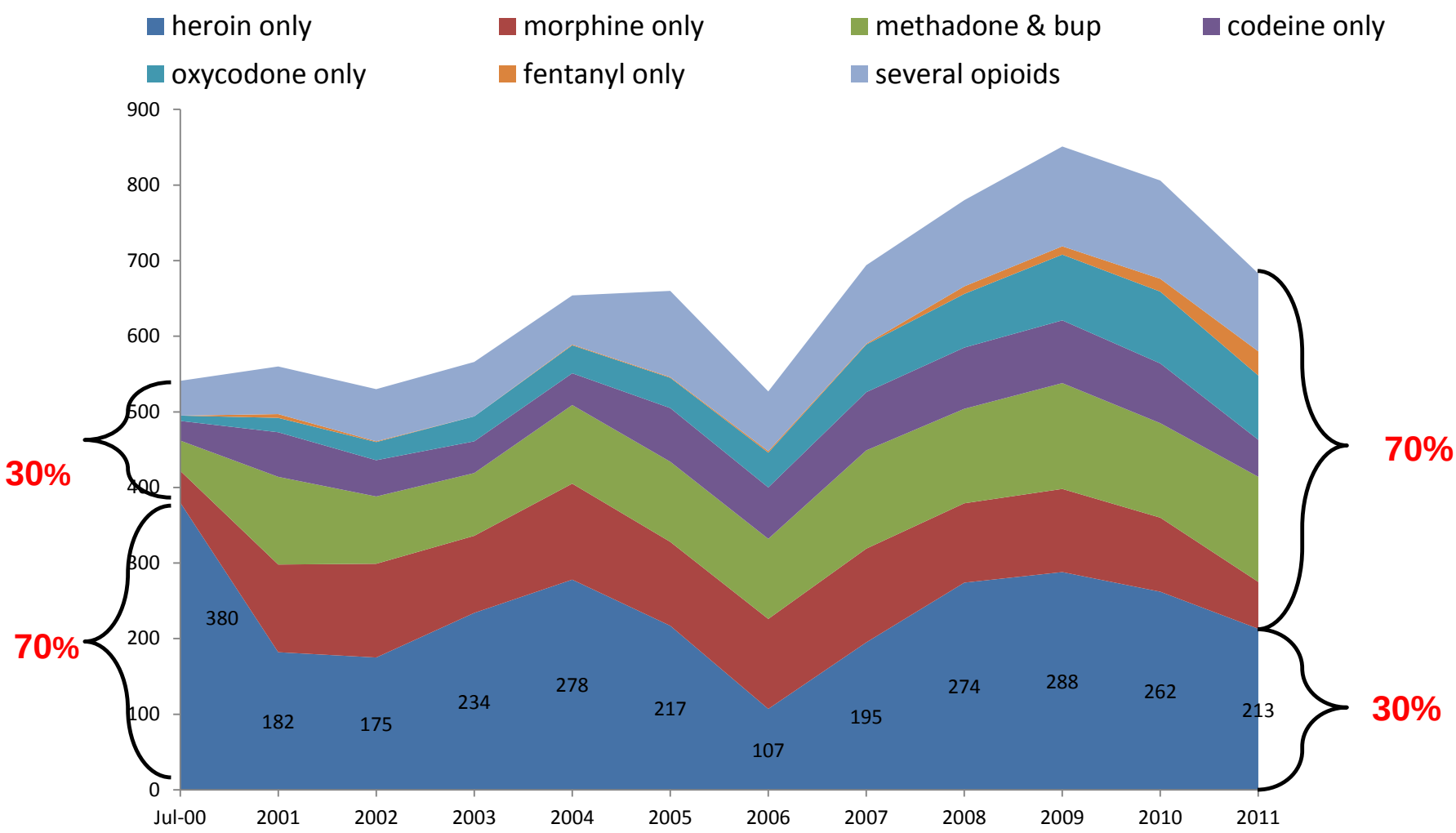
Codeine* is the most commonly used opioid

*Not captured in most monitoring systems (existing and planned)



Opioid pack sales (in millions) from: Degenhardt, Gisev, Cama, Nielsen, Larance and Bruno. The extent and predictors of pharmaceutical opioid utilisation in Australia. *Pharmacoepidemiology and Drug Safety. (In press 2016)*

Shifting pattern: heroin → pharmaceutical opioids



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NIDIP National Illicit Drug Indicators Project

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Mortality characteristics differ by opioid type

- Oxycodone
  - Majority prescribed (53%), history of chronic pain (52%), minority with a noted history of injecting (27%)
- Fentanyl
  - Two-fifths prescribed (37%), history of chronic pain (38%), majority had a noted history of injecting (55%)
- Codeine
  - Prescription status typically unknown, one-third chronic pain (35%), minority with noted history of injecting (16%)

Roxburgh et al (2013) Trends in fentanyl prescriptions and fentanyl-related mortality in Australia. Drug Alc Review
Roxburgh et al (2011) Prescription of opioid analgesics and related harms in Australia. Med J Aust
Roxburgh et al (2015) Trends and characteristics of accidental and intentional codeine overdose deaths in Australia. Med J Aust

Pharmaceutical opioid use in different populations

General population (household survey):

- 5% report recent non-medical pharmaceutical use (past 12 months)
- Most commonly over–the-counter pain-killers (78%)

People who inject drugs (IDRS annual surveys)

- ~One in three report recent (past 6 mo) injection of PO
- Oxycodone use is weekly or less *on average* (occasional/opportunistic)
- ***Heroin*** main drug injected (**by far**) in terms of frequency

AIHW. National Household Survey Detailed Findings 2013; Stafford. J., Breen. C. & Burns, L. (2015). IDRS Drug Trends Bulletin, October 2015. Sydney: National Drug and Alcohol Research Centre, University of New South Wales, Australia

Pharmaceutical opioid use in different populations

Chronic pain treatment populations (POINT cohort)

- One in four (24%) meet criteria for 'addiction' defined by the American American Pain Society et al 'behaviour including one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and cravings
- One in five (18.6%) met lifetime criteria for ICD-10 pharmaceutical opioid use disorder
- Almost one in ten (9%) meet criteria for ICD-10 pharmaceutical opioid dependence (19% meet ICD-11 definition for dependence)

*Very *roughly* estimated (based on how many people are prescribed long-term opioids)* …150,000 -190,000 people in Australia prescribed opioids meet criteria for addiction or dependence

Campbell, Nielsen, Larance et al (2015). Pharmaceutical opioid use and dependence among people living with chronic pain: Associations observed within the Pain and Opioids IN Treatment (POINT) cohort. Pain medicine, 16(9), 1745-1758.

Campbell, Bruno, Lintzeris, Cohen, Nielsen, Hall et al (2016). Defining problematic pharmaceutical opioid use among people prescribed opioids for chronic non-cancer pain: do different measures identify the same patients? Pain. (In press)

Pharmaceutical opioid dependence: Increasing treatment demand

- One in three* people in OST (*where data coded) report a PO as the main drug at treatment entry
- Significant increases over time in non-OST treatment seeking (↑ codeine and oxycodone)
- Estimate (roughly) <5% of those that meet criteria for dependence receive OST
  - OST **not** appropriate for all people who meet dependence criteria
  - Many may not be interested in OST
  - …. represents a sizable treatment gap

Australian Institute of Health and Welfare. (2016). National opioid pharmacotherapy statistics 2015. Canberra: AIHW.
Nielsen et al (2015). Changes in non-opioid substitution treatment episodes for pharmaceutical opioids and heroin from 2002 to 2011. Drug and Alcohol Dependence, 149, 212-219.

Comparing codeine (n = 53) users to strong opioid users (n = 82) in treatment in NSW

Nielsen et al (2015). Comparing treatment-seeking codeine users and strong opioid users: Findings from a novel case series. Drug Alcohol Rev, 34(3), 304-311.

Consistent patterns across multiple studies

	Codeine dependence: web survey (n = 800)	Retrospective case series (n = 147)	POUT Cohort study (n = 108)	Overall
Gender	Most female	Codeine female/ strong PO male	50/50	**More females**
Employment	Mainly employed	Higher amongst codeine	29% overall (higher for codeine)	**Greater levels of employment**
Mental health	Poor	High levels of co-morbidity	Most report depression, anxiety, trauma, highly medicated	**Significant mental health problems**
Physical Health	Poor physical functioning, Chronic pain	Most report pain as reason for initiation	85% report problematic pain in past year (41% current chronic pain)	**Significant physical health problems**
Drug use history	Around 60% ever used an illicit drug (no difference compared with to non-dependent)	Varied by opioid type, multiple opioids and injection history for strong PO	58% ever injected, 17% used heroin in the past year	**Significant minority have never injected/used heroin**

Nielsen et al 2011 Journal of Opioid Management
Nielsen et al 2013 Drug and Alcohol Review
Nielsen et al 2015 APSAD conference

Substance use disorders and chronic pain

Systematic review: Rates of 'addiction' averaged between ***8% and 12%*** (range, 95% CI: 3%-17%)

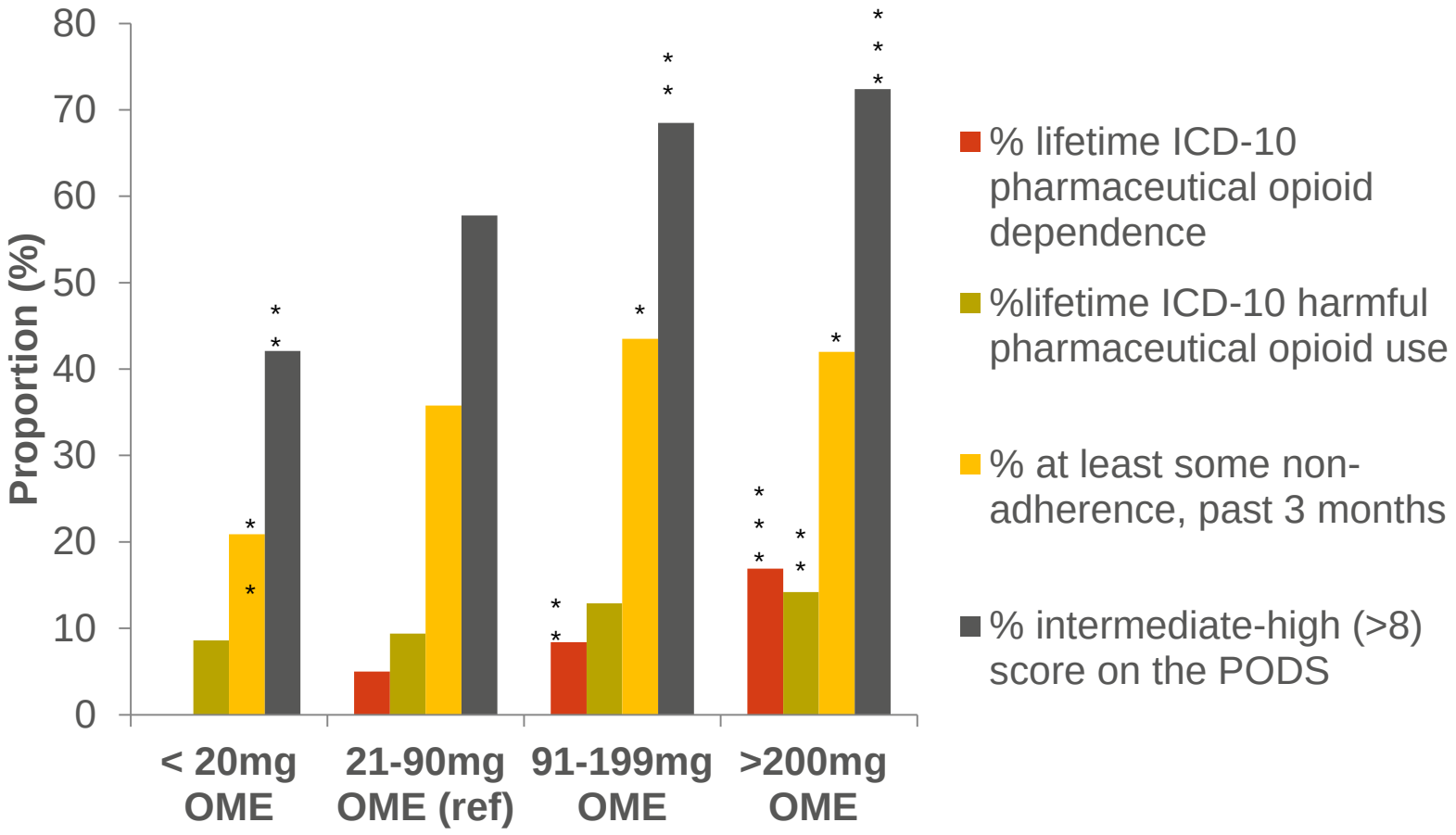
Pain and Opioids IN Treatment (POINT) Study

- Australian cohort of 1514 chronic pain patients prescribed opioids (community sample)
    - One in ten (10.1%) met criteria ICD-10 criteria for harmful use
    - One in five (18.6%) met lifetime criteria for ICD-10 pharmaceutical opioid use disorder

Vowles, McEntee, Julnes et al (2015). Rates of opioid misuse, abuse, and addiction in chronic pain: a systematic review and data synthesis. *Pain, 156(4), 569-576.*

Campbell, Nielsen, Larance et al (2015). Pharmaceutical opioid use and dependence among people living with chronic pain: Associations observed within the Pain and Opioids IN Treatment (POINT) cohort. Pain medicine, 16(9), 1745-1758.

Those on the highest doses report the most problems AND report *less* pain relief (compared to lower doses)



Campbell et al (2015). Correlates of pharmaceutical opioid use and dependence among people living with chronic pain: Findings from the Pain and Opioids IN Treatment (POINT) study. Pain Medicine
PODS: Banta-Green et al (2010). The Prescribed Opioids Difficulties Scale: A Patient-centered Assessment of Problems and Concerns. The Clinical Journal of Pain, 26(6), 489-497.

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Chronic Pain (POINT) Cohort – Other substance use

- *Benzodiazepines: one third report current use (half of those use every day)*
- Alcohol: one third report lifetime alcohol use disorders
- Cannabis: one in ten (12%) meet criteria for a use disorder, one in six had used for pain relief

Nielsen et al (2015). Benzodiazepine use amongst chronic pain patients prescribed opioids: associations with pain, physical and mental health and health service utilization. *Pain medicine, 16(2), 356-366.*

Larance et al (2016). Pain, alcohol use disorders and risky patterns of drinking among people with chronic non-cancer pain receiving long-term opioid therapy. *Drug and Alcohol Dependence, In Press*

Degenhardt et al (2015). Experience of adjunctive cannabis use for chronic non-cancer pain: findings from the Pain and Opioids IN Treatment (POINT) study. *Drug Alcohol Depend,* 147, 144-150.

'Adverse selection'

- Those with the most complex histories, and therefore with the most risk factors, are prescribed the highest doses
  - Participants with better socio-economic status indicators (income and education, private health insurance, employment) were ***less*** likely to be on longer-term opioid analgesic treatment
  - Those with poorer health (smoking, obesity and low physical activity levels) were ***more*** likely to receive subsequent opioid analgesic treatment.
  - Those with mental health problems and substance use disorders ***more*** likely to receive opioids for pain

Rogers, Kemp, McLachlan and Blyth. Adverse selection? A multi-dimensional profile of people dispensed opioid analgesics for persistent non-cancer pain. PloS one. 2013; 8:e80095.

Edlund, M. J., Martin, B. C., Devries, A., Fan, M.-Y., Braden, J. B., & Sullivan, M. D. (2010). Trends in use of opioids for chronic non-cancer pain among individuals with mental health and substance use disorders: the TROUP study. The Clinical Journal of Pain, 26(1), 1-8.

Treatment outcomes for PO Dependence

Cochrane review:

- Methadone and buprenorphine equally effective
- Maintenance more effective than detoxification

Comparisons of PO to heroin

- Studies comparing heroin and PO generally find *better* outcomes for PO

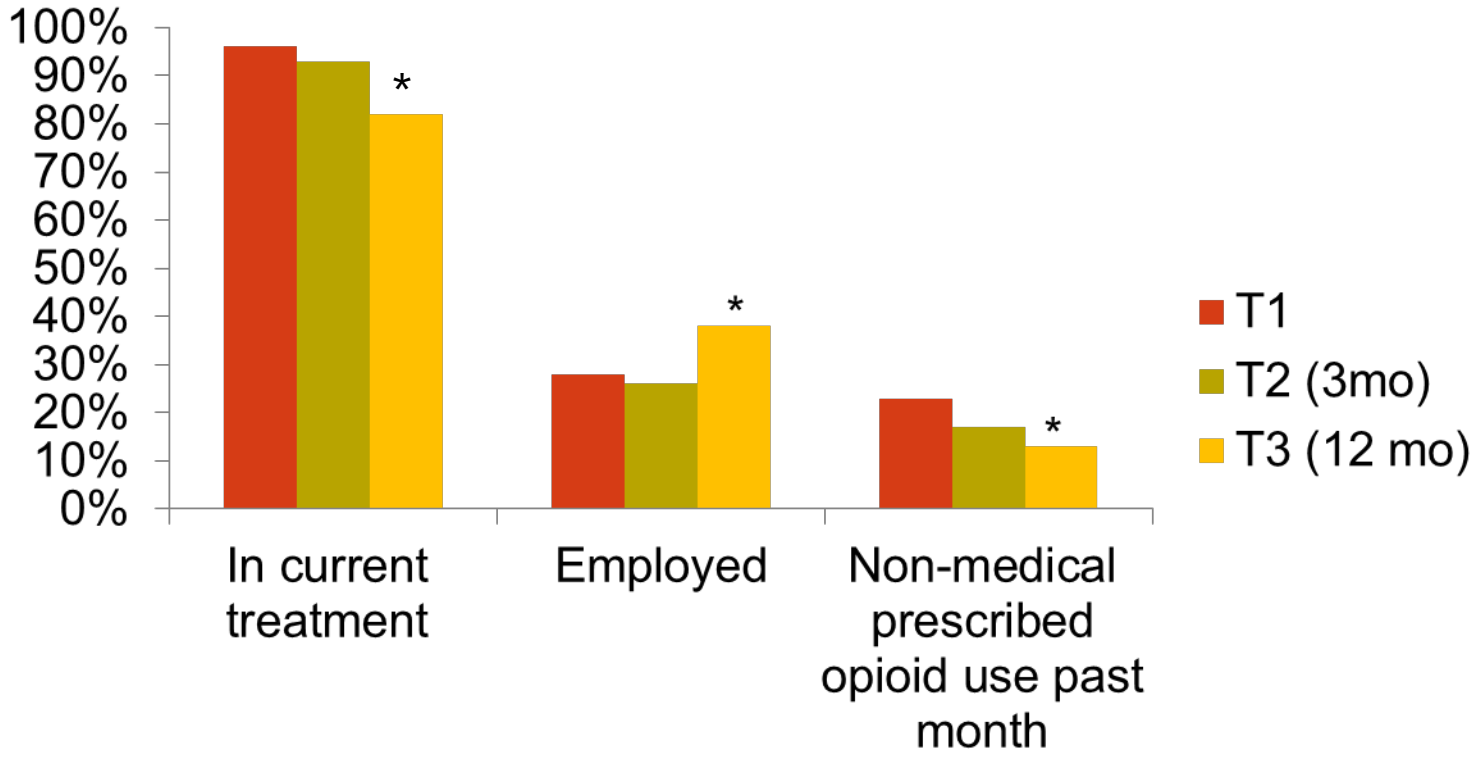
POUT cohort study (NSW cohort of PO in Treatment)

- Leaving treatment associated with ***employment***
- Opioid use associated with heroin use history

Nielsen et al (2016). Opioid agonist treatment for pharmaceutical opioid dependent people. Cochrane Database of Systematic Reviews, Issue 5 CD011117.

High retention, increasing employment

12 month outcomes for NSW PO treatment cohort



* p < 0.05 compared to T1

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In summary

- PO dependent people a *growing* and potentially *under-treated* population
- Differ from people who use illicit opioids in important ways (e.g. more severe comorbidity)
- Generally good treatment outcomes (methadone and buprenorphine both good options)
- Challenges:
  - Attracting this population into existing treatment

  or

  - *how* and *where* to deliver treatment to those that need it