

# **Can general practitioner opioid prescribing to compensated workers with low back pain be detected using administrative payments data? An exploratory study**

Jennifer Vo<sup>1</sup>, Shannon Gray<sup>1</sup>, Adrian C Traeger<sup>2</sup>, and Michael Di Donato<sup>1</sup>

1. Healthy Working Lives Research Group, School of Public Health and Preventive Medicine, Monash University
2. Institute for Musculoskeletal Health, School of Public Health, The University of Sydney

## **Corresponding author**

Dr Michael Di Donato

Healthy Working Lives Research Group, School of Public Health and Preventive Medicine, Monash University

553 St Kilda Road, Melbourne, VIC 3004, Australia

E: [michael.didonato@monash.edu](mailto:michael.didonato@monash.edu)

T: +61 9905 6417

## SUPPLEMENTARY MATERIALS

*Supplementary Table 1. Included opioids*

| <i>ATC Code</i> | <i>ATC Description</i>                               | <i>Opioid Strength</i> |
|-----------------|------------------------------------------------------|------------------------|
| N02AJ06         | Codeine and paracetamol                              | Weak                   |
| N02AJ07         | Codeine and acetylsalicylic acid                     | Weak                   |
| N02AJ08         | Codeine and ibuprofen                                | Weak                   |
| N02AJ13         | Tramadol and paracetamol                             | Weak                   |
| N02AX02         | Tramadol                                             | Weak                   |
| N02AC54         | Dextropropoxyphene, combinations excl. psycholeptics | Weak                   |
| N02AC04         | Dextropropoxyphene                                   | Weak                   |
| N02AA01         | Morphine                                             | Strong                 |
| N02AA03         | Hydromorphone                                        | Strong                 |
| N02AA05         | Oxycodone                                            | Strong                 |
| N02AA55         | Oxycodone and naloxone                               | Strong                 |
| N02AB02         | Pethidine                                            | Strong                 |
| N02AB03         | Fentanyl                                             | Strong                 |
| N02AE01         | Buprenorphine                                        | Strong                 |
| N02AX06         | Tapentadol                                           | Strong                 |

*Opioid classification sourced from:*

1. Dowell D, Haegerich TM, Chou R. *CDC Guideline for Prescribing Opioids for Chronic Pain. MMWR Recomm Rep. 2016;65(No. RR-1):1-49.*
2. Mathieson S, Wertheimer G, Maher CG, Christine Lin CW, McLachlan AJ, Buchbinder R, et al. *What proportion of patients with chronic noncancer pain are prescribed an opioid medicine? Systematic review and meta-regression of observational studies. J Intern Med. 2020;287(5):458-74.*

*Supplementary Table 2. Eligible TOOCS codes*

| <i>TOOCS Parameter</i>    | <i>Low Back Pain</i>                                                                                           |
|---------------------------|----------------------------------------------------------------------------------------------------------------|
| Nature of Injury          | 228 – Trauma to muscles and tendons, not elsewhere classified                                                  |
|                           | 229 – Trauma to muscles and tendons, unspecified                                                               |
|                           | 239 – Soft tissue injuries due to trauma or unknown mechanisms with insufficient information to code elsewhere |
|                           | 422 – Disc displacement, prolapse, degeneration, or hernia                                                     |
|                           | 459 – Back pain, lumbago, and sciatica                                                                         |
| Bodily Location of Injury | 533 – Muscle / tendon strain (non-traumatic)                                                                   |
|                           | 311 – Lower back                                                                                               |
| Mechanism of Injury       | Any                                                                                                            |
| Agency of Injury          | Any                                                                                                            |

Supplementary Table 3. Descriptive statistics

|                                        | <b>Opioid Dispenses</b> |                     | <b>GP Encounters</b> |                     | <b>Total</b> |
|----------------------------------------|-------------------------|---------------------|----------------------|---------------------|--------------|
|                                        | <i>N (row %)</i>        | <i>Median (IQR)</i> | <i>N (row %)</i>     | <i>Median (IQR)</i> | <i>N</i>     |
| Whole sample                           | 4,128 (32.2)            | 5 (2, 17)           | 10,475 (81.7)        | 11 (4, 25)          | 12,816       |
| Sex                                    |                         |                     |                      |                     |              |
| Female                                 | 1,396 (31.3)            | 5 (2, 17)           | 3,660 (82.0)         | 11 (5, 25)          | 4,464        |
| Male                                   | 2,732 (32.7)            | 5 (2, 17)           | 6,815 (81.6)         | 11 (4, 26)          | 8,352        |
| Age Group                              |                         |                     |                      |                     |              |
| 15-25 years                            | 288 (19.7)              | 3 (1, 10)           | 1,117 (76.3)         | 8 (3, 17)           | 1,463        |
| 26-35 years                            | 916 (31.3)              | 5 (2, 17)           | 2,377 (81.3)         | 10 (4, 23)          | 2,925        |
| 36-45 years                            | 1,195 (36.3)            | 6 (2, 22)           | 2,763 (83.9)         | 12 (5, 27)          | 3,295        |
| 46-55 years                            | 1,178 (34.7)            | 5 (2, 17)           | 2,780 (82.0)         | 12 (5, 27)          | 3,390        |
| 56+ years                              | 551 (31.6)              | 5 (2, 14)           | 1,438 (82.5)         | 11 (5, 25)          | 1,743        |
| Occupation                             |                         |                     |                      |                     |              |
| Clerical and Administrative Workers    | 105 (35.6)              | 7 (2, 20)           | 242 (82.0)           | 11 (4, 23)          | 295          |
| Community and Personal Service Workers | 647 (28.3)              | 5 (2, 16)           | 1,837 (80.4)         | 10 (4, 23)          | 2,284        |
| Labourers                              | 1,023 (31.0)            | 5 (2, 16)           | 2,654 (80.4)         | 11 (4, 26)          | 3,300        |
| Machinery Operators and Drivers        | 837 (34.1)              | 5 (2, 20)           | 2,061 (83.8)         | 12 (5, 27)          | 2,458        |
| Managers                               | 250 (38.3)              | 5 (2, 21)           | 541 (82.8)           | 12 (5, 26)          | 653          |
| Professionals                          | 309 (32.5)              | 5 (2, 16)           | 736 (77.5)           | 10 (4, 23)          | 950          |
| Sales Workers                          | 189 (35.5)              | 5 (2, 15)           | 449 (84.4)           | 12 (5, 26)          | 532          |
| Technicians and Trades Workers         | 767 (32.7)              | 5 (2, 17)           | 1,954 (83.4)         | 10 (4, 24)          | 2,343        |
| Jurisdiction                           |                         |                     |                      |                     |              |
| Victoria                               | 2,849 (30.6)            | 6 (2, 21)           | 7,095 (76.2)         | 12 (5, 27)          | 9,305        |
| South Australia                        | 1,279 (36.4)            | 3 (1, 10)           | 3,380 (96.3)         | 9 (4, 21)           | 3,511        |
| Socioeconomic Status                   |                         |                     |                      |                     |              |
| Most advantaged quintile               | 527 (28.7)              | 4 (1, 14)           | 1,412 (76.8)         | 10 (4, 23)          | 1,838        |
| Second to fourth quintiles             | 2,603 (32.1)            | 5 (2, 18)           | 6,598 (81.4)         | 11 (4, 25)          | 8,108        |
| Most disadvantaged quintile            | 813 (33.7)              | 6 (2, 19)           | 2,034 (84.2)         | 11 (5, 27)          | 2,415        |
| Missing (n=455)                        | 185 (40.7)              | 5 (2, 15)           | 431 (94.7)           | 12 (5, 26)          | 455          |
| Remoteness                             |                         |                     |                      |                     |              |
| Major Cities of Australia              | 2,838 (31.9)            | 5 (2, 17)           | 7,233 (81.3)         | 11 (5, 26)          | 8,900        |
| Regional Australia                     | 1,077 (32.0)            | 6 (2, 19)           | 2,724 (81.0)         | 10 (4, 24)          | 3,364        |
| Remote Australia                       | 24 (27.3)               | 4 (2, 14)           | 80 (90.9)            | 6 (3, 12)           | 88           |
| Missing (n=464)                        | 189 (40.7)              | 5 (2, 15)           | 438 (94.4)           | 12 (5, 26)          | 464          |