Supplementary Material for

Trends in opioid prescribing in Australia: a systematic review*

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*The review was prospectively registered with PROSPERO
(http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42017076802, accessed 16 January 2019).

Table S1. Bias assessment

Study Question	1. Was the study's target population a close representation of the national population in relation to relevant variables?	2. Was the sampling frame a true or close representation of the target population?	3. Was some form of random selection used to select the sample, OR, was a census undertaken?	4. Was the likelihood of non-response bias minimal?	5. Were data collected directly from the subjects (as opposed to a proxy)?	6. Was an acceptable case definition used in the study?	7. Was the study instrument that measured the parameter of interest shown to have reliability and validity (if necessary)?	8. Was the same mode of data collection used for all subjects?	9. Was the length of the shortest prevalence period for the parameter of interest appropriate?	10. Were the numerator(s) and denominator(s) for the parameter of interest appropriate?	Overall Assessment
Berecki-Gisolf (35)	High: One state only	High: concessional and below co-payment not representative	High: PBS data not random selection or census	High: Below co-payment and concessional probably less than 75% of prescriptions and no demographic comparison between available data and population	Low	Low	High: Not validated that prescription dispensing equates to usage	Low	Low	Low	High
Blanch, 2014 (23)	High: Concessional and below co-payment data only	High: Concessional and below co-payment data only	High: As above	High: As above	Low	Low	High: As above	Low	Low	High: No denominator	Moderate
Blanch, 2017 (22)	High: As above	High: Concessional and below co-payment data only	High: As above	High: As above	Low	Low	High: As above	Low	Low	High: No denominator	High
Degenhardt, 2006 (24)	High: As above, plus morphine only	High: Concessional and below co-payment data only; morphine only	High: As above	High: As above	High: Below co-payment and private scripts were estimates based on survey data	Low	High: As above	Low	Low	High: No denominator	High
Degenhardt, 2013 (36)	Low	Low	High: As above	Low	High: As above	Low	High: As above	High: Below co-payment and private scripts were estimates based on survey data	Low	Low	Moderate
Degenhardt, 2015 (25)	Low	Low	High: As above	Low	High: Wholesales data not directly from subjects	High: Aggregated packs sold, not individual prescriptions/ usage, plus can't account for opioid replacement therapy	High: As above	Low	Low	High: No denominator	Moderate

Study											
Degenhardt, 2016 (26)	Low	Low	High: Not random selection or census	Low	High: Wholesales data not directly from subjects	High: Aggregated packs sold, not individual prescriptions/ usage, plus can't account for opioid replacement therapy	High: Not validated that sales equate to usage	Low	Low	Low	Moderate
Gadzhanova (27)	High: RPBS patients only	High: RPBS unlikely to be representative	High: RPBS not random selection or census	High: RPBS less than 75% of prescriptions and no demographic comparison between available data and population	Low	Low	High: Not validation that prescriptions equate to usage	Low	Low	High: No denominator	High
Gisev (28)	Low	Low	High: PBS data not random selection or census	Low	High: Below co-payment and private scripts were estimates based on survey data	Low	High: Not validated that sales or prescriptions equate to usage	High: Below co-payment and private scripts were estimates based on survey data	Low	High: No denominator	Moderate
Hollingworth, 2013 (37)	High: One state only	Low	Low	Low	High: Below co-payment and private scripts were estimates based on survey data, plus wholesale sales data	Low	High: As above	High: Below co-payment and private scripts were estimates based on survey data	Low	Low	High
Hollingworth, 2015 (29)	Low	Low	High: As above	Low	High: Below co-payment and private scripts were estimates based on survey data	Low	High: As above	High: As above	Low	Low	Moderate
Islam, 2016 (8)	Low	Low	High: As above	Low	High: As above	Low	High: As above	High: As above	Low	Low	Moderate
Islam, 2018 (38)	High: One state and Australian Capital Territory only	Low	High: PBS/RPBS data not random selection or census	Low	Low	Low	High: Not validated that prescription dispensing equates to usage	Low	Low	Low	High
Karanges, 2016 (8)	Low	Low	High: As above	Low	High: As above survey data	Low	High: As above	High: As above	Low	Low	Moderate
Karanges, 2018 (30)	Low	Low	High: As above	Low	High: As above	Low	High: As above	High: As above	Low	Low	Moderate
Lalic (31)	Low	Low	High: PBS data not	Low	Low	Low	High: As above	Low	Low	Low	Moderate

			random selection or census								
Leong (9)	High: Concessional and below co-payment data only	High: Concessional and below co-payment data only	High: As above	High: Below co-payment and concessional probably less than 75% of prescriptions and no demographic comparison between available data and population	Low	Low	High: As above	Low	Low	High: No denominator	High
Roxburgh, 2011 (32)	Low	Low	High: As above	Low	High: Below co-payment and private scripts were estimates based on survey data	Low	High: As above	High: Below co-payment and private scripts were estimates based on survey data	Low	Low	Moderate
Roxburgh, 2013 (33)	High: Fentanyl only	Low	High: DUSC data not random selection or census	Low	Low	Low	High: As above	Low	Low	Low	High
Wagemaakers (34)	High: Concessional and below co-payment data only	High: Concessional and below co-payment data only	High: As above	High: As above data and population	Low	Low	High: As above	Low	Low	Low	Moderate
Opioid Analgesics: Overview. Drug utilisation sub-committee (DUSC) (13)	Low	Low	High: DUSC data not random selection or census	Low	High: Below co-payment and private scripts were estimates based on survey data	Low	High: As above usage	High: Below co-payment and private scripts were estimates based on survey data	Low	Low	Moderate
The Pain and Policy Studies Group (15)	Low	Low	Low	Low	High: Aggregate sales data only	High: Can't account for opioid replacement therapy	High: Not validated that sales equate to usage	Low	Low	Low	Moderate

Australian Commission Safety and Quality (19)	Low	Low	High: PBS data not random selection or census	Low	Low	Low	High: As above	Low	Low	Low	Moderate
Australian Institute of Health and Welfare (10)	Low	Low	High: as above	Low	Low	Low	High: As above	Low	Low	Low	Moderate