

Are we using Australian routinely collected data to its full potential? An analysis of published research on medicine use and health related outcomes

mini*

de Oliveira Costa, Juliana¹; Bruno, Claudia¹ Pratt, Nicole²; Pearson, Sallie-Anne¹
j.costa@unsw.edu.au

¹ Medicines Policy Research Unit, Centre for Big Data Research in Health, UNSW Sydney, Sydney
² Quality Use of Medicines and Pharmacy Research Centre, University of South Australia, Adelaide

Background and aims

Routinely collected data on prescribed medicines is used increasingly to evaluate real-world medicines effectiveness and safety

Pharmaceutical Benefits Scheme (PBS) dispensing data can be leveraged for post-market surveillance of medicines

Here, we catalogue published literature using PBS dispensing claims to assess medicine use and health related outcomes

Methods

Peer-reviewed studies published between 1987 and 2020

Independent reviewers screened abstracts and full-text manuscripts and extracted data in duplicate

We characterised publications according to:

Study population **Medicine group**

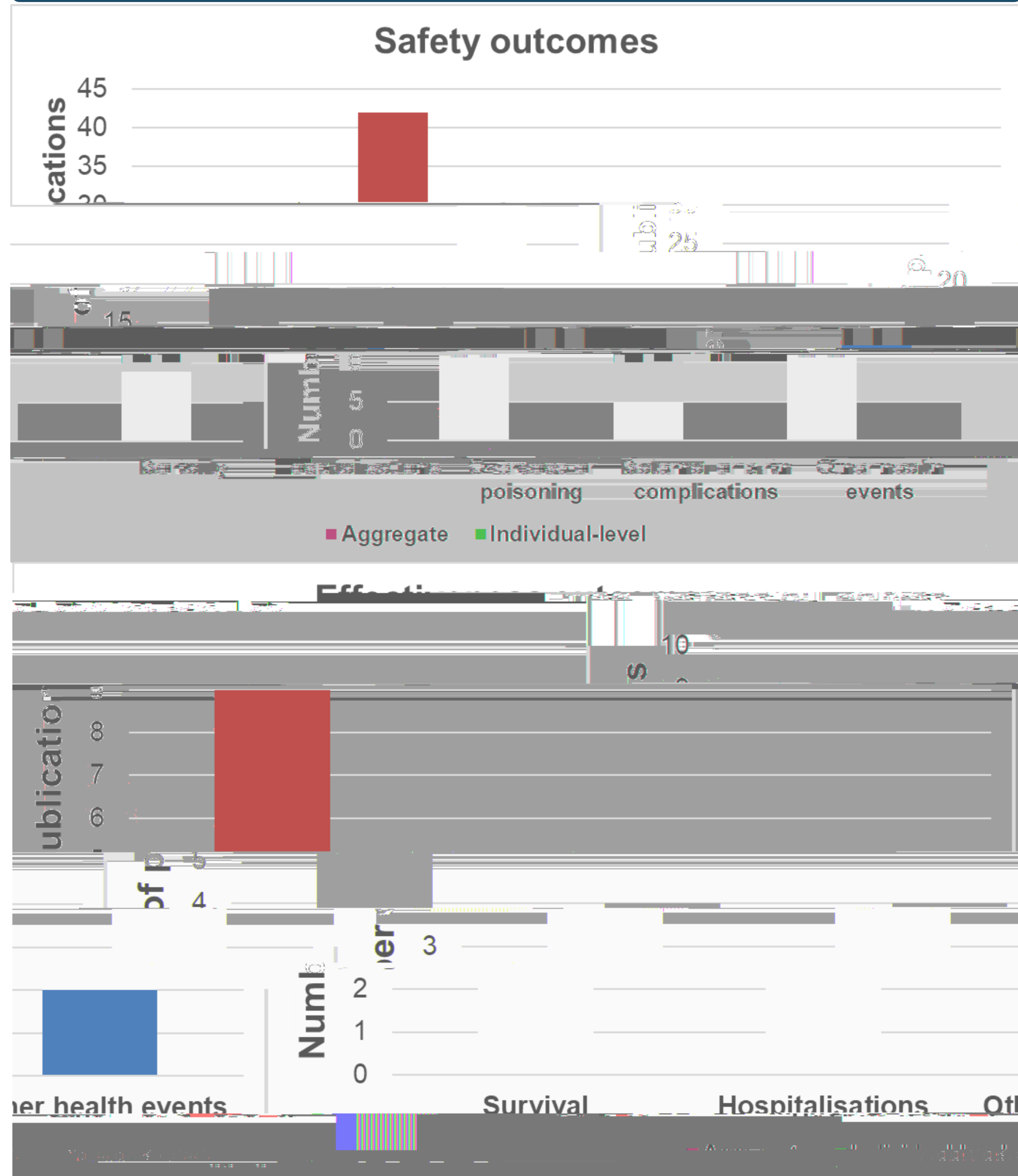
Results

107 studies published; **48** between 2016 and 2020
28 used aggregated data (ecological designs), **12** used medicines dispensed as a proxy of health-related outcomes and **67** linked PBS data to other health datasets

Number of studies (%) by study population and analytical approach (1987 - 2020)

	Aggregate data (N = 28) n (%)	Individual-level data (N = 79) n (%)
Study Population: Age profile		
No age restrictions	24 (85.7)	18 (22.8)
Women of child-bearing age	0 (0.0)	46 (58.2)
Children	3 (10.7)	4 (5.1)
Study population: Beneficiary status		
All PBS beneficiaries	24 (85.7)	25 (31.6)
Concessional PBS beneficiaries	4 (14.3)	9 (11.4)
Clients of the Department of	0 (0.0)	45 (57.0)

Results



Medicine groups evaluated:

- 45% nervous system (e.g. opioids, psychotropics)
- 18% cardiovascular system (e.g. statins, antihypertensives, antithrombotics)
- 16% alimentary tract and metabolism (e.g. anti-diabetics, PPIs)

Conclusions

Studies using PBS data to assess medicine-related outcomes is growing albeit slowly and likely reflects the challenges of developing fit-for purpose collections to explore these issues

Most studies focus on safety and are concentrated among subpopulations and medicines classes which do not align with the burden of disease and medicines use Australia-wide

Impact

There are significant gaps in our understanding of medicine related outcomes in Australia

Developing a linked dataset that is reflective of the Australian population will help address significant gaps in our understanding of the outcomes of medicine use in populations underrepresented in clinical trials

