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## Chronic Disease Prevalence. A perspective using Administrative Data from Australia

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### Background

Pharmaceutical administrative data can provide an alternative method to assess chronic disease prevalence. The data within prescription exchanges includes the specific nature of the medication dispensed which can be utilised for case definition by proxy of certain chronic diseases.

### Objectives

This study examines the potential of Australian administrative pharmaceutical data to define chronic disease and provide population prevalence estimates. The utility of allocated World Health Organization Anatomical Therapeutic Chemical (ATC) codes to the treatment supplied will be assessed and the validity of the results generated compared with other Australian sources of chronic disease prevalence.

### Methods

23 chronic conditions were defined by ATC codes within an Australian (administrative) Pharmaceutical Benefits Scheme (PBS) dataset. This enabled calculation of chronic disease prevalences for the period 2003 to 2014 using Australian census data as denominator values.

### Findings

Prevalence estimates from PBS data when compared with questionnaire based studies demonstrated homogeneity overall (Mann-Whitney  $P > 0.05$ ). PBS prevalence estimates of diabetes, gout and asthma showed respective correlations of 0.999, 0.8385 and 0.58 to 0.82 with community surveys. In general, the prevalence of most chronic conditions rose. Cardiovascular disorders, iron deficiency treatment, HIV and prescription pain medication however demonstrated notable increases. Prevalence estimates were influenced by artefactual factors including new government regulation in 2012. For diabetes prevalence estimates this improved the correlation associated with community survey data.

### Conclusions

Australian pharmaceutical administrative data have potential utility for chronic disease prevalence estimates. Advantages include low costs, speed of analysis, high power and good representation. We consider the technique offers a complementary perspective of chronic disease prevalence providing new insights into population health.

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