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Multi-morbidity using General Practice drug chapters and the relationship with secondary healthcare utilisation in Wales, UK

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Introduction

Multi-morbidity and polypharmacy are increasing but are under investigated. Data linkage has much to offer in understanding trends in prevalence, inter-relationships between variables and impact on healthcare activity. We created Welsh population e-cohorts in 2000 and 2014 to study these issues, using the Secure Anonymised Information Linkage (SAIL) Databank.

Conclusion/Implications

There has been a large increase in recorded multimorbidity across all age groups in Wales. In this exploratory cross-sectional design, multimorbidity was strongly related to increasing use of outpatient services. Further work is ongoing to define and utilise more refined multimorbidity metrics and incorporate longitudinal designs in analysis.

Objectives and Approach

The aim of this study was to measure changing prevalences of multimorbidity, initially through disease chapter prescribing and then to explore the relationship between the number of morbidities recorded in primary care and use of different hospital based outpatient services. Data linkage was used to create cohorts of Welsh residents registered to SAIL providing General Practices (GPs) for at least 360 days in 2000 and 2014. The 13 Read code drug chapters were used to calculate morbidity scores between 0 and 13. Proportional odds or cumulative logit models were used to relate GP recorded morbidities to outpatient attendance patterns.

Results

The GP cohorts included 1.6 million and 2.1 million population with 56.6% and 73.4% having at least one recorded morbidity for 2000 and 2014 respectively. In 2014, 5+ morbidities were most prevalent (61.3%) in 85+ year olds and least common (2.7%) in 5-9 year olds. Some 35% of individuals attended at least one outpatient specialty in 2014, varying from 22.4% for 5-9 year olds and 63.2% for 80-84 year olds.

Preliminary modelling results show the number of GP recorded morbidity chapters was strongly related to increasing outpatient attendances at different specialties, e.g. OR 15.3 (95%CI: 15.1-15.4) of being in a higher outpatient attendance category for the 5+ morbidity group relative to the zero morbidity group. Increasing age and female gender were associated with increased numbers of specialists attended whilst deprivation had a more modest impact.

