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Using linked data to evaluate enhanced primary care policies for chronic diseases using stroke as a case study

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Introduction

The global burden of chronic diseases is large and increasing. In response, governments are investing substantial funds in innovative models of primary care, characterised by multidisciplinary care and self-management support for people with chronic conditions. Currently, large scale population-based evaluations of the effectiveness of these policies are lacking.

Objectives and Approach

We aim to evaluate the effectiveness and cost-effectiveness of enhanced primary care policies for chronic diseases funded through Medicare Australia using stroke as a case study. Person-level linkages from the following will be used: Australian Stroke Clinical Registry (AuSCR) to define the cohort; Australian government-held Medicare claims data to identify receipt or not of enhanced primary care items; state government-held hospital data to define outcomes; and Australian government-held pharmaceutical and aged care claims data to define covariates. In Australia, unique identifiers are not used therefore, personal-identifiers will be submitted to data linkage units and content records merged using a Project-ID.

Results

Identifiers from 25,000 AuSCR registrants (2012-2016), from Victoria and Queensland will be submitted for linkage. The index event is the first event recorded in the AuSCR. Data applications to state health departments and the Australian Institute of Health and Welfare have commenced. To obtain detailed information on patient's primary care experience 1,500 randomly selected AuSCR registrants are being sent surveys. Multivariable analyses using a competing risks Poisson regression model for multiple events and adjusted by a propensity score, will be used to test for differences in the rates of hospital presentations. We have power (a >0.05) to detect a $\geq$6% difference in the number of hospital contacts between those who did and did not receive enhanced primary care. An economic evaluation will also be undertaken.

Conclusion/Implications

This is the largest stroke data linkage study in Australia. The breadth of data will provide a comprehensive evaluation of the effectiveness of enhanced primary care policies within "real world" healthcare provision. Methods will advance the use of population data linkage in healthcare evaluation where unique identifiers are unavailable.

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