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Locating the “Old Old” in our communities: A GIS approach

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Abstract

Topic: The 80+ cohort is growing rapidly in Australia. The “old old” have a different health profile to the younger old with lower rates of systemic disease and elevated rates, in terms of both morbidity and mortality, of the neurodegenerative diseases such as Alzheimer’s and Parkinson’s. Based on current projections, it is likely that this group will number over 500,000 people by 2021.

Data: The data analysis incorporates data from the Sydney Older Persons Study (1992-2003) with population data from the ABS to locate, identify and analyse the “old old” in New South Wales. In addition, falls data collected at a hospital level is used to illustrate the clinical and health service implications of population ageing.

Method: The study utilised geographic information systems software (GIS) to identify and differentiate between different sub-groups of older people. This included locating and projecting concentrations of the “old old” across NSW for a number of census periods; modelling the prevalence of pre-clinical syndromes and clinical conditions amongst the “oldest old”; and mapping the prevalence of falls at a local area level and estimating future falls as an element of aged care service delivery.

Findings: The locational dynamics of the “old old” are much more variable than we anticipated with marked differences across the state and in health service catchment areas. The patterns of ageing and service demand can be modelled with some accuracy. The specific pre-clinical syndromes and clinical outcomes can be modelled effectively and to useful effect using GIS technology.

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