

AuSCR Research Task Group approved projects

Title	Urban-rural differences in the care and outcomes of acute stroke patients
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AuSCR role	Data provision
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Status	In progress

Summary

The burden of stroke in Australia has considerably reduced over time. Between 2000 and 2011, the national stroke incidence rate dropped from 176 to 136 per 100,000 population, representing a 23% reduction. Age-standardised rates of stroke mortality have also markedly declined; from 1985 to 2014, the number of deaths attributed to stroke fell from 83 to 28 per 100,000 population. Despite these advances, stroke continues to exact a large toll on society, particularly in rural areas. A recent report by the Stroke Foundation suggested that both incidence and prevalence rates of stroke in non-metropolitan areas were 19% higher than that of metropolitan areas. Compounding matters is the fact that individuals in rural areas may have comparatively less access to acute stroke care than their urban counterparts. Indeed, several studies from Australia and abroad have indicated that patients in rural areas may have less access to key guideline-recommended interventions, including thrombolysis, acute stroke unit (ASU) care, and secondary prevention medications. Whilst numerous studies have provided evidence of regional disparities in the quality of acute stroke care, very few have sought to determine whether such care disparities have led to corresponding differences in patient outcomes. Cadilhac and colleagues previously addressed this matter in an Australian context; however, this study was conducted at a time when limited data were available from rural settings. Several overseas researchers have addressed the issue, producing mixed findings overall.

We propose to use existing (archived) data from AuSCR that is held in a de-identified format by Monash University to describe differences in the care and outcomes of patients across urban-rural settings in Australia. The findings of this study may highlight the extent of urban-rural disparities in acute stroke care within Australia, and whether there is a corresponding impact on patient outcomes. It is hoped that, if provided with evidence of poor outcomes associated with care disparities, policymakers will be compelled to address the factors that we determine to be associated with this issue. Our aims are as follows:

1. To identify and describe urban-rural differences in the care provided to patients with acute stroke in Australia, and;
2. To identify and describe urban-rural differences in the 90-180-day outcomes of patients following acute stroke in Australia.

Methods

There are four care processes recorded for every case entered into the AuSCR database (shown below). The AuSCR researchers will extract data for the following care processes:

- Administration of intravenous thrombolysis
- Admission to an acute stroke unit
- Provision of antihypertensive medication at discharge
- Provision of a care plan at discharge

Additionally, there are four care process measures which are only routinely recorded in QLD-based hospitals (see below). We intend to collect data in relation to each of these care processes for subgroup analyses.

- Mobilisation during admission
- Swallow assessment and formal speech pathologist review
- Aspirin administration <48 hours

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- Provision of anti-platelet or antithrombotic medications at discharge

The following outcome measures will be evaluated:

- Length of stay in hospital
 - Risk-adjusted 7-day, 30-day, 90-day and 180-day mortality
 - Discharge destination
 - Health-related quality of life (HRQoL) data
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