National Stroke Audit

Acute Services Report 2015

Executive summary

The 2015 National Stroke Audit presents data central to understanding the nature of current acute stroke services in Australia. The Audit aims to highlight areas where the system for acute stroke care is working well and to report on improvements or changes which may be needed. It is the only report of its kind in Australia tracking the performance of Australia’s stroke care against best practice guidelines; the Acute Stroke Services Framework 2015 (the Framework) and for the first time the Australian Commission on Safety and Quality in Health Care (ACSQHC) Acute Stroke Clinical Care Standard 2015 (the Standard). In addition the Audit highlights changes that have occurred over the previous cycles of the National Stroke Audit which commenced in 2007. Clinicians, health administrators and governments alike can use the valuable data provided in this report to review services and clinical care in order to improve the quality of stroke care in Australia.

This report provides a robust and representative snapshot of acute stroke care services in Australia. Data collected is comprised of two parts: the first is a survey of resources, processes and infrastructure completed by 185 hospitals; and the second is a retrospective audit of 4,087 patient case notes (from 112 hospitals). Participating hospitals reported admitting almost 30,000 acute stroke patients in the previous 12 months. The vast majority (28,566 or 96%) of patients were admitted to large hospitals – those providing care to over 100 stroke patients per annum. A total of 26,657 (90%) of patients were managed in hospitals with stroke units.

The Audit revealed acute stroke care and services in this country have stagnated. Despite significant advancements in the treatment and care guidelines for acute stroke and the best efforts of health professionals and hospitals, many patients are missing out on best practice care. Patients are continuing to suffer poorer outcomes and even death as a result.

Just one hospital in the survey was found to meet all the elements of a comprehensive stroke service including, but not limited to, the provision of hyperacute treatments (endovascular [clot retrieval] therapy and intravenous thrombolysis [clot busting] services) and stroke unit care 24 hours a day, seven days a week.

Stroke is a time-critical medical condition and endovascular therapy is among several interventions effective in the early stages of stroke. Australia played a key role in landmark endovascular therapy research. This life-saving therapy was reported to be available to stroke patients 24/7 in only 11 centres.

The administration of thrombolysis for ischemic stroke within 4.5 hours of symptom onset offers significant benefit for select patients compared to routine care. A total of 76% of hospitals participating in the Organisational Survey reported provision of thrombolysis, but overall thrombolysis rates in the Clinical Audit has stalled at only 7% over the last four
years. Coordinated processes between emergency departments, ambulance and stroke units require integrated triage yet only 60% of hospitals reported organised pre-hospital services linked to their hospital. Efficiency of hospital services are critical to hyperacute care. This report reveals Australia is well behind in indicators of efficiency for patients accessing thrombolysis. Only 26% of appropriate patients received thrombolysis within 60 minutes of hospital arrival compared to the United States of America (43%) and the United Kingdom (56%).

Stroke unit care is proven to deliver far improved outcomes for stroke patients. Encouragingly, the proportion of patients accessing stroke units had improved from 58% in 2013 to 67% on 2015 with increases in the number of stroke units. Stroke unit care varies considerably between states with significant improvements in Queensland and South Australia likely to be main drivers for this national change. Shockingly, around one-third of patients are missing out on stroke unit care all together and very few (39%) patients spend at least 90% of their hospital stay on the stroke unit which limits the benefits of this aspect of care. This compares poorly to the United Kingdom which has 83% of patients spending the majority of their stay in a stroke unit.

This report reveals variation in capacity in stroke unit care across states and hospitals of varying volumes of stroke patients. Importantly, even in hospitals with stroke units, bed management processes appear to be limiting access to stroke unit care. On the day of survey 187 stroke patients (32%) in stroke unit hospitals were not on the unit despite the availability of 257 stroke beds.

In addition it was reported 16 of Australia’s stroke units did not have a medical lead with specialist stroke knowledge responsible for ensuring best quality care. Similarly, it is concerning 22% of the sites reporting regional responsibility did not have a medical stroke lead and 35% did not have a stroke care coordinator. It was, therefore, unclear what level of outreach support can be provided in these circumstances.

Coordination of care by a multidisciplinary team is critical to patient outcomes. Most hospitals recognised the importance of the coordination of care with rehabilitation services – 87% reported systemised coordination with rehabilitation services providers, 77% reported standardised tools to determine rehabilitation needs and goals and 98% reported involving carers in this process. However, several hospitals, including three sites admitting 500 or more stroke patients a year, did not routinely provide early assessment of patients’ rehabilitation needs. Furthermore, almost one-third of audited cases were not seen by a physiotherapist early after admission (48 hours).

Discharge care planning is integral for ensuring patients with stroke receive the support required to optimise outcomes when transitioning out of acute care. Despite this being an area of emphasis from previous Audits, the Framework (since 2007) and now the Standard, compliance has not improved with any significance. Less than half of hospitals reported routinely providing a discharge care (personal recovery) plan to patients. In the clinical audit just over half of patients (56%) were provided with a care plan and the same number were provided with risk modification advice. Almost one-third of patients were not provided recommended secondary stroke prevention medications. Given four-in-10 stroke survivors are likely to suffer a recurrent stroke within 10 years these gaps in care have significant and at times devastating implications for individuals and the healthcare system.

This issue also translates to the management of transient ischemic attacks (TIAs). Despite repeated Audit recommendations and Framework updates only 41 hospitals (38%) reported providing services
for the assessment of TIs within 48 hours. There is recognition across the sector that patients are at higher risk of stroke soon after experiencing a TIA. Clearly more focus is needed to improve access to early investigations, specialist assessment and early treatment for those with TIA.

In summary the data reported revealed Australia’s acute stroke care system has stalled in key areas to the detriment of patients and health services. Australia’s acute stroke care system is at serious risk of waning under the increased pressure of an aging population and subsequent increase in incidence of stroke. However, there is reason for hope, demonstrated by improvement in Queensland and South Australia which is encouraging. Opportunities exist for improvements across the country through tailored strategies which can impact on the quality of care provided. Australia is also championing significant advancements in treatment and care but the health system must now

Table 1. National adherence to Acute Stroke Clinical Care Standard indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Australia n (%)</th>
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<tbody>
<tr>
<td>Assessment in the emergency department (N=3416)</td>
<td>1294 (38)</td>
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<tr>
<td>Transport by ambulance to hospital able to provide thrombolysis (N=1401)</td>
<td>918 (66)</td>
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<tr>
<td>Thrombolysis in ischaemic stroke (with exclusions) (N=2854)*</td>
<td>231 (8)</td>
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<tr>
<td>Thrombolysis in ischaemic stroke for those who arrive within 4.5 hours of symptom onset (N=837)</td>
<td>198 (24)</td>
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<tr>
<td>Thrombolysis within 60 minutes of hospital arrival (N=231)</td>
<td>59 (26)</td>
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<tr>
<td>Time from onset of symptoms to thrombolysis</td>
<td>2:50 (2:03-3:39)</td>
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<tr>
<td>Admission into a stroke unit (N=4087)</td>
<td>2724 (67)</td>
</tr>
<tr>
<td>90% of acute hospital care on a stroke unit (N=4087)</td>
<td>1579 (39)</td>
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<tr>
<td>Assessment for rehabilitation by a physiotherapist within 24-48 hours of hospital admission# (N=4079)</td>
<td>2761 (68)</td>
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<td>Rehabilitation therapy within 48 hours of initial assessment (N=2936)</td>
<td>2399 (82)</td>
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<td>Treatment for a rehabilitation goal commencing during an acute hospital admission (N=3047)</td>
<td>2648 (87)</td>
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<td>Discharged on antihypertensive medication (haemorrhagic stroke) (N=207)</td>
<td>137 (66)</td>
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<tr>
<td>Discharge on statin, antihypertensive and antithrombotic medications (ischaemic stroke) (N=1750)</td>
<td>1120 (64)</td>
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<tr>
<td>Discharge on oral anticoagulants for atrial fibrillation (ischaemic stroke) (N=492)</td>
<td>304 (62)</td>
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<tr>
<td>Risk factor modification advice before leaving the hospital (N=2273)</td>
<td>1273 (56)</td>
</tr>
<tr>
<td>Carer support needs assessment (N=459)</td>
<td>271 (59)</td>
</tr>
<tr>
<td>Carer training (N=454)</td>
<td>219 (48)</td>
</tr>
<tr>
<td>Written care plan (N=2636)</td>
<td>1486 (56)</td>
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# Reported as <48hrs
* Thrombolysis rates not incorporating exclusions, as historically reported by the National Stroke Audit and by the Australian Stroke Clinical Registry (AuSCR) is 7% of all ischaemic stroke patients
Recommendations

The results demonstrate only small improvements on many aspects of best practice stroke care with small shifts in some indicators such as stroke unit access and care planning. We continue to see many stroke patients denied access to stroke unit care and are seeing no difference in thrombolysis rates nationally although there are marked differences in the quality of care provided by state and by hospital volume. In light of limited improvement the following recommendations are made:

1. Review the organisation of stroke services in each jurisdiction to ensure more patients receive care according to the Acute Stroke Clinical Care Standard. This should include identification of:
   a. appropriate hospital/s to enhance to ensure Comprehensive Stroke Services (including thrombolysis and 24/7 endovascular care) are available across the country and to more stroke patients;
   b. mechanisms to improve stroke unit access including improved bed management processes and systems to ensure all stroke patients are admitted to a stroke unit hospitals (either establishing/redistributing beds to new units or bypassing non-stroke unit centres).

2. Appoint stroke coordinators in all stroke units with a focus on:
   a. ensuring all stroke patients are admitted to the stroke unit through improved bed management processes;
   b. facilitating delivery of high quality care including discharge planning processes such as care planning and secondary prevention;
   c. supporting the routine monitoring of stroke care.

3. Develop other multidisciplinary processes to support higher rates of care planning and secondary prevention management.

4. Drive greater improvements in stroke care quality by enhancing the way in which the quality of stroke care is monitored by more regularly reporting on the seven Quality Statements in the Acute Stroke Clinical Care Standard (e.g. reperfusion, stroke unit access, early rehabilitation, etc).
At a glance

185 hospitals surveyed
4,087 patient cases

Stroke units
87 hospitals with a stroke unit
16 have no medical stroke lead
11 have 24/7 endovascular (clot retrieval) therapy
1 qualifies as a comprehensive stroke service

Leaving hospital
44% discharged with no care plan
1/3 discharged with no prevention medication

Patient care
30,000 patients

Thrombolysis
Almost 20,000 denied access to full benefits of stroke unit care

2011 7%
2015 7%
Ischaemic stroke patients receiving clot busting drugs through thrombolysis

43% 56% 26%
Patients receiving thrombolysis within 60 minutes of hospital arrival