At a glance

› 120 Hospitals
› 35,164 Acute stroke admissions

Time critical stroke therapy

35% of patients reached hospital in 4.5 hour time window for thrombolysis

Use of thrombolysis stagnated:
- 11% in 2017
- 10% in 2019

Thrombolysis given in hospital within 60 MINUTES lags internationally:

- 59% in 2017
- 62% in 2019
- 32%

Stroke unit care

69% STROKE ACCESS 2017
67% STROKE ACCESS 2019

79% Metro
35% Regional

Patients who received stroke unit care:

67% in hospital WITH stroke unit
31% in hospital WITHOUT stroke unit

Routine use of Clinical Guidelines

More patient care needed

31% of patients did not receive a DISCHARGE CARE PLAN

39% of patients did not receive a REHABILITATION ASSESSMENT

28% of patients did not receive RISK FACTOR EDUCATION
Executive Summary

Australian stroke patients no longer need to be forced into a postcode lottery.

Results of the 2019 National Stroke Audit: Acute Stroke Services Report revealed Victoria and South Australia were leading the way. The states have developed pathways of care linking rural centres with comprehensive stroke centres in major cities via telestroke services.

The Report showed for the remainder of Australia there is more to be done.

There have been significant advancements in emergency stroke treatment, meaning stroke is more treatable. However, the Audit Report showed regional health services and their patients were being left behind. Regional patients had limited access to well established standard stroke treatments, while major city hospitals were innovating, enabling their patients to benefit from the latest break-throughs.

In 2019, ten hospitals – all located in major cities – were found to meet all elements of a comprehensive stroke centre (an increase from six services in 2017) ensuring they were equipped to deliver best-practice care. This includes the provision of hyperacute care (reperfusion therapies – endovascular thrombectomy [clot removal] services and thrombolysis [clot dissolving] services) 24 hours a day, seven days a week.

In addition, these centres have a dedicated stroke unit.

Tasmania, the Northern Territory and the Australian Capital Territory do not have a comprehensive stroke centre* or formal clinical pathways to ensure patient access to a centre in another state.

Of further concern was the routine use of evidence-based Clinical Guidelines to guide treatment and care. A total of 69% of major city services reported routine use of Guidelines, care plans and protocols as part of their care delivery for patients with stroke. In inner regional areas this figure fell to 45% and in outer regional 47%.

Patients outside of major cities were also limited in their access to hospital enablers to prevent stroke. More than 40 percent of stroke patients will experience a warning prior to their stroke. A Transient Ischaemic Attack or TIA happens when the blood supply to your brain is blocked temporarily. The signs are the same as for a stroke, but they disappear within a short time.

A patient’s risk of a stroke is highest in the days following a TIA. However, if risk factors are managed in line with Clinical Guidelines, a stroke may be avoided. The vast majority (85%) of services report a defined process, policy or pathway for TIA patients. However, the average wait time to these clinics was three days. TIA clinics were more common in large hospitals.

‘Time is brain’ therapies

Stroke attacks the brain. When a stroke strikes it can destroy 1.9 million brain cells a minute. ‘Time is brain’ or reperfusion therapies can stop this damage, and if delivered quickly many people can recover from stroke. There are time limits on these therapies.

Step one in accessing time is brain therapies is ensuring people get to hospital. Similar to the findings from the 2017 audit, only 35% of all patients with acute stroke reached hospital within the critical 4.5-hour time window for thrombolysis treatment. Results indicated not enough Australians were aware stroke is a time critical medical emergency.

When Bill Vernon, a mechanic from Collie in regional Western Australia, suffered a stroke in December 2013, he was admitted to hospital within 30 minutes of experiencing symptoms. Unfortunately, the hospital did not have a CT brain scanner, and the doctor was unable to determine whether Bill’s stroke was due to a clot or a bleed.

The then 53-year-old Bill stayed in hospital overnight, before being transferred to Bunbury Hospital the following morning. However, by the time Bill received his diagnosis, it was too late for him to receive clot-dissolving thrombolysis treatment. Bill’s speech difficulties, a result of his delayed diagnosis, have meant that six years after his stroke he has still been unable to return to work as a mechanic.

*The ACT Government has announced plans to develop a 24/7 thrombectomy service by the end of 2019.
Reperfusion therapies highlighted in the audit are utilised to stop ischaemic strokes [caused by clots]. These account for around 80% of all strokes:

### Thrombolysis

More hospitals report the availability of thrombolysis treatment, 82% from 72% in 2017. Increased availability has unfortunately not led to an increase in access. The overall use of thrombolysis in the clinical audit has remained largely unchanged at 10%.

Speed of delivering reperfusion therapies must also improve. Only one in three patients received thrombolysis within the targeted 60 minutes of hospital arrival. This is well below rates (~60% or more) achieved in other countries with similar developed health systems such as UK3, 4 and US5,6.

### Endovascular thrombectomy

Endovascular thrombectomy was proven effective in 2015. This reperfusion therapy benefits patients with the biggest clots and subsequent worse strokes. It is being offered at 19 major city locations nationally, 13 of these provide the treatment 24 hours a day, seven days a week. Delivery of the treatment has risen steeply from 872 in 2017 to 1907 patients in 2019.

Stroke Foundation recognises endovascular thrombectomy is a specialist procedure requiring a high level of expertise and equipment. It is not practical to have the treatment available at all health services treating stroke. However, there is now potential for all Australians to access this treatment.

Central to ensuring access to reperfusion treatments are maximised is the use of advanced brain imaging to select appropriate patients and, established protocols and clinical pathways to the nearest comprehensive stroke centre.

It is estimated 20–25% of all patients with ischaemic stroke could benefit from reperfusion therapy, which means more than double the current numbers are likely to be eligible. Subsequently thousands of stroke patients may be missing out on treatments that reduce disability and death.

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Life saving treatments exist for stroke but the reality is that access to these treatments and public awareness of stroke remains inadequate.

These patients deserve the benefits of clinicians who understand the need to advocate for patients unable to communicate their wishes; and who empower patients’ relatives to make complex decisions regarding life threatening disability as well as end-of-life care.

Dr Claire Muller, Member of Stroke Foundation Clinical Council

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**Stroke unit care**

Building on time-critical treatments, access to stroke unit care is proven to deliver improved outcomes for patients.7 Stroke unit care is characterised by provision of care in one location by an interdisciplinary team including medical, nursing and allied health professionals with expertise in stroke. This team is led by a dedicated stroke coordinator.

The number of stroke units remained static at 91. Access to stroke unit care has not improved (67% versus 69% in 2017). Access for regional stroke patients (55% inner regional, 35% outer regional) was well below those in major cities (75%). For those patients who did have access to a stroke unit, fewer than half (41%) spent the Clinical Guideline recommended time >90% on the unit to maximise its benefit.

It was also worrying to note 22 stroke units (24%) reported not having a dedicated stroke coordinator – a critical role in assisting the team to deliver best practice care.

Positively, most services (93%) reported integration between acute and rehabilitation services.

Only 39% of patients were assessed for rehabilitation needs, yet of those assessed almost 75% of patients were found to have ongoing rehabilitation needs. This demonstrates recovery opportunities were not being made the most of.
Helping patients to live well after stroke

For treatments to be capitalised upon, patients and their families need support and advice in this transition from hospital to rehabilitation or home.

Discharge care plans, developed with patients and their families, have long been emphasised in Clinical Guidelines, yet only 69% of patients received a comprehensive plan. This was a small improvement compared to previous years (65% in 2017). However, more must be done. Patients in stroke units, were more likely to have access to a discharge plan (75% vs 56%).

Further, patients were being discharged from hospital without vital advice and medication to reduce their risk of having another stroke. Three-in-ten patients were not given advice on lifestyle and other modifiable risk factors to avoid another stroke and up to one-quarter were not prescribed recommended secondary prevention medications.

Four in ten stroke survivors will go on to experience another stroke within ten years, however with medication and lifestyle modification many of these may be prevented.

Carers were forgotten in the transition home or to a rehabilitation service. Almost 40% of carers, where patients were moderately to severely affected from the stroke, were inadequately assessed for their needs or trained in ways to support the stroke survivor outside of hospital.

Supports in the transition home were more likely to be provided where patients were treated in a stroke unit. This means patients treated outside of major cities were again disadvantaged.

Opportunities for improvement

Results of the Audit Report demonstrated gaps in services and current major city and regional inequity. It also revealed investment and focused interventions have improved stroke treatment and care at a local and state level. Now the opportunity is to take these learnings and apply them nationally. Equity of access must be improved.

This is the first National Stroke Audit – Acute Services since the implementation of the 2017 Clinical Guidelines for Stroke Management. The Guidelines have now transitioned to a ‘living mode’ thanks to an Australian Government funded Medical Research Future Fund. This means the Guidelines are reviewed and updated regularly as significant new research is available, aiming to reduce the time for implementation of new evidence.

Recommendations

- All patients must have access to specialist stroke assessment, including advanced brain imaging and early treatments. Formal policies and pathways across the whole system are needed including links between dedicated stroke centres to others via telehealth.

- Rapid assessment, including stroke specialist input, and procedures to identify and ensure quicker delivery of reperfusion therapies.

- Patient access to dedicated stroke unit care. Acute hospitals with more than 75 annual stroke admissions need a stroke unit with clear medical leadership and a dedicated stroke care coordinator.

- Increased emphasis on prevention of stroke within hospitals. This includes:
  - increased timely access to TIA clinics.
  - ensuring all people after stroke receive appropriate secondary prevention information and support prior to hospital discharge.

- Carers assessed, supported and trained to maximise recovery opportunities and live well.
About the Audit

The 2019 National Stroke Audit is a systematic and representative snapshot of acute stroke care provided within Australian hospitals. The National Report is a comprehensive document highlighting where the hospital system for acute stroke treatment is working well, and identifying where improvements or changes may be needed.


Clinicians, healthcare administrators and governments alike use the data in this report to review services and clinical care in order to improve the quality of stroke management throughout Australia.

› Data was collected in two parts:
  
  • 120 services completed a survey on local resources, processes and infrastructure.
  
  • 4,176 patient case notes retrospectively audited.

› Participating public and private hospitals reported admitting more than 35,000 stroke patients in the previous 12 months.

› Of the 120 participating services, just over half (65) were based in major cities, with the others in inner and outer regional centres.

› Admission numbers across participating hospitals ranged from 20 to 1005 acute stroke patients in the last year.

References


