Australian Stroke Coalition

Stroke Unit Certification
Pilot Program Evaluation

November 2023

About the Australian Stroke Coalition

The Australian Stroke Coalition (ASC) was established by the Stroke Foundation and the Australian and New Zealand Stroke Organisation (ANZSO), previously the Stroke Society of Australasia, on 11 July, 2008. The Coalition brings together representatives from groups and organisations working in the stroke field, such as clinical networks and professional associations/colleges. The ASC provides a critical communication link between relevant organisations and their members regarding stroke care in Australia. The coalition aims are to:

- Identify and act on opportunities to work collectively in areas which are a priority for each of us
- Ensure there is effective communication to facilitate our individual and collective efforts
- Identify and promote the adoption of effective, evidence-based stroke service delivery models.

About the Australian and New Zealand Stroke Organisation (ANZSO)

The Australian and New Zealand Stroke Organisation (ANZSO), previously known as the Stroke Society of Australasia (SSA), was formed in 1989 by clinicians and researchers endeavoring to tackle the enormous burden of stroke in our community. The Australian and New Zealand Stroke Organisation works with several Special Interest Groups, and works closely with a number of Linked Collaborative Organisations. The ANZSO has strong ties with the National Stroke Foundation, as the two organisations share the common objective of overcoming the problem of stroke.

The Australian and New Zealand Stroke Organisation aims to:

- Further the study of all aspects of stroke
- Improve standards of management of stroke in Australia and New Zealand
- Foster investigation and research in all aspects of stroke
- Disseminate and promote the exchange of information about stroke within Australasia, and with similar bodies overseas
- Solicit and enlist financial support from any source to fund and promote scientific work within the field of stroke
- Build capacity in the stroke academic and clinical workforce
- Provide a vehicle for education and increasing knowledge about stroke
- Provide forums for setting priorities in stroke and stroke research

About the Stroke Foundation

The Stroke Foundation is a national charity that partners with the community to prevent, treat and beat stroke. We stand alongside stroke survivors and their families, healthcare professionals and researchers. We build community awareness and foster new thinking and innovative treatments. We support survivors on their journey to live the best possible life after stroke. We are the voice of stroke in Australia, and we work to:

- Raise awareness of the risk factors, signs of stroke and promote healthy lifestyles.
- Improve treatment for stroke to save lives and reduce disability.
- Improve life after stroke for survivors.
- Encourage and facilitate stroke research.
- Advocate for initiatives to prevent, treat and beat stroke.
- Raise funds from the community, corporate sector, and government to continue our mission.

Acknowledgements
The Australian Stroke Coalition would like to acknowledge the stroke unit certification committee members who contributed to the establishment and completion of the pilot program, including but not limited to Timothy Kleinig, Andrew Wong, Bernard Yan, Alvaro Cevera, Helen Castley, James Evans, Benjamin Clissold, Andrew Wesseldine, Kelly Andersen, Shahla Cowans, Kylie Tastula, Tanya Frost, Lauren Arthurson, Aylissa Canning, Kelvin Hill, Saran Chamberlain, Prema Thavaneswaran, Leah Pett, Alan Davis & Richard Lindley.

The ASC would also like to thank all sites and clinicians who volunteered to participate during the pilot phase of the program. We recognize that the commitment to this process was significant, and with no financial recompense. We hope that the information collected during this process will streamline the program and it's resources and ensure the longevity of stroke unit certification, and that participation in the program contributes to improving stroke care across Australia.

Report Preparation

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Front Cover Image: *The Gold Coast University Hospital team pictured with their Stroke Unit Certification Plaque, received as the first Queensland recipients of Comprehensive Stroke Unit Certification, July 2023.*

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Note: Additional program information, resources and documentation are available at:
https://australianstrokecoalition.org.au/projects/asc-stroke-unit-certification-program/

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Executive Summary

Australians have access to some of the best health care in the world, and in the past 25 years new stroke treatments have substantially improved prognosis. However significant care shortfalls remain. By solving these, we can save more lives, and we can ensure survivors of stroke have even better outcomes.

The biggest gap in Australia is access to stroke unit care; closing this gap will have the biggest impact of any stroke care intervention.

In 2020-2021, 41,300 people were admitted to hospital with a primary diagnosis of stroke[1]. Access to a dedicated hospital stroke unit makes the biggest overall difference to outcomes in patients who present with stroke.

Treating 50 patients on a stroke unit prevents one death and treating 17 patients prevents 1 patient being dead or dependent.

Internationally agreed definitions characterise a 'stroke unit' as a geographically designated ward in which medical, nursing, and allied health professionals with expertise in stroke provide coordinated protocol-guided, data-driven care[2]. Results from Stroke Foundation's 2021 National Acute Services Audit[3] identified that not all self-designated Stroke Units meet these core requirements, and too few patients have access to such care. Having a more robust way of evaluating which hospitals have the essential elements of stroke unit care is an important step to ensure the quality of care and patient outcomes. Stroke unit certification is recommended Nationally and Internationally to achieve this.

The Australian Stroke Coalition developed a voluntary system for certification of stroke units in Australian hospitals and piloted this program over a period of 12 months (July 2022 – July 2023). The project's adjudication committee comprises leading public hospital stroke medical, nursing, and allied health leads from across Australia. With consumer input, the Committee has worked with stroke units to ensure they have the processes in place, and the appropriate resourcing, to deliver the optimal level of care to patients with stroke. Certification was based on an updated National Acute Stroke Services Framework (2019)[4] definition of recommended hospital stroke services, with stroke units identified as either a:

a) **Comprehensive Stroke Centre**;
b) **Primary Stroke Centre**; or a
c) **Stroke Capable Regional General Hospital** (where, due to remoteness, routine transfer of patients to major metropolitan stroke units is infeasible).

Formal evaluation of the project commenced in July 2023 following the certification of 11 sites across Australia. The main objective was to evaluate the Stroke Unit Certification Project's feasibility and acceptability, with a focus on feedback from the adjudication committee and key site contacts.

[1] Heart, stroke and vascular disease: Australian facts, Stroke - Australian Institute of Health and Welfare (aihw.gov.au))
[2] National Acute Stroke Services Framework 2019, Acute Stroke Clinical Care Standard 2019, Helsingborg declaration 2006
[3] National Acute Stroke Services Audit 2021
[4] National Acute Stroke Services Framework 2019

Key Findings

- *Program support*: 100% of sites entered the program with an interest to help develop and support the stroke certification process, using the results to advocate for more stroke resources.
- *Contributions to stroke care:* The application and feedback process of stroke unit certification was credited with contributing to positive changes in stroke care in 100% of surveyed sites. The top three areas of quality improvement, job descriptions/roles and nursing interventions, all contribute to positive change in stroke care outcomes.
- *Report recommendations:* Recommendations provided to the sites in both online face to face feedback and a formal report were useful for 91% of surveyed sites. Reports were reported to be widely circulated to 88% of Stroke Teams, Head of Departments, and site Executives.
- *Executive Involvement*: Executives at 100% of sites were advised of the certification process following registration, and all received the completed report and recommendations. 75% of site executives were reported by the key applicant to be supportive of their site application.
- *Promotion of involvement:* 100% of sites requested an engraved plaque for their stroke unit, with 71% having their framed certification certificate on display. 100% of sites advised they would recommend involvement in Stroke Unit Certification to other sites.
- *Committee Participation:* 100% of the volunteer committee agreed that the workload has been reasonable, with 89% advising involvement in the program has helped consideration around their own stroke team processes and outcomes.

Key Recommendations

- *Continuation:* There is broad support for the project to continue, with the aim of certifying all Australian hospitals providing admitted inpatient stroke care by 2030. Balancing the number of applications with available administrative resources will ensure effective program management.
- *Adjudication Committee:* Enhanced Allied Health and Nursing representation on the committee is crucial for diversified insights and workload distribution. The introduction of a rolling calendar for site processing and evenly spread allocation will streamline procedures and improve efficiency.
- *Minimum Criteria for Application*: Comprehensive Stroke Centres should be at the forefront of regional telestroke networks and research, while services admitting over 150 stroke cases annually should meet Primary Stroke Centre standards (which should include dedicated FTE for both the Medical and Nursing/Coordinator nurse lead). Stroke capable regional general hospitals should be supported by an Acute Stroke Nurse (or Coordinator) with a minimum of 0.5 dedicated FTE. Minimally acceptable door-thrombolytic times and stroke unit admission percentages should apply. Essential criteria should be clearer for sites before applications are submitted.
- *Application Process*: Shifting to a digital platform will simplify application submissions and allow continuous documentation updates. Retaining the current submission timeframe and keeping site executives informed are essential for transparency and efficiency.

- *Site Review*: The initiation of a brief site introduction during reviews to provide assessors with crucial context. Options for pre-recorded video tours or in-person site reviews, based on funding, would ensure comprehensive site evaluations for all sites.
- *Site Support*: A mentoring system can assist sites struggling to meet certification criteria, and a revamped certification workflow with specific review points can ensure continuous monitoring. A shared documentation bank and regular 12 month/4-year review protocols will foster best practices and continuous improvement.
- *Program Governance*: The program should be placed in a framework which has transparent governance legitimacy. Incorporation into Hospital Accreditation may be worthwhile long-term. However, in the short-medium term, analogous to Trauma Centre verification (managed by the College of Surgeons), bringing the process under the Royal Australasian College of Physicians is recommended (delegated via the Australian and New Zealand Association of Neurologists). Transition to a cost-recovery model of care is recommended for sustainability.

Conclusion

Meeting national standards through stroke unit certification is an important step in ensuring all Australians receive the same level of stroke care, regardless of location.

As recommended internationally and by the national Heart and Stroke plan, the Australian Stroke community endorses the certification of Australian stroke units as a means to ensure the benefits of stroke unit care are maximised[5].

This pilot program successfully demonstrated the benefits of stroke unit certification in Australia. Strong governance and implementation of the suggested recommendations will help streamline the certification process, broaden both its reach and effectiveness, ensure acceptability and sustainability, and contribute to improving stroke care.

[5] National Acute Services Audit 2021, Australian Stroke Services Framework 2019, Acute Stroke Clinical Care Standard 2019, Helsingborg declaration, WSO webpage, Heart and Stroke plan

Program Summary

Background

This program evaluation aims to review the impact the 12-month Australian Stroke Coalition (ASC) Stroke Unit Certification pilot program has had on patient outcomes, teams, sites, hospital accreditation and advocacy. It also aims to determine ongoing feasibility of the program.

Implementation Stages of ASC Stroke Unit Certification

The ASC is Australia's peak body for Stroke. Co-chaired by the Stroke Foundation Chief Executive Officer and Australian and New Zealand Stroke Organisation (ANZSO, formally the Stroke Society of Australasia) President, the ASC comprises representatives from state and federal government and professional organisations that contribute to stroke care. The ASC provides a forum for governments, organisations, networks, and associations involved in all aspects of stroke care to work together to reduce duplication, share best practice and gain efficiencies in our work. It also sponsors or oversees projects and policy submissions which require nation-wide cross-sector engagement. By working collectively, the ASC increases its ability to reduce the impact of stroke and use of resources in the most efficient way.

Project Steering Group

In 2018 the ASC Stroke Coalition agreed that Stroke Unit Certification was a national priority.

Following COVID-related delays, the ASC Project Steering group commenced program development in July 2022. An ASC Stroke Unit Certification Taskforce was formed, comprised of the following members:

- Professor Bernard Yan (ASC Co-Chair)
- Kelvin Hill (Stroke Foundation)
- Professor Timothy Kleinig (Australia and New Zealand Stroke Organisation vice-president)
- Associate Professor Andrew Wong (Australia and New Zealand Stroke Organisation)
- Prema Thavaneswaran (ASC project officer)

The taskforce established a roadmap for the development and implementation of a voluntary system for certification of stroke units in Australian Hospitals. It comprised three stages, the first two stages having now been completed:

- **Stage 1:** The development of an agreed set of prerequisites of a stroke unit for the purposes of this initiative, as well as other key terminology and the development of a clear process for the certification of stroke units in Australian hospitals.
- **Stage 2:** Piloting of the process with variety of hospital services. Importantly includes the establishment of an Adjudication Committee to undertake the certification process, including the development of conflict-of-interest process. Concurrently, promoting the certification process by the ASC through its members and their networks, and hospitals was strongly encouraged to apply for certification.
- **Stage 3:** If the pilot was deemed to be successful, examining opportunities to link stroke unit certification to activity-based funding (ABF) of hospital services. This would include potentially advocating for the Independent Hospital Pricing Authority (IHPA), which manages ABF through the determination of an annual National Efficient Price, to ensure that

admission to a certified stroke unit would attract additional funding, possibly as a percentage loading above DRG funding.

Development of the ASC Stroke Unit Certification Application Form

The ASC Stroke Unit Certification Application Form, the central piece of documentation in the certification process, was finalised by the by the ASC project steering group in March 2022 (Appendix 1). The document, based on the form used by the European Stroke Organization as part of their certification process, was adapted and refined by members of the Project Steering Group, to ensure it was appropriate for use in the Australian healthcare context.

Establishment of Pilot Program (July 2022)

Stroke Foundation and the ANZSO each undertook an internal consultation and approval process to secure funding for a 0.5 FTE Senior Project Officer (jointly funded), to lead the initial 12-month pilot project and evaluate outcomes. With this, the pilot program commenced in July 2022 and the Adjudication Committee formed.

Adjudication Committee

The Adjudication Committee was established to undertake the certification process, continuing the work commenced by the project steering group and chaired by ASC Co-Chair Professor Timothy Kleinig. Comprised of jurisdictional representatives (current state and territory stroke clinical network leads or their nominees), representatives from both ANZSO and Stroke Foundation, as well a consumer representative with a lived experience of stroke (survivor of stroke or carer). The committee composition includes both adjudication members, who are publicly employed in State acute stroke systems to ensure acceptability of determinations within a publicly funded health system, and non-adjudication advisory members. At the completion of the pilot program, the committee comprised of 18 stroke representatives from across Australia and New Zealand that included medical leads, nursing, allied health, and consumer representatives:

Adjudication Members:
Professor Timothy Kleinig, Chair (SA – Network Lead, ASC Co-Chair)
Professor Andrew Wong (QLD - Network Lead)
Dr Alvaro Cevera (NT - Network Lead)
Dr Helen Castley (TAS – Network Lead)
A/Prof Benjamin Clissold (VIC – Network Lead)
Dr Andrew Wesseldine (WA – Network Lead)
Dr James Evans (NSW – Network Lead)
Tanya Frost (VIC – ASNEN)
Kylie Tastula (NSW – ASNEN)
Kelly Andersen (NSW - Allied Health)
Shahla Cowans (ACT – Nurse Navigator)
Lauren Arthurson (VIC – Allied Health)

Non-Adjudication Members:
Saran Chamberlain (Consumer Representative)
Prema Thavaneswaran (Stroke Foundation)
Kelvin Hill (Stroke Foundation)
Dr Alan Davis (NZ – National Stroke Network)
Professor Richard Lindley (NSW - USYD)
Leah Pett (Senior Project Officer)

Pilot Program Service Delivery Matrix

The current process of certification evolved under the guidance of the Adjudication Committee to include 4 key points of service delivery: Registration, Submission, Evaluation and Certification. The ASC Stroke Unit Certification Workflow (Appendix 2) is summarised below in **Figure 1**.

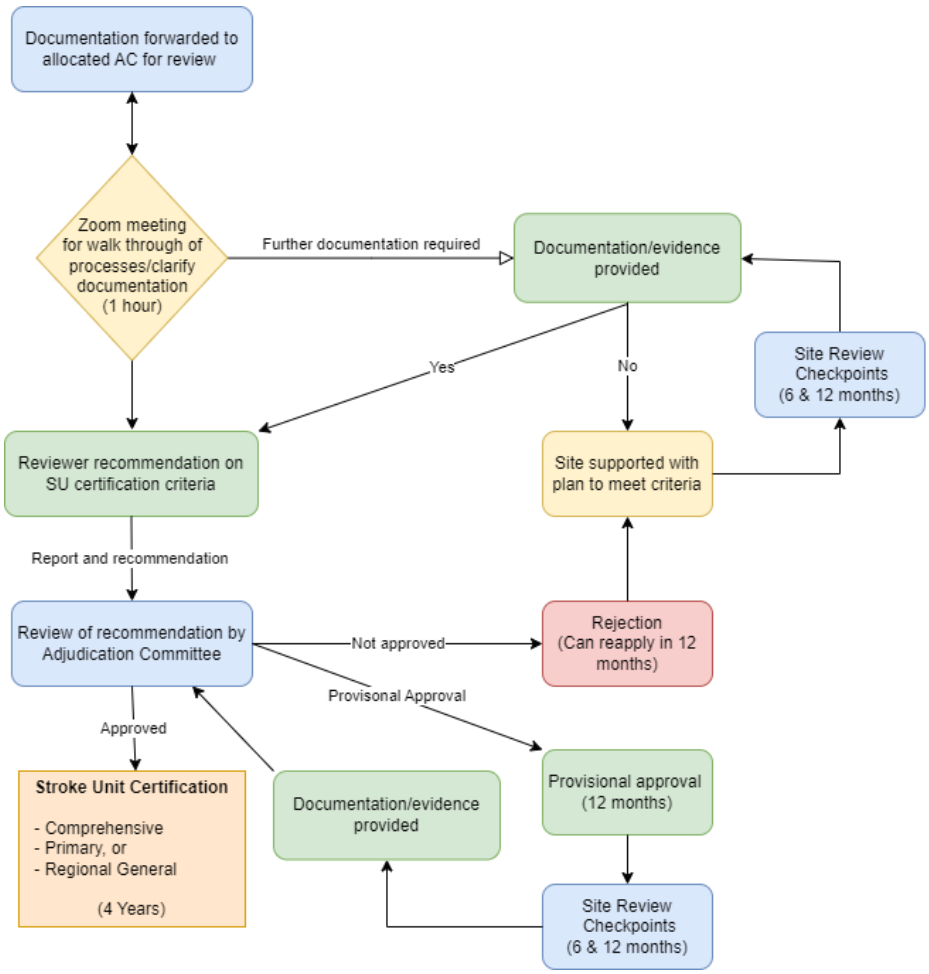


Figure 1. ASC Stroke Unit Certification Workflow

Registration was completed online by interested sites with site details, level of certification requested, and key contacts submitted. Sites were then approved by State Leads for participation in the pilot program, based on order of submission and ability to meet stroke unit criteria and data collection requirements. 12 sites completed the pilot program, with 11 sites receiving certification.

Six additional sites signalled a desire to participate initially, then paused participation due to several reasons. These included the absence of a medical lead (1), data requirements (2), and process and procedure reviews (2). One site was withdrawn from the program by their hospital executive. A further 8 sites were waitlisted for program entry due to the capacity and established deadlines of the pilot program.

During the submission phase, sites were supported via both email and phone to align documentation and data to the application form requirements. Submission of the completed application form and supporting documentation was made by email to the Senior Project Officer. Applications were reviewed to ensure all required information was provided, and sites contacted for additional documentation and clarification of information when required.

Following documentation, data submission and documentation review, the 12 Adjudication committee members were notified of the submission and were asked to advise of their availability or conflict of interest for site evaluation via an online survey. Four of the committee member's sites participated in the pilot program, with adjudicators from Royal Adelaide, Canberra Hospital, Box Hill, and Echuca submitting conflict of interest applications for their sites for both the evaluation and certification stages. All 12 of the adjudication committee members participated in site evaluations over the length of the pilot program, with:

- 3 adjudicators completed 1 site review.
- 5 adjudicators completed 2 site reviews.
- 4 adjudicators completed 3 site reviews. Of note, the 4 committee members who each completed 3 site reviews were of Nursing or Allied Health backgrounds.

Applications then followed the documented process of evaluation by two Adjudication Committee members, consisting of a full documentation evaluation and an online zoom meeting with the site. The final review was then completed by the committee for Stroke Unit Certification approval, with site's receiving a written summary report of their certification review and recommendations, presentation of certificate (and plaque), and public recognition with publication on the ASC website.

A total of 12 sites completed the application stroke unit certification during the pilot period. For the 9 sites that met the criteria and approval by both their adjudicators and the committee, Stroke Unit Certification was awarded for 4 years. Two sites were identified as able to meet the criteria with support and allocated Provisional Approval for 12 months to enable completion of processes and documents to achieve full Stroke Unit Certification. Finally, support from the committee is ongoing for the one site identified as unable to meet the criteria within 12 months.

Commencement of Phase 1: August 2022

An introductory flyer was distributed at Smart Strokes (Sydney) in August 2022 and to all members of the SSA in September 2022, to establish broader interest and awareness of the project. Feedback on both occasions was positive, with several sites enquiring about the process, benefits to participating sites, and how to apply. This led to the development and distribution of the Stroke Unit Certification Information flyer for Primary Stroke Centres, Comprehensive Stroke Centres, and Stroke Capable Rural General Hospitals (Appendix 3).

The Committee identified a need limit initial applications during the pilot period to 10 sites, representative of each State and Territory, and inclusive of the three levels of stroke unit care:

- **Comprehensive Stroke Centre**
- **Primary Stroke Centre**
- **Stroke Capable Regional General Hospital**

Interested sites registered an online expression of interest for stroke unit certification. Initial applications were limited to 8 sites from 20 who responded to the initial expression of interest. Email confirmation of acceptance into the program was provided to both the key applicants and the provided hospital executive.

Of the initial 8 sites, 6 stroke units completed and submitted the certification documentation. 4 sites were within the allocated time frame of 4 weeks, and 2 sites required additional 4-week extensions. Applications followed the process of documentation and data review by the Senior Project Officer, evaluation, and assessment by two adjudication committee members, an online zoom meeting and

final review and certification approval by the full committee. The remaining 2 sites were unable to submit applications due to staffing issues (no stroke medical lead, and no current stroke CNC).

Stroke Unit Certification in Phase 1 was awarded to the following sites, with certificates presented to sites, and acknowledgement with publication on the ASC website. Certification was awarded for four years unless stipulated.

Comprehensive Stroke Centres:

- Alfred Health (VIC)
- Royal Adelaide (SA)

Primary Stroke Centres:

- St John of God Midland Public and Private Hospitals (WA)
- Launceston General Hospital (TAS - 12 months)
- Logan Hospital (QLD - 12 months)

Stroke Capable Regional General Hospital:

- Shoalhaven District Memorial Hospital (NSW)

Commencement of Phase 2: April 2023

With significant interest in the project, the second round of sites were approved for entry into the program. This followed an initial review of the first phase of the project that resulted in alterations to the application form to clarify information requested from sites, and data required. The second intake of applicants commenced in April 2023, with 9 registered sites invited to participate in stroke unit certification.

NT - Alice Springs (Regional)
NSW - Wagga Wagga Base (Primary)
QLD - Mackay Base Hospital (Primary)
WA - Joondalup Health Campus (Primary)
QLD – Gold Coast University Hospital (Comprehensive)
VIC -The Northern Hospital (Primary)
VIC - Box Hill Hospital (Primary)
VIC - Echuca Hospital (Primary)
TAS - Royal Hobart Hospital (Comprehensive)

In phase 2, sites were allocated three weeks to submit their application. Of the initial 9 sites, 6 stroke units completed and submitted certification documentation by the due date of May 2023 and progressed through the stroke unit certification process. The remaining three sites, Joondalup Health Campus, The Northern Hospital and Royal Hobart Hospital advised that they were unable to meet the submission deadlines for the pilot program and were placed on the wait list for the next intake. The final site, Mackay Hospital, submitted a comprehensive application and is currently receiving support to meet the criteria for a primary stroke service within the next 12 months. Review and evaluation were completed by two adjudication committee members for each site, followed by an online site review and report, with final review and certification determined by the adjudication committee. Delays during the review process were noted around the availability of committee members to review sites, availability of sites and adjudicators for the Zoom review, and both sites and committee members rescheduling the zoom review due to illness/scheduling conflicts.

Site Certification

The remaining five applicants of Phase 2 were approved for full four-year stroke unit certification in July 2023, receiving certification and recognition as part of the 11 certified sites published on the ASC website:

Comprehensive Stroke Centres: (3)

- Alfred Health (VIC)
- Royal Adelaide (SA)
- Gold Coast University Hospital (QLD)

Primary Stroke Centres: (5)

- St John of God Midland Public and Private Hospitals (WA)
- Launceston General Hospital (TAS - 12 months)
- Logan Hospital (QLD - 12 months)
- Wagga Wagga Base (NSW)
- Box Hill Hospital (VIC)

Stroke Capable Regional General Hospital: (3)

- Shoalhaven District Memorial Hospital (NSW)
- Echuca Regional Health (VIC)
- Alice Springs Hospital (NT)

The location of certified sites has been mapped below in **Figure 2.**

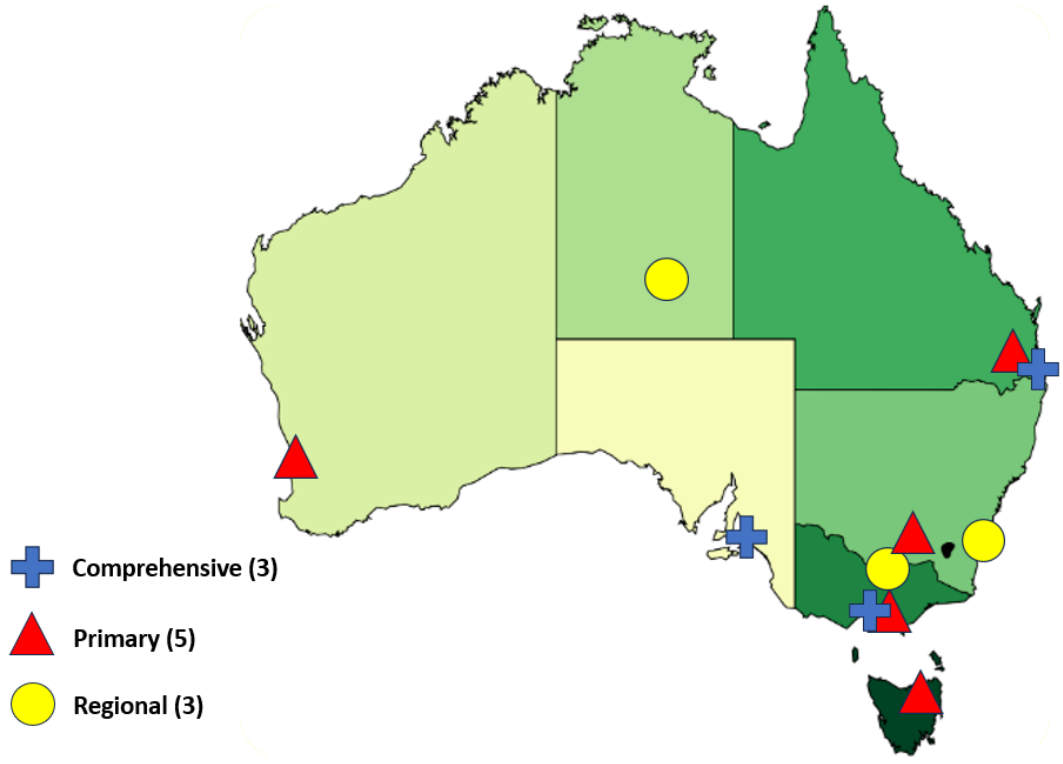


Figure 2. Location map of certified sites July 2023

Media Focus on Stroke Unit Certification

Stroke Unit Certification received extensive positive media coverage across Australia during the 12months of the pilot program. Units were provided with a media release at time of certification, that was published on the Stroke Foundation Website. In addition to listing certification on the ASC Website, sites promoted their achievement through both locally within hospital media, and through external media channels.

Launceston Hospital, Tasmania, featured in the Clifford Craig Foundation website following certification in April, 2023. Stroke Clinical Nurse Consultant (CNC) Carolyn Harrison was credited for leading the strong medical and multidisciplinary team involvement, and demonstrated patient focussed processes and procedures.

Shoalhaven District Hospital received media coverage in NSW, with Stroke Foundation's Quality Improvement Manager Melita Stirling presenting Donna Jay and the Shoalhaven team with stroke unit certification on Wednesday the 19th of April, 2023. The published article by Glen Ellard appeared in the South Coast Register titled *"Shoalhaven Hospital leads the way in stroke care standards"* and linked consistent and high quality stroke care to best outcomes. Shoalhaven Hospital Group General Manager Craig Hamer acknowledged the dedicated team of health professionals working in the stroke unit "*The quick access into services and diagnostic tools, and then the care that happens afterwards in our inpatient ward is so vitally important*". South Coast MP Liza Butler also confirmed plans to expand the current 4 bed stroke unit to 9 beds in the proposed hospital redevelopment.

The formal stroke unit certification presentation of the **Alfred Hospital** was completed by ASC representatives Dr Lisa Murphy and Dominique Cadilhac on Friday 5th May 2023, and featured prominently on the Alfred Health website. Alfred Health was identified as the first site in Victoria to receive ASC stroke unit certification, highlighting the meeting of the national criteria, ensuring patients receive the best possible care.

Echuca Regional Health received numerous media exposure across local Victorian sites including Shepparton News. Spotlighting Echuca Health as the first regional Victorian hospital to take part in the national pilot program designed to improve stroke care in Australia and ensure stroke patients receive quality care, regardless of where they live. Stroke Coordinator Lauren Arthurson identified that the team looked at where its weakest spots were in stroke care and worked to fix them. Annemarie Newth, Executive Director of Medical Services, advised the project team "Thank you for this. It is a great achievement and something everyone should be proud of", and Lauren Arthurson added "We are very proud of our stroke unit certification. Please pass on our thanks to the ASC team for all efforts formalising stroke unit accreditation".

As the first NSW site to receive certification as a Primary Stroke Centre, **Wagga Wagga Base Hospital** was recognised by both WIN NEWS, and the Region Riverina media. Meeting the select criteria based on patient care, staffing and data collection was highlighted in the online article Wagga Base Stroke Unit accredited for exceptional patient care. Neurologist Professor Martin Jude said the unit was excited to receive the accreditation and was pleased to have been named the first in the state "Years of hard work, really hard work has been put in by the team, by stroke coordinators, by nursing staff and allied health staff to make sure we do meet the standard management reliably and frequently". The unit's certification was spotlighted as part of National Stroke Week (7 – 13 August).

ASC Stoke Unit Certification Evaluation

Following the pilot program project plan, evaluation commenced in July 2023 once certification of sites in the second phase of the project had been finalised.

Aims/Objectives

To undertake an evaluation of the pilot Stroke Unit Certification Project (SUCP) exploring feasibility and acceptability from the perspective of the adjudication committee and site contacts. The initial impacts of the SUCP were explored with a broader range of stakeholders to cover both the process and perceived impacts of the pilot program as part of formative program evaluation methods.

Methods

A multi-methods approach was used to obtain the perspectives of members of the adjudication committee and site contacts who were involved in the pilot SUCP process. Specifically, the use of two data collection methods: (1) online surveys, and (2) semi-structured interviews. Surveys were used to identify perceived facilitators and barriers to meeting the requirements for certification including the criteria and related definitions, acceptability and appropriateness related to the operationalisation of the SUCP as designed for the pilot project.

Interviews were designed to enable a deeper exploration of these concepts with subsets of the participant group cohorts involved in different aspects of the pilot program. Descriptive and thematic analyses of quantitative and qualitative data sources, respectively, informed the presentation of findings.

Evaluation was completed over four phases:

1. Post certification process evaluation – Survey to sites (at completion of phase 1 & 2)
2. Process and early impact evaluation – Survey to sites (phase 2)
3. Process evaluation – Survey to Committee members (phase 2)
4. Ascertainment survey – Sites with stroke units (Australia)

1. Post certification process evaluation

All sites received a survey at completion of the certification process. A total of 11 respondents from 11 sites completed the survey.

Application process

Information detailing the application process was provided to applicants through the process via a hospital information flyer, the registration of interest form and by direct email or phone. 80% of respondents agreed or strongly agreed that the information flyer provided to hospital sites was useful, and 100% agreed or strongly agreed that the registration of interest form was easy to complete.

100% of respondents confirmed that the application form was easy to follow. Again, 100% agreed that the instructions provided with the application form were sufficient, and 100% of respondents agreed or strongly agreed that they valued the available support to complete the application including questions, additional information and provided examples. When questioned about the ability to provide enough information on the application form, 18% of respondents (n=2) advised that they were required to provide extra audit data, or that additional information was requested in

the interview process. The application form was modified prior to the second phase of the pilot program to incorporate this feedback.

The majority of respondents (82%) advised that all of their documented policies, procedures and protocols and other required documentation met the certification criteria. A small number (18%) advised that they were required to create or modify documentation for the certification process.

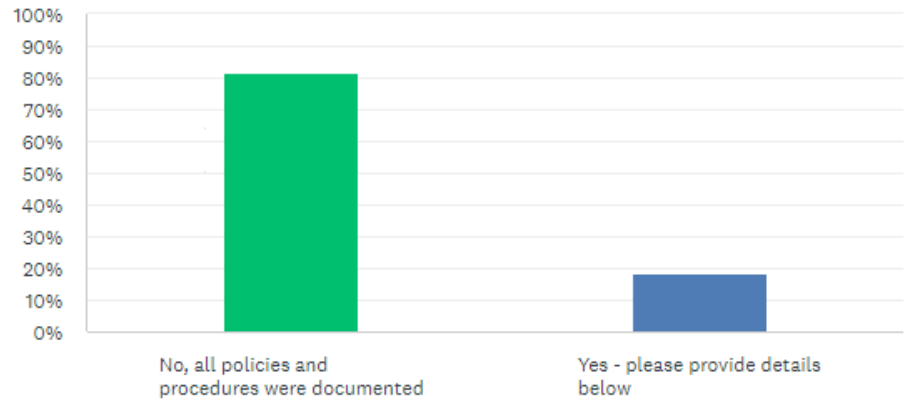


Figure 3. Creation or modification of policies, procedures, and documentation

Detailed responses around documentation required included:

- *"Our stroke pathway was under review (therefore in draft format). Updates were required post assessment – very helpful, very clear recommendations (thank you)."*
- *"Updated several policies and other documents."*
- *"Draft Stroke Head job (medical lead) description was created. Stroke data required review and cleaning."*

The completion of the application was predominantly completed by the Stroke Care Coordinator across sites (100%). Both Medical (64%) and Nursing (45%) Leads were the next largest contributors to the application and supporting documentation process. Contributions were also reported from the various Health Professionals and Hospital Executive.

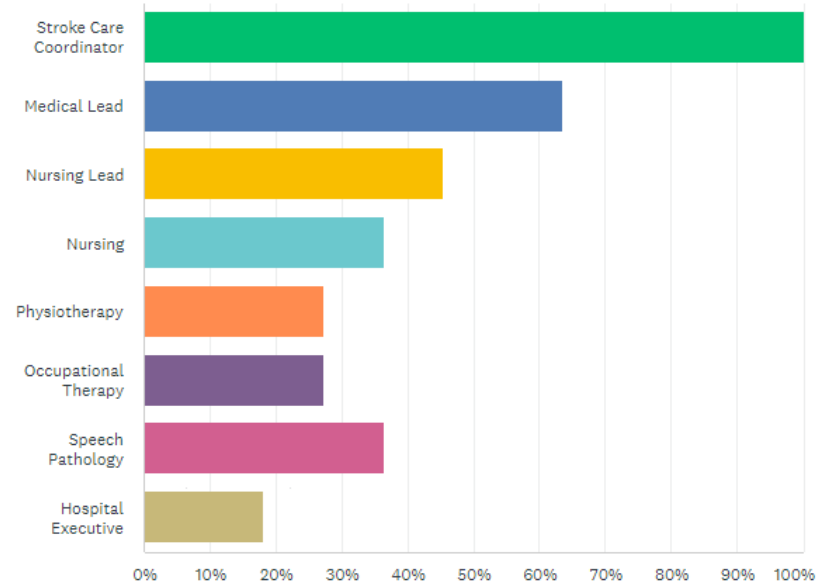


Figure 4. Completion of Certification application by profession.

Applicants were provided with set submission dates and time frames for completion of the pilot program during the application process. 100% agreed or strongly agreed that the information provided following registration gave clear time frames for completion, however 20% disagreed that the time provide to complete the application form was sufficient.

During the first phase of the pilot program, additional information about the data set was routinely requested with site's questions answered directly via email by the Senior Project Officer. Prior to commencing the second phase, the Stroke Unit Certification National Acute Care Indicators information document was developed and forwarded with the application form (Appendix 4). 100% of respondents agreed or strongly agreed that the provision of this additional information about the required data was useful.

Delays around application submission were reported by 55% of respondents, with staffing levels (27%), planned holidays (18%), and the time taken to complete and submit the application (18%) the next three largest contributing factors. Feedback was received around submission dates, which were extended for 4 sites unable to meet the allocated timeframe, and the support required by sites unable to send through large files. Respondents detailed:

- *"The time required to dedicate to the application. An extension was requested and granted."*
- *"It would be great to have the process developed into a portal or a system where you could upload the information required. It was cumbersome when trying to email back to the coordinator due to size."*

Contributions to Stroke Care

100% of respondents reported the application and feedback process contributed to positive changes in stroke care. The top three areas of positive change included quality improvement (45%), job descriptions/roles (36%), and nursing interventions (36%), as shown **in Figure 5** below. No changes were reported around stroke Unit location, secondary prevention, rehabilitation assessment or stroke education.

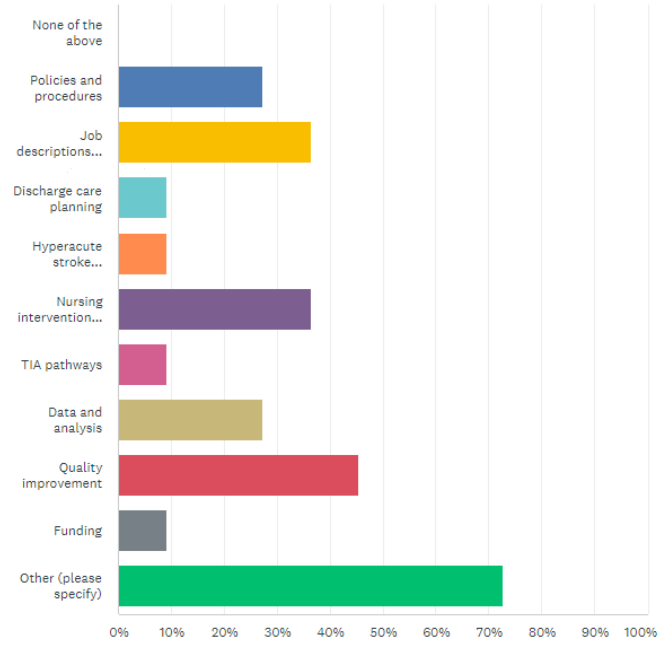


Figure 5. Positive changes in stroke care due to certification

Additional contributions to stroke care provided under the option of "other" included:

- *"Encouragement to continue with our new TIA document."*
- *"Stroke unit certification has enabled momentum of quality improvement."*
- *"An action plan is being developed for presentation to the Executive for consideration where additional resources are requested. The Model of care for the new build is being revised to include any recommendations that had not previously been considered. Of significance is the TIA patient cohort and how best to optimise resources and care provision."*
- *"The final report will be tabled at the upcoming Clinical Quality and Patient Safety Committee for actioning recommendations."*
- *"Improvements in continence documentation."*
- *"The certification has been recognised by the hospital executive locally and been very good for staff morale."*
- *"We are currently completing haemorrhagic stroke guidelines as per recommendations."*

Zoom Interview

The zoom interview was completed for every site following review of the submitted application, provided data and documentation by the Senior Project Officer and the two Adjudicators. On average, zoom interviews were completed within 1 hour, including a virtual "walk through" of the stroke unit. 90% of respondents agreed or strongly agreed that the zoom interview process was valuable. One advised "I am still unsure of the best way to 'virtually' visit the stroke unit and wonder whether this could be delegated to a local state ASC representative after the self-reported assessment has been reviewed? Walking through an acute stroke ward making a video is awkward."

Final report and site recommendations

91% of respondents agreed or strongly agreed that the final report/feedback received was useful for their stroke service, with the remaining 9% (n=1) responding not applicable to this question. Feedback around the process and report included:

- *"I have encouraged all QLD sites to participate."*
- *"It enabled us to review our service and will now use the recommendations from the accreditation to review our process".*
- *"As a desirable outcome of this certification process, staffing benchmarks/recommendations could support equitable stroke unit care across the country."*
- *"I would strongly encourage all facilities to participate."*
- *"This is a great result for the stroke team locally, and I appreciate the feedback about the service, and discussion about improvements in staffing numbers and structures moving forward. It adds to external review of our processes and infrastructure which is, perhaps, even more important for regional services. We have been very happy to be involved in the certification process."*

2. Process and early impact evaluation

A total of 8 respondents from 11 sites completed the second survey evaluating stroke unit certification process and early impact.

Participation in stroke Unit Certification

Sites were asked to advise their reasons for participation in the certification program. All 8 sites (100%) indicated that participation was to help develop and support the stroke certification process, due to an interest in the process, and to use the results to advocate for more resources.

86% (n=6) identified stroke unit certification as an opportunity to be acknowledged as a high-quality stroke service, while a further 71% (n=5) advised an interest in obtaining feedback on their stroke processes. Hospital Executive were a factor in 14% of respondents choosing to undergo stroke unit certification. These responses are shown in **Figure 6.**

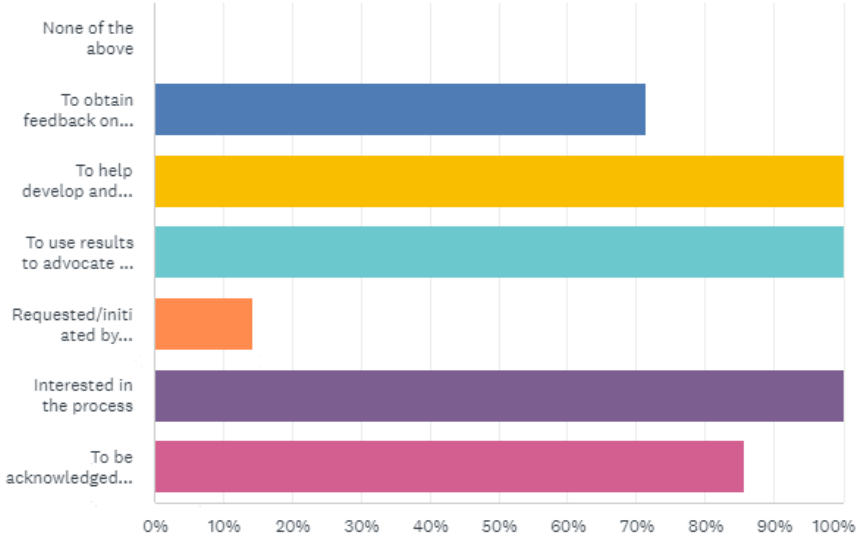


Figure 6. Reasons for participation in stroke unit certification

Involvement of senior executive at sites was established at initial registration of sites, with the identified executive included in correspondence around participation in certification, and again at completion. 75% (n=6) responded positively that their senior hospital executive was supportive of their site's involvement in stroke unit certification. The remaining 2 respondents were neutral to this question. When asked where the final report was circulated, the Stroke Team, Head of Department and CEO/Executive received the report at 88% of sites (n=7). 75% (n=6) indicated circulation to the media team. Under comments, one respondent noted the report had been also been escalated to the Clinical Quality and Patient Safety Committee, Performance and Operational Committee, and Recognising and Responding to Acute Deterioration Committee at their site.

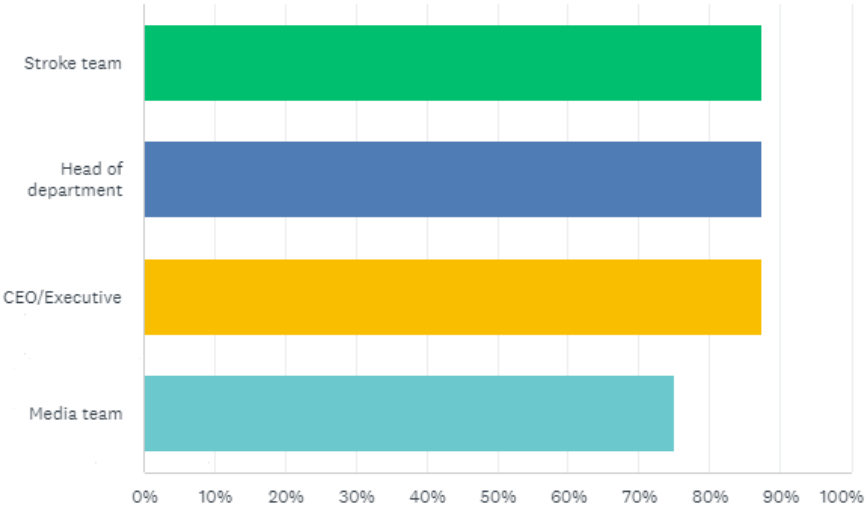


Figure 7. Recipients of the site's stroke unit certification report

Report and Recommendations

Following the final site report, two site advised minimal changes after performing at a high level in the certification process, and six sites reported varied action had been taken, from working groups addressing issues, to the employment of an onsite neurologist. One site reported using the loss of certification as a driver to ensuring a permanent CNC, and another noted the organisation wide recognition of stroke unit certification:

- *"Stroke Accreditation Working Group established to address the recommendations of the report."*
- *"An action plan has been developed and the recommendations proposed, however there has been no firm confirmation/commitment to, the recommendations to date."*
- *"We had a media day with politicians, we have a 0.5 FTE neurologist."*
- *"We are working on ensuring stroke CNC is permanent, we are able to use loss of certification as a driving point for this."*
- *"Organisation wide recognition of the stroke team's achievements"*

Impact of Stroke Unit Certification

Stroke unit certification was identified by six of the eight sites (75%) as having a positive impact to stroke care on site, with detail around patient admissions process, quality improvement processes, the employment of a 0.5 FTE neurologist, employment of a stroke nurse practitioner and the planned expansion of stroke beds from 4 to 9 provided. 50% (n=4) of respondents advised positive impact around policies and procedures. 3 sites (38%) noted staffing levels, while 2 sites (25%) responded that there has been positive impact in job description/roles, and quality improvement. 13% (n=1) noted an improvement in stroke unit location, hyperacute stroke assessment and treatment, nursing interventions, data and analysis and education. Positive improvements in patient care were noted by 1 respondent, with 6 sites (75%) acknowledging that although change had not yet occurred, they believe the process would have a positive impact on patient care. One site noted, "in the last 3 months 85% of our thrombolysis cases have been under 60 minutes".

All respondents advised the overall impact of involvement in the stroke unit certification project was positive on their stroke unit, team or processes as:

- *"Has provided recognition to a service that is sometimes overlooked."*
- *"Really positive to have a full review of the service."*
- *"Conversations have commenced with the executive team, resources identified, however none have been provided as yet."*
- *"Our stroke team are proud of what we have achieved and take pride in what we do and the recognition they receive."*
- *"Putting stroke on the agenda in our remote hospital".*
- *"Positive within the stroke team"*
- *"It identified areas we always wanted to work on and put a spotlight on it".*
- *"A lot of acknowledgements that it is a busy service".*

Investigating this question further, when asked what the greatest opportunities for the stroke unit certification project to positively impact stroke care, responses included:

- *"Once fully established the ongoing cyclic review of Stroke Services to maintain high quality care regardless of location."*
- *"Review policies and processes. Also, to be acknowledged as a high-quality service."*
- *"Absolutely worthwhile. I believe it could carry greater gravitas if the CEO was involved and had an interest."*
- *"We used this process to make sure we were doing the best we could for our stroke patients and looked at what we could improve."*

- *"The regional stroke unit certification provides a way for smaller hospitals, many without a neurologist, to push exec and hospital for better stroke resources and care."*
- *"The review of all processes, and we are in the process of updating the triage process."*
- *"To be linked to hospital accreditation."*

Involvement in Stroke Unit Certification

Promotion of involvement in stroke unit certification (internally and externally) was indicated by 88% of sites (n=7), with 71% (n=5) advising their framed certificate is on display. At the completion of the pilot program, all 11 certified sites (100%) had self-funded the purchase of the available stroke unit certification plaque for display in their hospital. Significantly, 100% (n=8) advised they would recommend other sites involvement in the stroke unit certification project, noting:

- *"The process is valuable. "What is seen is managed", so the full assessment provides an opportunity to see the areas that can be celebrated and those that require attention."*
- *"I didn't think the process was difficult or time consuming and it allowed us to see where we could improve because there is always room for improvement."*
- *"It has raised the profile of stroke within the hospital, the stroke team have also reviewed stroke processes."*

Survey participants were advised of the requirements to fund this process for it to be successful. While 50% (n=4) supported their hospital or local health service paying a fee to participate, 50% were unsure. One respondent advised "I would say yes, however the current interest at the CEO level would likely be lower if there was a fee involved." The use of stroke unit certification in hospital accreditation was positively received by all but 1 respondent, as indicated in **Figure 8.**
38% (n=3) advised that certification had been used in hospital accreditation, and 65% were planning to use their certification in the accreditation process (n=5). One site advised "We had our hospital accreditation in May and the accreditors were told about our stroke unit certification and they all came to see the certificate and asked what was involved in the process."

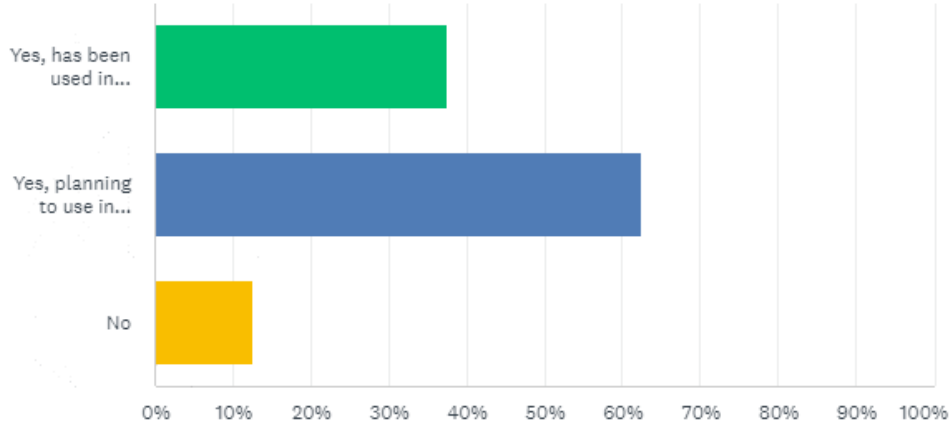


Figure 8. Use of stroke unit certification in hospital accreditation

3. Process evaluation – Survey to committee members

The project steering group and the ASC stroke unit certification adjudication committee were contacted by survey to provide process evaluation feedback. Of the 10 respondents representative roles incorporated Medical (60%), Nursing (10%), Allied Health (10%) Stroke Foundation (10%) and Lived experience representative (10%) as shown in **Figure 9**.

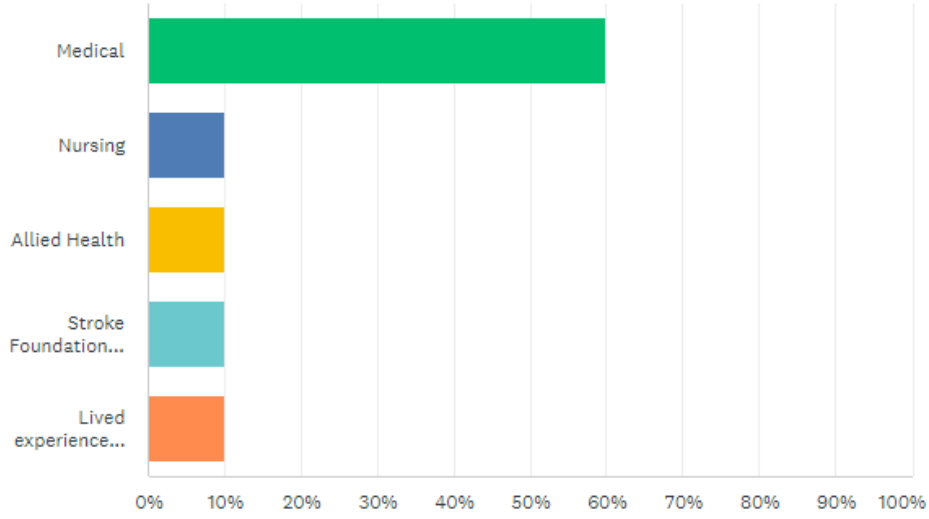


Figure 9. Representative roles in the pilot program

Pilot Program Overview

Aspects of the pilot program were rated on a 5-point scale with responses as following:

- 80% (n=8) agree or strongly agree the development/adaption of the certification questions has been sound.
- 80% agree or strongly agree development/adaptation of the certification processes has been sound.
- 90% agree or strongly agree development of the project has been collaborative.
- 90% agree or strongly agree meetings have occurred at the right frequency (2-3 months).
- 90% agree or strongly agree communication by project staff has been clear.
- 90% agree or strongly agree the forms/process has been clear and easy to follow.
- 80% agree or strongly agree the composition of the committee was about right.

Feedback around committee aspects included two comments relating to the composition of the committee. One respondent noted "It was good the committee composition evolved." While increasing Allied Health/Nursing representation was suggested by two respondents:

- *"Would be good to have more non-medical people. Allied health is very much underrepresented."*
- *"Could have broader AH and nursing input to balance assessments.*

One respondent noted *"My feeling is that there is no particular need to expand the scope of the committee."* Inclusion of rural representation was also suggested, *"Adaption has been reasonably collaborative however at time I feel like the regional / rural voice is not heard with the doctors of the group not being open to the regional perspective for medical items i.e., position descriptions."*

Feedback provided around the processes (workflow, forms. communication etc) included what has worked well:

- *"The communication, the collaboration and the general process."*
- *"Overall works well. People are submitting big files so hard to find information on a particular aspect quickly."*
- *"Comprehensive coverage of the important aspects of stroke unit structure and function."*
- *"Forms."*
- *"Leah has been great coordinator and Tim has been an excellent chair– very collaborative."*
- *"SharePoint as central place to keep info."*
- *"Communication works well."*

Processes feedback about what could be improved included:

- *"A more explicit concise instruction sheet for assessors and reviewers would be useful."*
- *"The timing - all the "events" happen at once so it's a lot of reading all together without periods of nothing."*
- *"Better definitions and clear-cut objective criteria for meeting or not meeting the criteria (which we're working on of course)."*
- *"Definitions of stroke units and guidance for evaluation."*
- *"Probably allocating reviewers and having committee availability more transparent so can make process efficient."*
- *"Greater balance of disciplines and metro regional clinicians."*

Committee Participation

100% (n=10) of committee respondents agreed that the workload has been reasonable. In a review of the time taken to process each application, administration time required by the Senior Project Officer was identified as averaging between 11.25 hours and 21 hours per site, excluding contact with committee and scheduling requirements. Consideration around controlling the workload, not increasing the workload, and inclusion of more nursing/allied health representation were reiterated by the committee:

- *"Workload, including review of site information, not excessive - I don't believe though that the extent or pace of workload should increase beyond what it has been."*
- *"Able to nominate availability to certify sites according to other commitments, and therefore able to control the workload from this project."*
- *"As mentioned, maybe more spaced out credentialling."*
- *"More AH representation needs to be included on the committee as I could not continue to review as many hospitals as I have been asking to so far."*

An identified benefit of participation on the committee was that 89% (n=8) of respondents positively responded that involvement helped with consideration around their own stroke team processes/outcomes.

- *"More frequent and action-oriented meeting together to improve our reperfusion metrics and focus more on quality improvement."*
- *"This has helped me to think about the future application of my stroke unit."*
- *"Has given excellent insight into workforce and data metrics requirements for accreditation."*
- *"My site is likely to not be accredited however a comprehensive report from the committee would assist in driving change and would be very useful."*

Opportunities for Stroke Unit Certification

Following completion of the pilot program, committee members identified the biggest opportunities to improve the stroke unit certification program to include:

- *Scaling up the number of sites: "Scaling up to allow certification of all Australian SUs within a 4-year period (to then allow the team to circle back and start re-certifying SUs)." and "We need more sites!"*
- *Linking the program to an external organisations and systems: "Linkage to RACP or Hospital Certification", "Recognition of the accreditation process by RACP, ANZAN, etc." and "Embed in systems and have differential pricing to drive improvements."*

- *Further defining application criteria: "I think that the criteria around position descriptions, FTE and stroke numbers needs to be further clarified and detailed for applications and assessors."*
- And the need for additional assessors/input on the committee: "Will need more assessors ultimately."

Final valuable feedback from the committee included:

- "It has been a great opportunity to work with this amazing group."
- "I believe the interest in changing requirements to include stricter metrics around reperfusion and stroke unit admission rates potentially creates disparity in terms of greater challenges for some units when compared to centres that went through the earlier phase of approval."
- "Conflicts of interest and biases of the committee members needs to be further looked into - i.e., ASNEN committee members promoting participation in ASNEN and their education. Also, AuSCR."

Program Continuation

The evaluation and outcomes of the pilot program successfully demonstrate the benefits of stroke unit certification in Australia, supporting program continuation.

With the commitment of additional funding from both ASC and Stroke Foundation **the Stroke Unit Certification program will continue through to July 2024** in a reduced capacity (0.2 FTE Senior Project Officer). The expressions of interest process remains open for all Australian stroke unit sites to register their interest in stroke unit certification, with 15 sites registered for the certification program as at August 2023. Current program registrations include 8 sites waitlisted (3 VIC, 2 QLD, 2 NSW, 1 WA), 6 sites working towards meeting criteria to apply (2 VIC, 1 ACT, 1 SA, 1 WA, 1 TAS) and 1 site working towards completing certification requirements within 12 months (QLD).

It is recommended that, analogous to trauma verification (governed by the Royal Australasian College of Surgeons), the process be brought under the Royal Australasian College of Physicians, delegated back through ANZAN to the Australian Stroke Coalition.

A cost-recovery model of funding, whether payment by sites or centrally from state and federal government, should be explored, potentially once governance is more firmly established. The ANZSO and Stroke Foundation could be financial guarantors.

Discussions have begun around a trans-Tasman extension of the program to incorporate New Zealand stroke units with Alan Davis, Clinical Lead – Stroke and Chair National Stroke Network New Zealand. This occurs already in Trauma Verification, a trans-Tasman process which is hosted by the Royal Australasian College of Surgeons.

Relevant National Authorities for Public Hospital Funding in Australia

Future discussion should involve the two key national organisations identified in the National Health Reform Agreement as key future stakeholders for Stroke Unit Certification project. These organisations support, facilitate and administer public hospital funding arrangements. Both the Independent Health and Aged Care Pricing Authority (IHACPA) and the Australian Commission on Safety and Quality in Health Care (ACSQH) operate influential working groups and committees comprised of stakeholders relevant to stroke unit certification in Australia.

ASCQH is a key liaison around accreditation, certification & standards for stroke care in Australia, ensuring ensure that pricing, quality of care and performance measures are aligned with the provision of strategic advice to Government on best practice thinking to drive quality improvement It is possible that a representative from the ACSQHC could be a non-certifying committee member. The IHACPA is a key future stakeholder in relation to liaison around pricing for stroke care delivery in hospitals and stroke units. Certified stroke unit admission premium funding of stroke-DRGs could be considered to incentivise stroke unit admission – this strategy was recently shown to be associated with reductions in stroke-related mortality in Queensland (Grimley 2023)[6].

[6] Grimley RS, Collyer TA, Andrew NE, Dewey HM, Horton ES, Cadigan G, Cadilhac DA. Impact of pay-for-performance for stroke unit access on mortality in Queensland, Australia: an interrupted time series analysis. Lancet Reg Health West Pac. 2023 Oct 7;41:100921. doi: 10.1016/j.lanwpc.2023.100921.

Summary of Recommendations

The impact of stoke unit certification has been rated highly beneficial by both key applicants and committee members, providing opportunities for participating stroke units to improve stroke care. The following recommendations to enhance the stroke unit certification program are based on the review of the pilot program processes and the feedback received during pilot program evaluation.

Adjudication Committee

- Increase Allied Health and Nursing representation on the adjudication committee to reduce workload of current committee members and increase diversification of representation.
- Formalise certification calendar to process sites on a rolling basis (monthly).
- Formalise allocation of sites to adjudicators on a rolling basis to spread the workload evenly.
- Request adjudicators provide an alternative if unable to complete adjudication duties.
- Provide a more detailed criteria for committee adjudicators around processes and procedures.
- Continue meetings at the current frequency (2-3 months).

Minium Criteria for Application

- Comprehensive Stroke Centre's will usually lead or strongly collaborate with a regional telestroke network and should participate in stroke research.
- All services with 150 stroke admissions or more per year (and some in the 100-150 range) should have Primary Stroke Centre capability.
- Stroke Capable Regional General Hospitals certification in general targets remotely located hospitals with low volumes of admissions for acute stroke care (always less than 150, usually <100).
- All sites must have an identifiable medical lead. For PSCs, this medical lead must have dedicated FTE for stroke (varying with the size of the PSC).
- SCRGH must have a minimum of 0.5FTE Stroke Coordinator position to refine and implement stroke protocols, and collect, monitor, and respond to stroke data.
- Stroke admissions must be cohorted on a single ward. When immediately adjacent cohorting is not available, measures should ensure that stroke expertise is not diluted (e.g., in the setting of 4 stroke patients on a 30-bed ward).
- A hospital will not receive certification if median arrival-thrombolytic time, and/or stroke unit admission percentages are above the 75% percentile, and more than 3 standard deviations below the national media, respectively.

Stroke Unit Certification Application

- Digitisation of the application form for online completion and uploading/updating of supporting documentation to an online platform. An online platform would facilitate sites to upload documentation as it is updated, ready for their 4-year review.
- Maintain 1 month submission time frame for sites, with time extensions available on an individual basis.
- Continue to include site executives of the application status, from registration to outcome.
- Request a cover letter from site at time of application submission with highlights/issues identified.

Site Review

- Implementation of a 5–10-minute introductory presentation by the site outlining site background, stroke team, highlights/issues to provide assessors with key background information.
- Provide sites with the option of a pre-recorded video 'walk through' to minimise ward disruptions and patient privacy issues.
- Consider in person site reviews (funding dependent).

Site Support

- Develop a list of sites and clinicians available to mentor sites currently not meeting the minimum criteria for stroke unit certification.
- Modify the current certification workflow to include review points for sites under 12-month supervision (at 4 months, 8 months, and 12 months). Allocation of a committee member to each site to oversee these review points.
- Establish a 'documentation bank' of policies and procedures with site permission for sharing with other sites.
- Establish process for 12 months/4-year review of sites for ongoing certification.
- Re-application for certification after 4 years from sites as a review of their application with an update on areas of recommendation, documentation, current data.

Program Funding

- Investigate cost-recovery site (or government) external funding as essential for program continuation.
- Limit applications in alignment with available Project Officer and supporting administration FTE.

Governance

- Incorporation into Hospital Accreditation may be worthwhile long-term. However, in the short-medium term, analogous to Trauma Centre verification (managed by the College of Surgeons), bringing the process under the Royal Australasian College of Physicians is recommended (delegated via the Australian and New Zealand Association of Neurologists).

Updates to the Acute Stroke Services Framework (2019)

- The pilot process also identified the potential need to review and update the Acute Stroke Services Framework (2019) to differentiate telestroke-only rural centres (who transfer patients after reperfusion) versus Stroke Capable Regional General hospitals. Framework modifications have been submitted to the Stroke Foundation clinical council for consideration.

Conclusion

Meeting national standards through stroke unit certification is an important step in ensuring all Australians receive the same level of stroke care, regardless of location.

As recommended internationally, and by the national Heart and Stroke plan[7], the Australian Stroke community endorses the certification of Australian stroke units to ensure the benefits of stroke unit care are maximised.

This pilot program successfully demonstrated the benefits of stroke unit certification in Australia.

Strong governance and implementation of the suggested recommendations will help streamline the certification process, broaden both its reach and effectiveness, ensure acceptability and sustainability, and contribute to improving stroke care.

[7] National Acute Services Audit 2021, Australian Stroke Services Framework 2019, Acute Stroke Clinical Care Standard 2019, Helsingborg declaration, WSO webpage, Heart and Stroke plan

Appendix (See Attachment)

Appendix 1 – 2023 ASC Stroke Unit Certification Application Form (Revised)

Appendix 2 – ASC Stroke Unit Certification Workflow

Appendix 3 – ASC Stroke Unit Certification Information for Sites

Appendix 4 – ASC Stroke Unit Certification National Acute Stroke Care Indicator Set

Appendix 1 – 2023 ASC Stroke Unit Certification Application Form (Revised)

The following application form will have to be filled in during the application process. Please read the application form carefully in order to prepare for your application.

Please find below the definitions and explanations of the Australian Stroke Coalition Stroke Unit Certification Application Form. If you have further questions, do not hesitate to contact us (asc@strokefoundation.org.au). It is possible to apply for Certification as a **Primary Stroke Centre**, **Comprehensive Stroke Centre**, or **Stroke Capable Regional General Hospital**. Stroke units are the fundamental units within Primary and Comprehensive Stroke Centres, and this process is related to the hospital as a whole.

The purpose of this document is to help ensure that those reported as receiving stroke unit care are actually receiving it. This is important not only for public assurance, but also for state, federal and private funding agencies. This document is intended to assist sites in approaching hospital administrations for assistance in providing standardised care, and/or to protect such standards from potential degradation. Certification could potentially be used in the future to leverage differential funding; however, if this is to occur the responsibility for certification would need to be assumed by a government agency.

This document should be read in conjunction with the National Acute Stroke Services Framework, Acute Stroke Clinical Care Standard and Clinical Guidelines for Stroke Management.

Definitions

Stroke Unit

The definition of a stroke unit is a dedicated, geographically defined, adjacent bed-location, or single ward in a hospital, staffed by an interprofessional team with members who have expertise in acute stroke and/or rehabilitation. A 'mobile stroke team' visiting multiple wards does not meet minimum standards. The minimum team comprises medical and nursing stroke leads, and specialist stroke-trained nurses and allied health staff including occupational therapists, physiotherapists, speech pathologists, social workers and dietitians. It is critical the medical and nursing stroke leads have undergone appropriate stroke training, as outlined in Appendix B, with the latter incorporating the nursing grade recommended for the role as outlined in Appendix C. Access to a stroke coordinator, pharmacist for education with medication, and psychology services is desirable. There is a requirement for regular educational programs and training relating to stroke (e.g. dedicated stroke in-service program and/or access to annual national or regional stroke conferences/educational webinars). Other important features include routine involvement of the patient and family/carers in decision-making and care planning for discharge, early access to rehabilitation therapies (not just assessment processes), and the use of guidelines and protocols (e.g. hyperacute therapy, fever, swallowing, and incontinence). It is recognised that ward size does not necessarily match stroke volume. Where stroke beds in a single ward are not cohorted immediately adjacent, evidence needs to be provided that stroke expertise in managing patients care is not diluted.

Comprehensive Stroke Centre

Comprehensive Stroke Centres (CSCs) have highly specialised resources and personnel available 24/7 within a stroke unit. The main distinguishing features of a CSC are the 24/7 availability of endovascular thrombectomy and the stroke-specific expertise of medical leadership. In addition to having all of the resources requisite of Primary Stroke Centres, CSCs are usually located in large, tertiary referral services that manage a high volume of patients with stroke (usually over 350 annual admissions). The CSCs offer links internally and for other networked hospitals of specialist services such as neurosurgery, vascular surgery, cardiology, palliative care and rehabilitation. CSCs should have a sufficient number of dedicated stroke beds to ensure patients have access to stroke units directly from the ED, unless care in the ICU or HDU is required. CSCs will normally have a minimum of eight dedicated beds in their stroke unit for centres admitting ≥350 stroke patients annually. CSCs will usually lead, or at least collaborate in, a regional telestroke network, and should participate in stroke research.

Primary Stroke Centre

All services with 75 stroke admissions or more per year should have Primary Stroke Centre (PSC) capability. Primary Stroke Centres have dedicated stroke units with clinicians who have stroke expertise, written stroke protocols for emergency services, and provide hyperacute stroke treatments (intravenous thrombolysis) and rehabilitation. PSCs should have well organised systems to link emergency services (e.g. pre-notification and code stroke alert systems with direct transport to CT scanner on ambulance stretcher); advanced imaging including CT perfusion and CT angiogram or MRI equivalent (for possible referral to CSCs for endovascular thrombectomy); ability to offer thrombolytic therapy 24/7 (either via an onsite specialist or supported by telemedicine); protocols to transfer appropriate patients to a CSC as needed (e.g. for neurointerventional or neurosurgical services, and to accept return transfers of those patients for ongoing care); strong links with rehabilitation services to ensure early assessment and transfer (if not co-located), and secondary prevention services. Depending on local factors (previous and existing services, geography etc.), these services may be supported by telestroke, or may have some of the additional elements of comprehensive stroke services and/or responsibility for regional coordination of stroke services.

Stroke-capable Regional General Hospitals

In general, this level of certification targets remotely-located hospitals with low volumes of admissions for acute stroke care, whose patients cannot easily be bypassed or transferred to CSCs or PSCs. Hospitals that are more than an hour's transport drive time from such certified stroke units may apply for formal recognition as a Stroke-capable Regional General Hospital under these criteria. Such hospitals should have telehealth links to a PSC or CSC, or state-wide service (e.g. the Victorian Stroke Telemedicine program), to facilitate initial assessment, provision of intravenous thrombolysis and, if on-site provision of other treatments is infeasible (including care by interdisciplinary staff for rehabilitation), organise safe transfer for further treatment. Telerehabilitation links to larger centres are strongly encouraged. These hospitals should strive to acquire as many features as possible of a PSC stroke unit. Minimum standards include designated responsibilities for medical and nursing leadership, and cohorting of stroke patients on a single ward to facilitate development of clinician expertise. The optional criteria are contained in Appendix A.

Hospital name:

Certification level: ☐ Comprehensive ☐ Primary ☐ Stroke-Capable Regional General

All documents submitted should contain data acquired within 12 months of the application.

Recertification is required within 4 years of the initial successful certification.

Primary applicant

Name:

Position:

Email:

Mobile:

Signature:

Date:

Stroke Medical Lead endorsement

Name:

Position:

Email:

Mobile:

Signature:

Date:

Stroke Nursing Lead endorsement

Name:

Position:

Email:

Mobile:

Signature:

Date:

PART A Lead

Number	Question	Example of clinical background	Supporting information
A1	**Medical Lead** Medical care is led and provided by a stroke neurologist or an experienced senior physician with expertise in stroke (Medical Lead). The medical lead is actively involved in stroke unit service coordination, development and audit.	Neurologist – Stroke/General or Aged Care Physician or General Medical Physician or Rehabilitation Physician	A job description and supporting documentation of stroke-related training (see Appendix B) of the leading stroke neurologist or senior stroke physician. *
A2	**Nurse Lead** Nursing care within the stroke unit is led by a senior nurse with expertise in stroke (the Nursing Lead and the Stroke Coordinator roles may be held by the same person).	Stroke Nurse Specialist (Appendix C – roles/grades per state)	A job description and supporting documentation of stroke-related training of the nurse lead. Please see Appendix C regarding minimum nursing grade.
A3	**Stroke Coordinator** Defined as a non-medical health professional in a formal or informally recognised clinical leadership position for stroke, with involvement in overseeing the clinical organisation of stroke services, or providing support for ensuring the quality of stroke care delivered hospital-wide.	Nursing/Allied Health	A job description and supporting documentation of stroke-related training of the stroke coordinator. (For details: *https://www.strokejournal.org/article/S1052-3057(21)00516-4/fulltext*)

*For Primary Stroke Centres and Regional General hospitals, it is desirable but not compulsory for medical leadership to have stroke-specific training (e.g., stroke fellowship).

PART B Personnel

Part B fulfils the requirement for coordinated interprofessional stroke unit care (care in a discrete area in the hospital, staffed by a specialist stroke interprofessional team). At this stage, there are no mandated staffing levels for certification; however, this will be developed in future iterations.

B1 Stroke Unit Interprofessional Team			
Role	**Name or quantity**	**Levels (as appropriate)**	**Total dedicated FTE**
Stroke Medical Lead	Name:	Does the medical lead have dedicated off-line time to lead the stroke service?	
Stroke Nurse Lead	Name:		
Stroke Coordinator	Name:		
Nurse/s who are dedicated/ rostered to the stroke unit to ensure expertise or ongoing capacity and skills building in stroke management			
Medical consultants (in addition to Stroke Medical Lead)		What is the process of rostering medical staff to the stroke unit?	
Medical junior staff			
Speech Pathologist			
Physiotherapist			
Occupational Therapist			
Dietician			
Social Worker			
Allied Health Assistant			

B2 Access to Non-Stroke Unit Support Services			
Service Area	**Yes, onsite**	**Yes, networked tertiary hospital (please name)**	**No**
Cardiology			
Medical Imaging (e.g. CT/CTA/CTP)			
Endovascular Neurointervention (e.g. clot retrieval)			
Vascular Surgery (e.g. carotid surgery)			
Rehabilitation			
Psychology (e.g. clinical and/or neuropsychology)			
Neurosurgery (e.g. hemicraniectomy)			

B3 Engagement with patients and families	
Question	**Supporting information/Documents**
Patients and care partners should be actively included as partners in all aspects of care, including planning and delivery.	Regular meetings with patients and families/carers, carer training, and process for providing them with discharge planning information (e.g. My Stroke Journey)

PART C General Infrastructure

Dedicated stroke unit care means that patients with acute stroke are treated in a geographically defined area of the hospital admitting exclusively stroke and TIA patients and not patients with other disorders.

Number	Question	Supporting information/Documents
C1	Stroke patient care in a discrete area in the hospital (i.e. within one ward), staffed by a specialist stroke interprofessional team, with regular interprofessional meetings for planning care.	Situation (geography) plan of stroke unit facilities. Provide a photograph of the monitoring unit/beds. If beds are not dedicated within a large ward, please describe how stroke-specific expertise is focussed and maintained within a larger ward.
C2	The stroke unit is located in a hospital that has access to an intensive care unit or HDU.	Provide information or online link.
C3	The stroke unit should provide an outpatient clinic for follow-up of stroke patients (could also be a telehealth follow-up service). Models of care for TIA patients (either inpatient or Rapid Access Clinic) should also be provided.	Number of stroke clinics per week. Describe organised TIA and stroke care after discharge from own hospital.

PART D Investigations

Specialised personnel and methods

Number	Question	Supporting information/Documents
D1	CT, CTA head and neck and CTP are available 24/7, and within 30 minutes of arrival at hospital.	Yes/No Median door to CT time:
D2	Digital subtraction angiography (DSA) is available either in the stroke unit's hospital or within an associated stroke centre.	Available onsite: Yes/No Please provide name of hospital providing service.

D3	Swallowing assessment (screening with a validated tool and/or assessment) is provided 24/7. To be carried out <4 hours post-presentation.	Please provide current standard operating procedure or similar documentation.
D4	Investigations for establishing the pathological causes of stroke are available (Holter or cardiac monitoring, transthoracic echocardiogram, vascular imaging).	Holter or cardiac monitoring: Yes/No Transthoracic echocardiogram: Yes/No Vascular imaging: Yes/No

PART E Interventions and Monitoring

Number	Question	Response
E1	The stroke team follows written standard operating procedures (stroke pathways, SOP or written protocols, which should be revised regularly) for diagnosis, nursing assessments and management, rehabilitation, secondary prevention, follow-up, management of critical incidents, and management of complications. Are there locally agreed management (including assessment/monitoring) protocols for the following: Neurological assessment (NIHSS/GCS) and response to deterioration Blood pressure management Fever Glucose Swallow dysfunction Incontinence of urine/faeces Nutrition, enteral nutrition and hydration Positioning of the patient with stroke Mobility End of life care pathways	Yes/No
E2	There are written protocols in relation to ambulance pre-notification, emergency department code stroke processes, and referring institution interactions. These protocols are revised regularly.	Yes/No
E3	There is routine assessment of rehabilitation needs.	Yes/No
E4	IV thrombolysis is available 24/7. Time from ED arrival to thrombolysis (e.g. door-to-needle time, complication rate) is routinely assessed and documented and processes reviewed to identify causes of extended times to treatment and adverse events i.e. morbidity and mortality meetings to discuss management strategies.	Yes/No
E5	The infrastructure of the stroke unit allows continuous monitoring of ECG, respiratory function, blood pressure, pulse-oximetry, and monitoring of glucose and temperature.	Yes/No

PART F Teaching, Meetings and Research

Professional interactions, networking

Number	Question	Supporting information/Documents
F1	Provides multidisciplinary discharge/rehabilitation meetings at least once a week, and documents in the patient's medical record that the case and ongoing management was discussed by the interprofessional team, and with the patient and family.	Provide a description of the procedure.
F2	There is an expectation that stroke units in CSCs participate in stroke research, but this is not mandatory for stroke units in PSCs or Stroke-capable Regional General Hospitals.	Provide evidence of research outputs and staffing.
F3	Organises a program for the continuing education of all stroke unit staff (not only doctors) relating to the management of stroke.	Provide a description of the different educational activities delivered by the stroke unit, as well as other educational activities available to members of the stroke team that are endorsed by the hospital, e.g.: On-site training, SIMS, InformMe Teaching plans are mandatory for CSCs and PSCs, while Stroke-capable Regional General Hospitals need to describe how they ensure their staff participate in relevant stroke education. Provide evidence of a stroke-specific education pathway for stroke nurses.

PART G Care process benchmarking and quality indicators

Number	Question	Supporting information/Documents
G1*	The stroke unit is involved in routine, systematic stroke data collection and quality improvement activities. *	Demonstration of data collection into a system that conforms with the National Stroke Data Dictionary, e.g., Australian Stroke Clinical Registry, will allow regular reports to be generated, and benchmarking against peers and national standards.
G2	Stroke unit capacity of site: The number of dedicated beds for stroke patients as a percentage of total annual stroke admissions.	Provide as: Total number of stroke beds Total number of stroke annual admissions Total number of stroke unit admissions Average length of stay 90% of time on a stroke unit indicator

*This includes at a minimum: Documentation of age, sex, admission stroke severity, case fatality, admission and discharge NIH Stroke Scale, discharge modified Rankin Scale, stroke unit access, and thrombolysis/thrombectomy metrics. Desirable but not compulsory indicators (for primary stroke and Regional centres include total reperfusion numbers (inclusive of thrombectomy or transfer out for thrombectomy), and door to needle times stratified by telestroke-facilitated and not facilitated if the thrombolysis service is aided by telestroke out of hours.

G3	Documentation of quality of stroke care against the National Acute Stroke Standard Indicator Set as listed below (*non-mandatory items italicised)* **.	Please complete this column using your 12-month data report (and submit report as G3 Attachment). *Definitions to be found here:* *https://meteor.aihw.gov.au/content/719072*
#	**Indicator**	**%**
1a	*Validated stroke screen in the ambulance*	*Voluntary. Not contained in AuSCR.* *Applicable to ambulance and rehabilitation sectors, not acute stroke hospitals not providing rehabilitation*
2a	Thrombolysis in ischaemic stroke	
2b	Endovascular thrombectomy in ischaemic stroke	Only if EVT site
2c	Thrombolysis in ischaemic stroke within 60 mins of hospital arrival	
2c	Median time from arrival to thrombolysis **Door to needle time under the 75th percentile of 108 minutes**	Hours: Minutes
2c	*Interquartile range if available (arrival to thrombolysis)*	*Hours: Minutes*
2d	Median time from arrival to endovascular thrombectomy (EVT)	Only if EVT site Hours: Minutes
2d*	*Interquartile range if available (arrival to EVT)*	*. Only if EVT site* *Hours: Minutes*
2d	*Median and interquartile range of arrival to EVT reperfusion*	*Only if EVT site* *Hours: Minutes*
2d	*TICI 2b/3 reperfusion rates if receiving EVT*	*Only if EVT site*
3a	Received stroke unit care (All patients) **Minimum 70% stroke unit access rates**	
3b	*Received 90%+ of acute care on a stroke unit (All patients)*	*Voluntary. Not contained in AuSCR.*
4a	Assessment by a physiotherapist within 24-48 hours of arrival to ED	
4b	*Assessment for ongoing rehabilitation completed using a structured assessment tool prior to discharge*	*Voluntary. Not contained in AuSCR.*
5a	Antihypertensives on discharge (all stroke types)	
5b	Lipid-lowering treatment on discharge (ischaemic stroke)	
5c	*Discharge on oral anticoagulants for atrial fibrillation (ischaemic stroke)*	*Voluntary. Not contained in AuSCR.*
5d	Antithrombotic on discharge (ischaemic stroke)	
5e	Patient received education about behaviour change for modifiable risk factors	
6a	*Carer received support needs assessment*	*Voluntary – more relevant to combined acute/rehabilitation units. Not contained in AuSCR.*
6b	*Carer received relevant training*	*Voluntary – more relevant to combined acute/rehabilitation units. Not contained in AuSCR.*
7a	Care plan developed with the team and the patient (or family alone if patient has severe aphasia or cognitive impairments):	

**Australian Commission on Safety and Quality in Health Care. Indicator Specification: Acute Stroke Clinical Care Standard. Sydney: ACSQHC, 2019.

Checklist for key application documentation

Documentation	
General	
Hospital Stroke Protocol.	☐
PART A Lead	
Job description for Medical Lead.	☐
Evidence of stroke-related training for Medical Lead.	☐
Job description for Nurse Lead.	☐
Evidence of stroke-related training for Nurse Lead.	☐
Job description for Stroke Coordinator.	☐
Evidence of stroke-related training for Stroke Coordinator.	☐
PART B Personnel	
Description of process for providing patients/families/carers with discharge planning information.	☐
PART C General Infrastructure	
Situation plan of stroke unit facilities (photo of monitoring unit/beds).	☐
Description of process for TIA and stroke care after hospital discharge.	☐
PART D Investigations	
SOP for swallowing assessment.	☐
PART F Teaching, Meetings and Research	
Description of process for review of patient management within the multidisciplinary team, and discussion with patients/families/carers.	☐
Evidence of research output and staffing (compulsory for CSCs)	☐
Description of hospital-endorsed educational activities available to the multidisciplinary team, delivered by the stroke unit, and externally.	☐
PART G Care process benchmarking and quality indicators	
12-month data report documenting the delivery of stroke care against the national acute stroke standard indicator set, with evidence of:	☐
Minimum 70% stroke unit access rates	☐
Door to needle time under the 75th percentile of 108 minutes	

Appendix A

Key desirable criteria for Stroke-capable Regional General Hospitals

The following components are optional for Stroke-capable Regional General Hospitals, though still encouraged.

Stroke unit criteria might not be fully met.

It is recognised that the Medical Lead and Stroke Coordinator may not have stroke as their primary professional focus; however, job descriptions should still explicitly include coordination of, and responsibility for, stroke services, and an estimate should be given of FTE dedicated to stroke in the role. In addition, the Medical Lead and Stroke Coordinator should demonstrate stroke-related training.

Nurses working in a stroke unit/stroke service involved in stroke patient care should have access to stroke-specific nurse education and have opportunities to upskill in assessment of the stroke patient and management strategies.

Similarly, allied health staff might not have a dedicated stroke focus; however, the Allied Health Lead should still be identifiable.

Education might be remotely accessed; however, an education plan and expectations for team members should still be provided.

Immediately adjacent cohorting of stroke patients may not be possible, however stroke patients should all be admitted to a single ward to allow concentration of stroke clinician expertise.

Rapid access TIA clinics and secondary prevention stroke clinics might not be provided on site.

If not, inpatient TIA admission pathways or access pathways to these clinics in tertiary centres (or via telehealth) should be provided.

Regular meetings with a rehabilitation focus might not be possible.

This might be constrained by limited dedicated stroke FTE; however, a process for assessing, communicating, and providing for rehabilitation needs should be included in the application.

Appendix B

Suggested Stroke Training Modules

Medical Stroke Lead

A period of stroke fellowship at a stroke unit, and/or

Attendance at stroke training courses (e.g., the Joint Australasian Stroke Academy and SSA workshop, or Australasian Stroke Academy meeting).

Nurse Stroke Lead

Attendance at stroke training courses (e.g., Australian Stroke Nurses Education Network workshops and webinars).

Allied Health

Able to access multidisciplinary stroke education – discipline specific.

Appendix C

Minimum nursing grade for Stroke Nurse Lead by jurisdiction

State/Territory	Minimum nursing grade for Stroke Nurse Lead
Australian Capital Territory	Clinical Nurse Consultant/Registered Nurse 3
New South Wales	Clinical Nurse Consultant Grade 3 A registered nurse/midwife appointed as such to a position approved by the public hospital or public health organisation, who has at least 7 years full time equivalent post registration experience, with at least 5 years full time equivalent experience in the specialty field. In addition, the employee must have approved postgraduate nursing/midwifery qualifications relevant to the field in which he/she is appointed or such other qualifications or experience deemed appropriate by the public hospital or public health organisation. An employer may also require a higher qualification in the specialist nursing field where such a qualification is considered essential for the performance of the individual position.
Northern Territory	Clinical Nurse Specialist (Nurse 3) Registered Nurse or Registered Midwife. Applies specialist knowledge, skills, attributes and abilities within a specified area of clinical practice in therapeutic and professional relationships with individuals, as well as with families, groups and communities. Provides a resource to other members of staff within a designated portfolio, e.g., education, shift management. Accountable for planning, provision and communication of nursing/midwifery practice including the evaluation and required revision of practice, and for staff and client safety across a shift. Provides leadership to other service and speciality positions in the determination of service or speciality quality, patient/client care and specific work principles and standards.
Queensland	Clinical Nurse Consultant (Nurse Grade 7)
South Australia	Nurse/Midwife Consultant (Level 3) Employees classified at this level use their clinical knowledge and experience to provide the pivotal co-ordination of patient/client care delivery in a patient/client care area within a Health Unit/Community Service. The main focus of this role is the line management, coordination, and leadership of nursing/midwifery and/or multi-disciplinary team activities to achieve continuity and quality of patient/client care and outcomes. Employees in this role accept accountability for the outcomes of nursing/midwifery practices and/or multidisciplinary outcomes in the specific practice setting; for addressing inconsistencies between practice and policy; and for developing team performance and a positive work culture in the interest of patient/client outcomes.
Tasmania	Clinical Nurse Consultant (Nurse Grade 6)
Victoria	Clinical Nurse Consultant A A Registered Nurse or Midwife appointed as such who as a member of a specialist team fulfils the clinical consultant role in their first and second Years of Experience.
Western Australia	Clinical Nurse Consultant (Senior Registered Nurse 3) SRN Level 3 will be responsible for an expanded professional practice role, which may include, but is not limited to the criteria outlined below. Emphasis on each criteria will reflect the focus of the individual position occupied by each SRN Level 3: (i) A multi-

	disciplinary role as team leader/co-ordinator of health professionals. (ii) Clinical/professional responsibility for a multi-disciplinary ward, unit, district, or region providing complex or tertiary level services. (iii) An expanded role of clinical practice and/or management/leadership control. (iv) Use of advanced problem-solving strategies that influence, manage and co-ordinate patient care over and above the problem solving skills required at SRN Level 3.

Appendix 2 – ASC Stroke Unit Certification Workflow

ASC Stroke Unit Certification – Workflow Process

Initial Contact:

1. Contact from site expressing interest/nominated by Adjudication Committee (AC)
2. Email site – Information for Sites document, FAQ's, Expression of Interest Registration Form
3. Site
4. State
5. Classification
6. Key Contact email/phone
7. Stroke Medical Lead email
8. Stroke Nursing Lead email
9. CEO/Executive email
10. Conflict of interest
11. Site information/Questions/Request more information
12. Receive site registration (form)
13. Email Site – receipt of site registration (Include State Lead and Chair)

Commencement of Stroke Unit Certification process:

1. Acceptance of applicant by Chair (email to project officer)
2. Email Site CEO/Executive – Introduction letter & Information for Sites document (cc State Lead and Chair)
3. Email Site – ASC SU Certification Application form (within 2 weeks of registration)
4. Submission of application form and supporting documents (4 weeks to complete)
5. Email Site - Receipt of application and supporting documents
6. Email AC – Availability/Conflict of interest Form (1 week to complete)
7. Name
8. Site
9. Yes/No
10. Conflict of Interest
11. Allocation of AC reviewers by Chair (2)

Adjudication Process: (See Adjudication Process Flowchart)

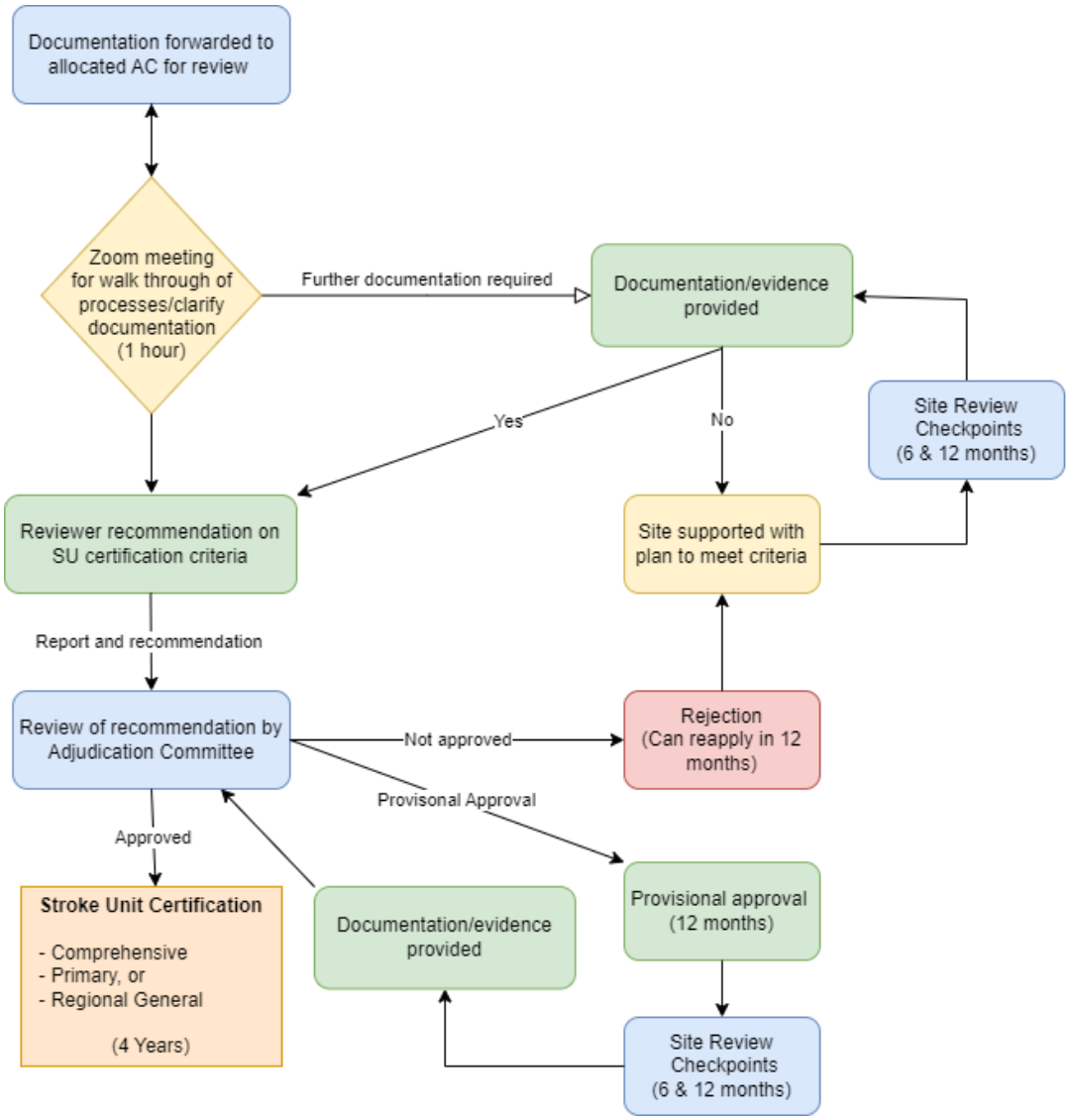
1. Distribution of application form and supporting documents to AC reviewers
2. Review of documentation (2 weeks)
3. Email/phone Site - Schedule zoom meeting with AC reviewers (2 weeks)
4. Zoom/Teams meeting for walk through of site process with site/AC reviewers (as needed)
5. Review of recommendation at AC meeting: Certification (up to 4 years), Provisional Approval (12 months) or Rejection with site review checkpoints at 6 and 12 months.

Stroke Unit Certification:

1. Letter of recommendation (Tim/Sharon)
2. Email letter of recommendation to site (Approved, Provisional Approval, Rejection)
3. Key contact & AC reviewer survey – Process Evaluation

4. Modification of SU certification on InformMe site/ASC website publication
5. SU Certification certificate/plaque
6. Key contact survey – Impact Evaluation

Adjudication Process Flowchart:



Resources:

- Program information flyer
- Stroke Unit Certification Information for Sites
- Site expression of interest registration form https://forms.office.com/r/j22j3FPLH4
- ASC Stroke Unit Certification Application
- Site Welcome Letter
- AC Expression/conflict of interest form https://forms.office.com/r/sK9cxAEc7v
- SU Certification certificate/plaque
- Process evaluation survey (key contact & AC reviewers)
- Impact evaluation survey (key contact & hospital executive)

Appendix 3 – ASC Stroke Unit Certification Information for Sites

Why Stroke Unit Care is Important in Australia

Access to a stroke unit is proven to make the biggest overall difference to patient outcomes following stroke. It is the platform for stroke treatments, staff education stroke data collection and quality improvement, and therefore is the most critical element of good stroke care. A stroke unit is defined as a dedicated location in a hospital, staffed by an interdisciplinary team including medical, nursing, and allied health professionals with expertise in stroke.

Stroke unit care in Australia is variable. Results from the Stroke Foundation's 2021 National Stroke Audit Acute Services report showed that only 84 percent of stroke patients in metropolitan areas received care in a self-designated stroke unit, while for patients in regional areas this was much lower at 41 percent. In addition, not all Australian hospitals with a self-designated stroke unit are meeting the requirements for stroke unit care, as outlined in the National Acute Stroke Services Framework, Acute Stroke Clinical Care Standard and Clinical Guidelines for Stroke Management. It is crucial not only that patients are admitted to stroke units, but also that these units are not stroke units in name only.

Stroke Unit Certification

The Australian Stroke Coalition (ASC), co-chaired by the Stroke Society of Australasia and the Stroke Foundation, has developed a voluntary system for certification of stroke units in Australian hospitals. This is to provide the general public, hospital staff and health system administrators transparency and certainty in the quality of care being delivered for people with stroke. All participating sites will be provided feedback from the adjudication committee, comprised of clinical leads from across the country and Medical, Nursing and Allied Health representatives of each state and territory.

While initially targeting hospitals with existing acute stroke units, this program may also offer useful information for hospitals that are looking to develop their dedicated stroke services. **Primary Stroke Centre**, **Comprehensive Stroke Centre**, and **Stroke Capable Regional General Hospitals** are all encouraged to apply.

Compliance with Hospital Accreditation

Importantly, Stroke Unit Certification provides a concrete example of quality hospital systems which can be directly used in hospital accreditation. Certification demonstrates excellence in governance systems, including local policy and procedures, and monitoring of quality metrics in line with the Australian Commission of Safety and Quality in Healthcare (ACSQHC) Acute Stroke Standard Indicators, a mandatory component of the National Health Reform Agreement. Approved sites are formally listed on the ASC Website as certified and receive important public recognition as quality stroke care services.

Stroke Unit Certification Process:

1. Check that your site meets the minimum stroke unit access rate (70%)
2. Check that your site is within the maximum door to needle time (under 108 minutes)
3. Registration of Interest: https://forms.office.com/r/j22j3FPLH4
4. Advised of acceptance into the certification program by the Adjudication Committee
5. Complete the provided Stroke Unit Certification Application form
6. Submission of key application Documents (as detailed below)
7. Stroke Unit review by allocated Adjudication team (Zoom meeting)
8. Provision of feedback and support to meet stroke unit criteria (if required)
9. Final review of documentation and recommendation by the Adjudication committee
10. Stroke Unit Certification (valid for up to 4 years and acknowledgement on ASC and other websites.

Stroke Unit Certification Application - Required documentation & standards	
Stroke Unit Certification Application form (provided)	☐
Hospital Stroke Protocol.	☐
PART A Lead	
Job description for Medical Lead*.	☐
Evidence of stroke-related training for Medical Lead.	☐
Job description for Nurse Lead*.	☐
Evidence of stroke-related training for Nurse Lead.	☐
Job description for Stroke Coordinator*.	☐
Evidence of stroke-related training for Stroke Coordinator.	☐
PART B Personnel	
Description of process for providing patients/families/carers with discharge planning information.	☐
PART C General Infrastructure	
Situation plan of stroke unit facilities (photo of monitoring unit/beds).	☐
Description of process for TIA and stroke care after hospital discharge.	☐
PART D Investigations	
SOP for swallowing assessment.	☐
PART F Teaching, Meetings and Research	
Description of process for review of patient management within the multidisciplinary team, and discussion with patients/families/carers.	☐
Evidence of research output and staffing (compulsory for CSCs)	☐
Description of hospital-endorsed educational activities available to the multidisciplinary team, delivered by the stroke unit, and externally.	☐
PART G Care process benchmarking and quality indicators	
12-month data report documenting the delivery of stroke care against the national acute stroke standard indicator set Evidence of: **Minimum 70% stroke unit access rates** **Door to needle time under the 75th percentile of 108 minutes**	☐ ☐ ☐

***Please note** you will be asked to provide contact information (email) for Medical Lead, Nursing Lead and Stroke Coordinator in the application form, in addition to a member of your site's executive team.

Register Today: https://forms.office.com/r/j22j3FPLH4

Stroke Unit Certification - 12 Month Data Report

Part G Care process benchmarking and quality indicators

G3 Documentation of quality of stroke care against the national acute stroke standard indicator set

Clinical Care Standards: Indicators for local monitoring

No.	Indicator	%
1a	Validated stroke screen in the ambulance	
2a	Thrombolysis in ischaemic stroke	
2b	Endovascular thrombectomy in ischaemic stroke (only if EVT centre)	
2c	Thrombolysis in ischaemic stroke within 60 mins of hospital arrival	
2c	Median time from arrival to thrombolysis **Door to needle time under the 75th percentile of 108 minutes**	Hours: Minutes
2c	Interquartile range if available (arrival to thrombolysis)	Hours: Minutes
2d	Median time from arrival to endovascular thrombectomy (EVT)	Hours: Minutes
2d	Interquartile range if available (arrival to EVT)	Hours: Minutes
2d	TICI 2b/3 reperfusion rates if receiving EVT	
3a	Received stroke unit care (All patients) **Minimum 70% stroke unit access rates**	
3b	Received 90%+ of acute care on a stroke unit (All patients)	
4a	Assessment by a physiotherapist within 24-48 hours of arrival to ED	
4b	Assessment for ongoing rehabilitation completed using a structured assessment tool prior to discharge	
5a	Antihypertensives on discharge (all stroke types)	
5b	Lipid-lowering treatment on discharge (ischaemic stroke)	
5c	Discharge on oral anticoagulants for atrial fibrillation (ischaemic stroke)	
5d	Antithrombotic on discharge (ischaemic stroke)	
5e	Patient received education about behaviour change for modifiable risk factors	
6a	Carer received support needs assessment	
6b	Carer received relevant training	
7a	Care plan developed with the team and the patient (or family alone if patient has severe aphasia or cognitive impairments):	

The full specifications and information regarding denominators and definitions are available at: https://www.safetyandquality.gov.au/sites/default/files/2022-05/Acute-Stroke-Clinical-Care-Standard-2019.pdf

Please note:

- AUSCR does not contain the yellow highlighted fields. Please provide these if you are able, but note they are not compulsory.
- Fields highlighted in grey are not in the National Standards, however please provide where available.
- Non-EVT sites do not need to provide EVT data on their transferred patients – data reflect only treatment provided at that site.

Frequently Asked Questions

Will certification be dependent on staffing levels?

No, certification will not be dependent on your staffing levels during the pilot period. We received input from all states in developing the certification criteria, and all agreed further work needs to be done in this area for it to be considered.

Why do we need to show collection of 12 months of data? What happens to our collected data?

Your site needs to demonstrate performance against the nationally mandated Acute Stroke Clinical Care Standard. Your performance in these national KPIs needs to be sighted/confirmed, but raw data will not be submitted as part of the process, and remains your data.

We have staff interested in stroke, but do not have a have a medical lead and/or a stroke care coordinator/nurse navigator. What does this mean for us?

We hope this first phase will help sites advocate for further resources, including having a medical lead and stroke coordinator. Seventy-five percent of stroke units nationally reported a SCC in the 2021 Acute Audit, but the PDs of these roles varies between sites and states. It is important for a stroke unit to have a true stroke-specific team, and accurate job descriptions**. Please contact us** if your site does not meet this criteria (or others) and you would like support. **Our aim is to improve stroke care across Australia.**

Are there restrictions to what sized site can apply?

It is possible to apply for certification as a Primary Stroke Centre, Comprehensive Stroke Centre, or Stroke Capable Rural General Hospital.

We are a stroke rehabilitation site, can we apply for the certification process?

No. We are currently only accepting applications from acute stroke units, however the process does consider stroke rehabilitation services as a contributing factor to comprehensive stroke unit care.

Who makes the final certification decision? What if they have a conflict of interest with my site?

The Stroke Unit Certification Adjudication Committee is comprised of publicly employed stroke representatives from each state and territory of Australia, with current Medical, Nursing and Allied Health experience in stroke care. Prior to submitting your forms, you can advise of any conflicts of interest with any members of the committee who may be involved in the stroke unit certification process. Committee members are also able to declare a conflict of interest (eg. they work at/with your site) and remove themselves from your adjudication process. You will be assessed by two members who are not from your state/Territory:

Adjudication committee members:

Timothy Kleinig (SA Medical Lead)
James Evans (NSW Medical Lead)
Andrew Wong (QLD Medical Lead)
Alvaro Cevera (NT Medical Lead)
Tanya Frost (VIC ASNEN)
Kylie Tastula (NSW ASNEN)
Aylissa Canning (QLD CNC)
Benjamin Clissold (VIC Medical Lead)
Andrew Wesseldine (WA Medical Lead)
Shahla Cowan (ACT Stroke Nurse Navigator)
Helen Castley (TAS Medical Lead)
Lauren Arthurson (VIC Speech Pathologist)
Kelly Anderson (NSW Occupational Therapist)
Jonathan Tomkins (VIC Physiotherapist)

Non-adjudication committee members:

Kelvin Hill (Stroke Foundation)
Saran Chamberlain (Consumer Advocate)
Leah Pett (Stroke Foundation)
Prema Thavaneswaran (Stroke Foundation)
Alan Davis (NZ Clinical Stroke Chair)
Richard Lindley (USYD Stroke Centre of Research Excellence)

Register here: https://forms.office.com/r/j22j3FPLH4
More Information: Stroke Unit Certification Program
Key Contact: Leah Pett, Senior Project Officer: lpett@strokefoundation.org.au

Appendix 4 – ASC Stroke Unit Certification National Acute Stroke Care Indicator Set

Stroke Unit Certification - 12 Month Data Report

Part G Care process benchmarking and quality indicators

G3 Documentation of quality of stroke care against the national acute stroke standard indicator set

Clinical Care Standards: Indicators for local monitoring

No.	Indicator	%
1a	Validated stroke screen in the ambulance	
2a	Thrombolysis in ischaemic stroke	
2b	Endovascular thrombectomy in ischaemic stroke (only if EVT centre)	
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2c	Median time from arrival to thrombolysis	Hours: Minutes
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2d	Interquartile range if available (arrival to EVT)	Hours: Minutes
2d	TICI 2b/3 reperfusion rates if receiving EVT	
3a	Received stroke unit care (All patients)	
3b	Received 90%+ of acute care on a stroke unit (All patients)	
4a	Assessment by a physiotherapist within 24-48 hours of arrival to ED	
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5a	Antihypertensives on discharge (all stroke types)	
5b	Lipid-lowering treatment on discharge (ischaemic stroke)	
5c	Discharge on oral anticoagulants for atrial fibrillation (ischaemic stroke)	
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5e	Patient received education about behaviour change for modifiable risk factors	
6a	Carer received support needs assessment	
6b	Carer received relevant training	
7a	Care plan developed with the team and the patient (or family alone if patient has severe aphasia or cognitive impairments):	

The full specifications and information regarding denominators and definitions are available at: https://www.safetyandquality.gov.au/sites/default/files/2022-05/Acute-Stroke-Clinical-Care-Standard-2019.pdf

Please note that AUSCR does not contain the yellow highlighted fields. Please provide these if you are able, but note they are not compulsory.

Fields highlighted in grey are not in the National Standards, however please provide where available.

Non-EVT sites do not need to provide EVT data on their transferred patients – data reflect only treatment provided at that site.