

Australian Safety and Quality Goals for Health Care

Submission in response to the consultation paper

February 2012

About the Australian Stroke Coalition

The Australian Stroke Coalition (ASC) was established by the National Stroke Foundation (NSF) and Stroke Society of Australasia (SSA) in 2008. The Coalition brings together representatives from groups and organizations working in the stroke field including the following:

Stroke Society of Australasia, National Stroke Foundation, Stroke Services NSW, QLD Stroke Clinical Network, Victorian Stroke Care Network, SA Stroke Network (SASUN), WA Stroke Network (WASN), Tasmania Stroke Network (TASSUN), Northern Territory, Australian Capital Territory, Australian Physiotherapy Association, Australasian College for Emergency Medicine, Dieticians Association of Australia, Occupational Therapy Australia, Royal College of Nursing Australia, Royal Australasian College of Physicians, Australian and New Zealand Association of Neurologists, Australasian Faculty of Rehabilitation Medicine, Speech Pathology Australia, the Council of Ambulance Authorities, and Stroke Consumers.

This group works together to tackle agreed priorities to improve stroke care, reduce duplication among groups and strengthen the voice for stroke care at a national and state level.

The ASC provides a critical communication link between relevant organisations and their members regarding stroke care in Australia and has the following objectives to:

- Develop a communication strategy to link ongoing and new stroke initiatives at a state and national level;
- Improve the delivery of clinical care across the entire stroke care continuum;
- Develop a set of national priorities for stroke care based on gaps identified in the national audit and other data sources;
- Determine a coordinated strategy by which to improve these priority areas; and to,
- Promote the activities of the coalition through its members and other avenues.

The ASC is focused on reducing duplication and coordinating national action for data collection and improving outcomes and consistency of care in stroke.

The ASC provides the following response to the Australian Commission on Safety and Quality in Health Care Consultation Paper. We are extremely pleased to see a national approach to setting goals and working towards improving care for very significant aspects of health and quality. It is particularly pleasing to see that stroke care is a focus given the burden of disease for Australians. The ASC welcomes the ongoing opportunity to provide a valuable contribution to the development and

implementation of a national Goal for the appropriate, evidence-based care of people living with stroke.

This submission addresses:

- current data and quality activities in stroke care in Australia; and
- the questions from the Consultation Paper as they relate to Goal 2 and the disease priority area of stroke.

GOAL 2

Appropriateness of care: That people receive appropriate, evidence-based care. Initial priorities are for:

- ***people living with type 2 diabetes***
- ***people with acute coronary syndrome or stroke.***

BACKGROUND

In Australia, there are approximately 60,000 new or recurrent strokes per year. Around half of these occur in people over the age of 75 and as the population ages the number of strokes occurring each year is expected to increase. The impact on individuals, families and the workforce is substantial. Approximately 89% of people who have a stroke are admitted to hospital, one in five of those who have a first-ever stroke will die within a month, one in three will die within the first 12 months¹ and about 88% of those who survive live at home, most with a disability.¹ The burden of stroke for Australia is significant, with one study estimating the total lifetime costs for all first-ever strokes in 2004 at \$2 billion.²

QUESTION ONE

HOW DO YOU THINK NATIONAL SAFETY AND QUALITY GOALS COULD ADD VALUE TO YOUR EXISTING EFFORTS TO IMPROVE THE SAFETY AND QUALITY OF CARE?

The ASC is committed to ensuring stroke patients receive appropriate evidence-based care. The plan to establish this as a national safety and quality goal will assist efforts already in place and focus health services on this goal. Current ASC activities relevant to the proposed goals include:

Data collection

Data collection is undertaken in a number of ways by the Australian Clinical Stroke Registry (AuSCR); National Stroke Audit Program; The Australasian Rehabilitation Outcomes Centre (AROC) and State-based data collection initiatives (refer Appendix 1).

Quality improvement activities

Statewide Stroke Clinical Networks

The Statewide Stroke Clinical Networks have been established to address gaps in clinical service. There are networks in Victoria, Queensland, South Australia and Victoria. Other states have stroke networks coordinated by clinicians. These networks bring together rural and metropolitan clinicians, allied health, nursing and consumer representatives to improve the treatment of stroke patients in their State. They also provide education and support to clinical services. Further detail about state quality improvement activities is provided at Appendix 1.

NSF-StrokeLink Program

The NSF provides a comprehensive quality improvement program called StrokeLink. This program involves outreach visits by NSF staff using interactive educational formats linked to audit and feedback and local consensus processes. Flexible educational modules are used and are based on locally identified needs. Ongoing support is also provided. Further detail is provided at Appendix 1.

How the Goals for stroke will add value to the existing ASC work

The current health reform provides the environment for improvement in safety and quality for stroke but additional impetus is required. Examples of how the goals will add value to current activity are:

1. Currently there is a lot of work being undertaken to improve safety and quality of health care in stroke at a state level, driven largely by stroke clinical networks. The ASC is committed to ensuring this is carried out as efficiently and effectively as possible. National Safety and Quality Goals for stroke will ensure agreement that stroke care is a priority for improvement for all governments. Agreement between all governments will make it easier to drive efficiencies and effectiveness of local activities through coordinated national action and fully utilise health reform initiatives.
2. National health goals will ensure top down as well as bottom up efforts to increase access to appropriate evidence-based care. For example much work is currently being undertaken to facilitate the implementation of stroke guidelines. However, this is largely driven from the bottom up, with limited resources. Support and resources from the top down will support this activity. The NSF StrokeLink program, which has great clinician support, is one such example where there is limited funding and support to roll this successful program out throughout Australia.
3. Establishment of more specific goals around stroke care which focus on proven interventions that have greatest impact and/or are most poorly delivered will provide guidance to any current activities and ensure efforts are highly effective and aimed at the right aspects of stroke care.
4. Improving access to appropriate evidence-based care requires multifaceted strategies and support and resources for clinicians and health services. Establishment of health goals, with specific targets will help prioritise where efforts in developing these supports and resources should be directed.

Much of the work of the ASC is directed at improving the delivery of evidence-based care to people with stroke through supporting the use of evidence-based guidelines, audit and knowledge-translation quality improvement activities and therefore there is excellent synergy between this goal and current and future activities.

It is important to recognize and highlight that having focusing on appropriateness of care for people with stroke provides important impetus to reduce the variation in access and care across Australia (as highlighted in various national stroke audits).

QUESTION TWO

DO YOU AGREE WITH THE TOPICS THAT HAVE BEEN INCLUDED AS GOALS AND PRIORITY AREAS? ARE THERE OTHER AREAS THAT SHOULD BE CONSIDERED?

It is evident from the consultation paper that the process for identifying the draft Goals and priority areas was challenging. The review process appears wide-reaching and thorough.

The ASC strongly agrees that Stroke should be a priority area for delivering appropriate evidence-based care given its incidence, prevalence, cost and impact on individuals and the community.

Currently, an estimated 350,000 people are living after stroke in Australia.³ Of those aged 16-85, 72% of stroke survivors are aged over 60, with the remainder predominantly in the 40-59 age category.³ Stroke is a leading cause of death in Australia and a significant contributor to disability amongst adults. Between 20 and 30% of stroke survivors go on to develop vascular dementia suggesting that the increase in strokes over the next decade will add between 100,000 and 150,000 new cases of vascular dementia to the Australian community.⁴

The consequences of stroke can include paralysis, inability to speak, difficulty with memory and thinking, or problems completing everyday activities such as dressing and eating.

The impact of a stroke is profound:

- Stroke survivors are more likely to have profound limitations relating to self care; movement and communication than other people with disability;³
- Health related quality of life (HRQoL) for the majority of stroke survivors up to two years after their stroke has been rated as very poor;⁵ and
- Depression is seen in approximately a third of survivors.⁶

Survivors report difficulties associated with their stroke that affect many facets of their lives. These range from physical to emotional problems and impact their ability to work and participate in social and family activities.

Seventy four percent of stroke survivors return home to the community and require ongoing care and support. The burden of care most often falls to family members or friends with 57% of survivors receiving assistance from a family member (most often

their spouse). Carers report the burden of care has a significant impact on all areas of their lives.⁷

QUESTION THREE

WHAT DO YOU THINK ABOUT THE SPECIFICITY OF THE GOALS AND PRIORITY AREAS? ARE THEY TOO BROAD OR TOO SPECIFIC?

The ASC understands that the development of these goals and priority areas is a first step and therefore in this context understands the need for broad goals. However if the aim of this work is to achieve improved safe and high quality health care in priority areas through coordinated action as outlined on page 9 of the consultation paper, greater specificity is required. Experience at state and national level through work of ASC and its members demonstrates that the complex nature of stroke care, the multi-disciplinary care requirements and gaps at all levels of care mean that prioritizing efforts for coordination is challenging.

It will be very important to have specific standards, targets and indicators to drive change for stroke (and all priority areas). Systems to measure standards to determine whether the targets have been achieved as well as to monitor changes over time will also be important.

The ASC recommends that the standards attached to each goal are linked to evidence-based guidelines. Work has been done to develop national clinical indicators for stroke drawing on the long history of the National Stroke Audit and Guidelines programs. Whilst this work has focused predominantly on stroke care in the acute setting, the processes employed would facilitate development of indicators in the post-acute and community setting. These indicators could then be linked to the stroke Goal. Appendix 2 provides an example of current national clinical indicators for stroke.

QUESTION FOUR

DO YOU THINK THAT THERE SHOULD BE SPECIFIC TARGETS ATTACHED TO THE GOAL OR PRIORITY AREA? IF SO, WHAT FORM SHOULD SUCH A TARGET TAKE?

The ASC supports specific targets attached to the Goal or priority area that are achievable and measurable. As outlined in the consultation paper a number of interventions for stroke have high-level evidence attached to them. See question 7 for details of suggested areas of focus.

Forms of targets

Based on experiences internationally, and work the wider stroke community in Australia have undertaken, the ASC recommends that targets for stroke should be the % of people receiving particular interventions. Such targets should have application nationally. Targets in this form are in place in Norway and currently being developed in Sweden and Canada. There are alternative forms of target such as the % increase in the delivery of a particular intervention. This type of target is considered less meaningful as there is great variance in current practice, meaning that a % increase can either be hard to achieve for those performing well, or can be meaningless for those performing very badly.

National targets need not exclude the existence of locally set targets used in conjunction with improvement strategies aimed at working towards achievement of the national target. Rather than varying the form of the targets for different states or jurisdictions, varied time frames for achieving targets can be set based on current performance.

To improve stroke care through coordinated national action the ASC recommends a small set of national targets which all jurisdictions can commit to. Refer to question 7 for further detail of the areas of focus. Some examples of targets for stroke could be:

Stroke unit care - % of patients admitted directly to and treated for % of their stay on a stroke unit.

Thrombolysis - % of all ischaemic stroke patients that receive thrombolysis.

Rehabilitation – % of people with stroke are assessed for their rehabilitation needs.

Secondary Prevention - % of patients on appropriate secondary prevention medication 6 months after their stroke.

Coordinated Care - % of patients with a care plan 6 months after their stroke.

Further consensus activities would need to be undertaken before standards and targets are agreed, however all standards and targets need to be relevant, achievable and measurable. Determining the level at which targets might be set could be informed through the work done in the National Stroke Audit, and in the AuSCR program (in hospital settings) and through other systems for data collection currently in primary care. Determining which interventions may be most suitable for inclusion as targets could be informed by this work also as well as through clinical

guidelines and health economic analysis done by groups such as the National Stroke Research Institute.

QUESTION FIVE

HOW DO YOU SEE THE GOALS APPLYING IN DIFFERENT HEALTHCARE SETTINGS OR FOR DIFFERENT POPULATION GROUPS?

Geographical diverse settings

The Australian health care setting is diverse from a demographic and geographical perspective. A small number of hospitals (100 acute sites) admit most acute stroke patients (90%) with many rural sites admitting only a few stroke patients each year. Use of specific standards and targets would present challenges for these sites (for example Stroke unit care, recombinant tissue-plasminogen activator (rt-PA) are not suitable in these settings). In response to these geographical challenges, specific indicators and targets may be better applied across regions (e.g. Local Health Networks). Application across regions is also likely to enhance systems to coordinate care at a regional level, rather than specifically within participating hospitals and ensure greater gains for patients in rural areas.

Acute, post acute and community settings

The ASC supports the development of specific targets to focus efforts and ensure activity is targeting the areas of greatest impact. Developing specific targets that can be applied across settings should therefore consider the stage of care (e.g. acute, rehab, community) as well as regional applicability. The development of a core set of standards for stroke would also be useful as long as the setting to which each indicator applies is clearly defined.

Different population groups

There is no reason to expect that goals associated with stroke care would apply differently to different population groups. People from Aboriginal & Torres Strait Islander background or within the aged (80+) or severe stroke groups (amongst whom there are disparities in care) should have similar goals for the safety and quality of their health care. Because of disparities in these groups, and because some (e.g. A&TSI peoples) are more likely to be in rural areas, particular attention may be required to support the activities to achieve targets in these populations.

The need for specific standards and targets to apply across different populations is another argument for selecting areas of care that are high impact, evidence based and/or highly generalisable.

QUESTION SIX

WHAT SYSTEMS, POLICIES, STRATEGIES, PROGRAMS, PROCESSES AND INITIATIVES ALREADY EXIST THAT COULD CONTRIBUTE TO ACHIEVEMENT OF THE GOALS?

As discussed at question 1 and further detail provided in Appendices 1 - 3, significant systems, policies, strategies, programs, processes and initiatives already exist in Health that if well-coordinated could contribute to achieving the Goals. As well as this, the majority of states have quality improvement systems in place. Examples of structures and processes that exist to support improvements in safety and quality in stroke is provided in the following table:

Structures and processes that exist to support improvements in safety and quality in stroke	
STRUCTURE	PROCESS
<p>Clinical and professional bodies, including non-government organisations. These include:</p> <ul style="list-style-type: none"> • National Stroke Foundation • Stroke Society of Australasia • Australian Physiotherapy Association • Dieticians Association of Australia • Occupational Therapy Australia • Royal College of Nursing Australia • Royal Australasian College of Physicians • Australian and New Zealand Association of Neurologists • Australasian Faculty of Rehabilitation Medicine • Speech Pathology Australia • Council of Ambulance Authorities 	<p>Standards and guidelines Education and training Advocacy Quality improvement Professional practice</p>
<p>Jurisdictional agencies including:</p> <ul style="list-style-type: none"> • State stroke clinical networks • Centre for Healthcare Improvement, Patient Safety & Quality Improvement Service – Queensland http://www.health.qld.gov.au/chi/psq/ • Agency for Clinical Innovation – NSW Health - http://www.health.nsw.gov.au/gmct/ 	<p>Managers of the public health system at a jurisdictional level Safety and quality programs Regulation of health services Health policy framework Education and training Evaluation and monitoring</p>
<p>Universities, education and training and information bodies including:</p> <ul style="list-style-type: none"> • NSF • AuSCR • ACHS • Various universities involved in stroke research 	<p>Research Provision of education and training Accreditation of education and training Reporting and dissemination of information</p>
<p>National health reform processes</p>	<p>Council of Australian Governments National Health Reform Agreement National Health Performance Authority Independent Hospital Pricing Authority Local Hospital Networks</p>

	Medicare Locals Lead Clinician Groups Performance and Accountability Framework Integration with existing state and territory processes
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Many organizations are already working in the space of clinical standards and indicators. National goals would assist in focussing this effort and improving national coordination.

Significant research, evaluation and monitoring within quality improvement and implementation activities have occurred and are continuing. Examples include Quality in Acute Stroke Care (QASC) and Stroke 123 (see Appendix 3 for further detail).

QUESTION SEVEN

WHAT DO YOU THINK SHOULD BE THE INITIAL PRIORITIES FOR ACTION UNDER THE GOALS?

The initial priorities for action under the goals would be to:

- 1) establish nationally agreed areas of focus where developing and setting targets will have the greatest impact, are generalisable to all patient sub-groups and regions and/or have the greatest evidence/practice gap.
- 2) support national data collection activities to ensure targets are able to be measured and reported.

Areas of focus

There are a number of interventions recommended in the National Health and Medical Research Council (NHMRC) approved *Clinical Guidelines for Stroke Management*⁸ that are proven to reduce death and disability and quality of life after stroke. These interventions could be categorized into the following areas:

- Improving access to interventions in acute care
- Improving coordination of care
- Access to Rehabilitation
- Primary and secondary prevention of stroke

Improving access to interventions in acute care

Examples of interventions could include:

- **Systems for rapid assessment and transfer of stroke patients:** NSF audits show that four out of five people with stroke arrive to hospital by ambulance;⁹ only 41% of participating hospitals have arrangements with ambulance services to facilitate rapid assessment; and only 58% of hospitals have protocols to guide transfer of patients with stroke (either out of or into their centre).¹⁰ This is despite guideline recommendations that articulate the need for ambulance arrangements and transfer protocols.⁸
- **Stroke unit care:** Overwhelming evidence (31 clinical trials) has shown that immediate clinical care within a specialised stroke unit significantly reduces death and disability after stroke compared with care in general wards for all people with stroke. For every 100 people treated on a Stroke Unit, a further 6 people are saved from death and/or disability than those treated elsewhere in a hospital.¹¹
- **Thrombolysis:** Evidence from 26 clinical trials found thrombolysis (all agents combined but 56% of data derived from trials of the agent rt-PA) resulted in a significant reduction in the combined end-point of death or disability. For every 100 people treated with rt-PA, 11 people are saved from death and/or disability. Treatment is time dependent and must be provided within 4.5 hours after stroke onset.^{12, 13}

Improving coordination of care

Examples of interventions could include:

- **Care planning on discharge:** Stroke survivors and carers/family report that this phase of the recovery process is a critical step and that often insufficient attention and resources are provided.¹⁴ Currently 50% of consumers are discharged without a care plan.⁹ The safe transfer of a stroke survivor from the hospital to the community is often a complex process and requires early planning, assessment of the stroke survivor's needs and effective communication. Assessment of discharge needs should start as soon as possible after admission. A pre- and/or post-discharge needs assessment examines, for example, the social, emotional, physical and financial needs of the stroke survivor and their family/carer. Any cognitive or behavioural issues identified should be discussed and management incorporated into any discharge plan (e.g. monitoring of mood). Careful consideration needs to be given to discharge destinations (other than a rehabilitation facility) to ensure the stroke survivor is in appropriate accommodation and is able to receive the necessary services.¹⁵

A consumer focused care plan should be provided to all consumers at discharge and be added to in the community

- **Follow-up in the community:** The NSF stroke guidelines recommend that stroke survivors have regular and ongoing review by a member of a stroke team, including at

least one specialist medical review. It recommends that the first review should occur within 3 months, then again at 6 and 12 months post-discharge.

Access to Rehabilitation

Examples of interventions could include:

- **Early rehabilitation:** Patients managed in acute stroke units that have active rehabilitation programs generally spend less time in bed and more time standing, walking and being active.¹⁶ Early and intensive rehabilitation leads to improved functional outcomes.¹⁷⁻¹⁹ Early rehabilitation has also been found to improve ADL outcomes in ischaemic stroke.²⁰
- **Completion of a rehabilitation needs-assessment:** There is increasing evidence to support rehabilitation as a major contributor to positive outcomes for stroke survivors and their families.²¹⁻²³ However, it has been identified that rehabilitation occurs in an ad hoc fashion for many people after stroke, with inequities of access, decision making, timing and service content. A literature review undertaken by the Australian Stroke Coalition Rehabilitation Working Group²⁴ found that no studies said particular groups (or indicators) do not benefit from rehabilitation and all studies supported rehabilitation for various subgroups.

Primary and secondary prevention of stroke

Examples of primary and secondary prevention interventions could include:

- **Ensuring identified high risk people are on medication:** In 2008, CVD accounted for over one-third (nearly 50,000) of deaths in Australia²⁵ and 25% of the adult populations have three or more modifiable CVD risk factors.(AIHW 2004) The NVDPA guidelines recommend that adults at high absolute risk of CVD be simultaneously treated with lipid and blood pressure lowering pharmacotherapy in addition to lifestyle intervention unless contraindicated or clinically inappropriate.²⁶ However, only 34% of high-risk patients without established CVD are prescribed a combination of a BP-lowering medication and a statin.²⁷
- **Ensuring appropriate medication prescribed on discharge:**
 - **Antiplatelet therapy:** Antiplatelet therapy has been found to reduce death and disability when taken within 48 hours (12 RCTs) or within the first few months (21 RCTs) and continued long term. For every 100 people treated on with antiplatelet therapy within 48 hours, 2 people are saved from death and/or disability.^{28, 29} In those with NVAf, antiplatelet therapy can reduce stroke although the effects are far less than those on warfarin. The numbers needed to treat to prevent 1 stroke over 1 year are 125 (primary prevention) and 40 (secondary prevention) for aspirin compared to placebo/control.³⁰
 - **Blood pressure lowering therapy after stroke:** A systematic review (10 RCTs) found therapy to lower BP, even when initial BP was within normal range, reduced recurrent stroke and cardiovascular events in patients with a previous stroke or Transient Ischemic Attack (TIA).³¹ For every 100 people

treated with BP lowering medication, 3 people are saved from death and/or disability from recurrent stroke and cardiovascular events.³¹

- **Lipid-lowering therapy after stroke:** Meta-analysis (14 RCTs) demonstrated that reduced stroke risk occurred within 12 months of commencing lipid-lowering therapy.³² Two meta-analyses (four RCTs) and one Cochrane review (eight RCTs) based predominantly on two large RCTs^{33, 34} 375, 428 all reported benefits from cholesterol-lowering therapy.⁴²⁹⁻⁴³¹ The most recent National Stroke Audit showed that 80% of eligible ischaemic stroke patients were on lipid-lowering therapy on discharge from hospital.⁹ However, for those patients with previous stroke or TIA receiving the treatment prior to readmission, the rate fell to 56%.⁹
- **Anticoagulation therapy:** Several meta-analysis have found clear stroke reductions for those with NVAf who receive anticoagulation with warfarin. The numbers needed to treat to prevent 1 stroke over 1 year are:
 - 37 (primary prevention) and 12 (secondary prevention) for adjusted dose warfarin compared to placebo/control;
 - Anticoagulation (warfarin) reduces event rates by over 1/3 compared to antiplatelet agents (aspirin and dual therapies).³⁰

Unfortunately current treatment is underutilized. Recent estimates suggest only ~30% of moderate and high risk patients are taking warfarin and alarmingly 40% are receiving no treatment.³⁵ Similarly the National Stroke Audit found 70% of those with NVAf were not reported to be taking warfarin prior to admission following stroke.⁹

- **Ensuring appropriate medication is continued in primary care:** Adherence with medication is challenging with drug trials commonly reporting significant discontinuation rates. The National Stroke Audit reported approximately 80% of those with stroke are discharged on BP and lipid lowering therapy with 96% on antithrombotic therapy.⁹ However, in one study only 50% of those with established CVD were prescribed BP lowering, a statin and antiplatelet therapy back in the community although these are all recommended in the *Clinical Guidelines for Stroke Management 2010*.⁸ Interventions to improve adherence with medications are only modestly effective and include education, reminders, self-monitoring, reinforcement and other supportive models.^{36, 37} However the NSF advocates for this aspect of care to be incorporated into the national goals and be part of multifaceted programs to improve adherence.

As discussed previously in this paper, appropriate targets would need to be set for each of these interventions.

National Standardization of data collection activities

Readily available data on processes of care and outcomes for patients is essential for monitoring performance on agreed standards of care. Since most people who suffer stroke are admitted to hospital, integrated systems of monitoring the organization of care in

hospitals can provide a good understanding of the burden of stroke in the population and provide evidence for quality improvement programs.

Stroke registries have been established around the world to monitor variations in quality of stroke care and identify areas in need of focus. The most developed national registry is the Swedish registry which has been operating since 1989.³⁸ Other registries have been set up in Canada,³⁹⁻⁴¹ Germany,⁴² UK,⁴³ America,⁴⁴ and Argentina⁴⁵ amongst others. These registries have been able to show variations in care which have then lead to focus on change in these areas.

In Australia, programs that are important in collecting data on the quality of stroke care are reasonably well developed, but are inadequately funded, poorly linked and only available in some parts of Australia. The Australian Stroke Clinical Registry is currently operating in only 20 hospitals providing acute stroke care, the National Stroke Audit is delivered in 88% of hospitals providing acute stroke care, but is not linked to the clinical registry meaning that there is duplication of effort when entering data. The NSF recommends work be undertaken to build on these programs and establish a comprehensive nationally consistent fully integrated system of clinical data collection for stroke, which can be linked to a system of quality improvement to drive clinical change in the areas highlighted above.

QUESTION EIGHT

HOW COULD THE DIFFERENT STAKEHOLDERS WITHIN THE HEALTHCARE SYSTEM BE ENGAGED IN WORKING TOWARDS ACHIEVEMENT OF THE GOALS?

The ASC recognizes that the strategy for engaging different stakeholders toward achieving the Goals needs to be multi-faceted. Currently the ASC has wide-ranging engagement between clinical networks, professional associations and health care professionals. Such strategies should include the use of existing Health networks such as the National and Local Lead Clinician Groups and Medicare Locals to communicate with the ASC.

Collaboration between groups and the use of case studies demonstrating or showcasing successes. Additionally, further consultation regarding the establishment of specific goals and about mechanisms that may facilitate their attainment (e.g. different funding models, health care models, etc).

QUESTION NINE

WHAT BARRIERS EXIST IN ACHIEVING THE GOALS? HOW COULD THESE BE OVERCOME?

Local factors operate over several different levels; all need to be considered to maximise the effect of the Goals. These levels are broadly described into four main categories: professional, organisational, consumers and regulatory/financial. Strategies to address barriers identified at each of these levels need to be developed. Strategies that enhance enabling factors should also be created. These are briefly described below:

1. Professional level: strategies supporting health professionals to adopt the new Goals.

Strategies include:

- a. dissemination/distribution of information
 - b. education and training
 - c. audit and feedback, reminders or decision support tools
 - d. use of local consensus processes.
2. Organisational level: strategies supporting organisational change to facilitate adoption of the new Goals. Such strategies may include quality improvement systems, accreditation processes, adoption of policies and protocols.
 3. Consumer level: strategies supporting behaviour change among consumers in relation to the new Goals.
 4. Regulatory or financial level: strategies targeting regulatory systems to support change at all levels. This may include change in reimbursement items for GPs, incentives, approval and cost of medicines.

It is suggested that strategies to achieving goals will be most effective where a concrete plan is developed that tailors specific strategies based on an analysis of local factors necessary for clinical behaviour change.⁴⁶ Such factors include assessment of both the barriers and enablers to achieving the goals.⁴⁶ More than one approach is often needed to overcome barriers because these occur at different operational levels within the health system. These levels are discussed above.

Further consultation with stakeholders is required, however potential examples of barriers, enablers and potential solutions are detailed in the Table below:

POTENTIAL BARRIER	POTENTIAL SOLUTION
Poor data quality making measurement difficult	Agreed system for data collection
Lack of coordination	Specific targets
Different groups collecting different information	National agreement on the right information to collect and the right mechanisms for collecting it
Duplication of effort	Structured communication mechanisms (expand)
Different descriptions/ definitions for indicators	Nationally agreed descriptions for stroke indicators
Competing priorities at local level	Agreed goals, priorities, standards and targets at Federal and State government level
Time spent collecting data	<ol style="list-style-type: none"> 1. Remove duplication of data collection by having a nationally agreed data collection system 2. Automate (as much as possible) data transfer between data collection systems
<ul style="list-style-type: none"> • Goals need to be adopted by multiple stakeholders, all of whom may have different roles to play in their implementation 	<p>Professional development. Use of key opinion leaders in educational activities:</p> <ul style="list-style-type: none"> ○ workshops (face to face) ○ online educational activities ○ conference presentations ○ education outreach <p>Local consensus processes: Inclusion of HCPs in discussion to ensure that they agree that the chosen clinical problem is important and the approach to managing the problem is appropriate</p>
Dissemination - ensure broad access to information regarding new goals	<p>Publication in a variety of sources/formats:</p> <ul style="list-style-type: none"> ○ summaries in medical journals ○ summaries drawing various, related guidelines together ○ use websites and NHMRC Clinical Practice Guidelines Portal ○ develop and distribute concise and/or integrated summaries ○ distribute via endorsing organisations, clinical networks and other existing networks ○ promote heavily on launch via media and PR ○ electronic dissemination
POTENTIAL ENABLERS	
<ul style="list-style-type: none"> • Pressure of colleagues and system 	
<ul style="list-style-type: none"> • Local champions, E.G. lead clinicians groups 	

APPENDIX 1

This evidence has supported and reinforced the development of a number of programs in Australia which aim to improve the quality of stroke care and close the evidence practice gap. These programs operate across all processes required to ensure the delivery of evidenced based clinical care (i.e. clinical guidelines, data collection, and quality improvement activities) as illustrated in Figure 1 but these programs need to be integrated and expanded.

- **Clinical guidelines**

- **Australian Stroke Guidelines Program**

- The NSF has been developing national clinical practice guidelines for stroke for almost 10 years. Most recently two previous guidelines were combined to produce the *Clinical Guidelines for Stroke Management 2010*,⁸ which was approved by the NHMRC and endorsed by many professional bodies representing different health professionals.

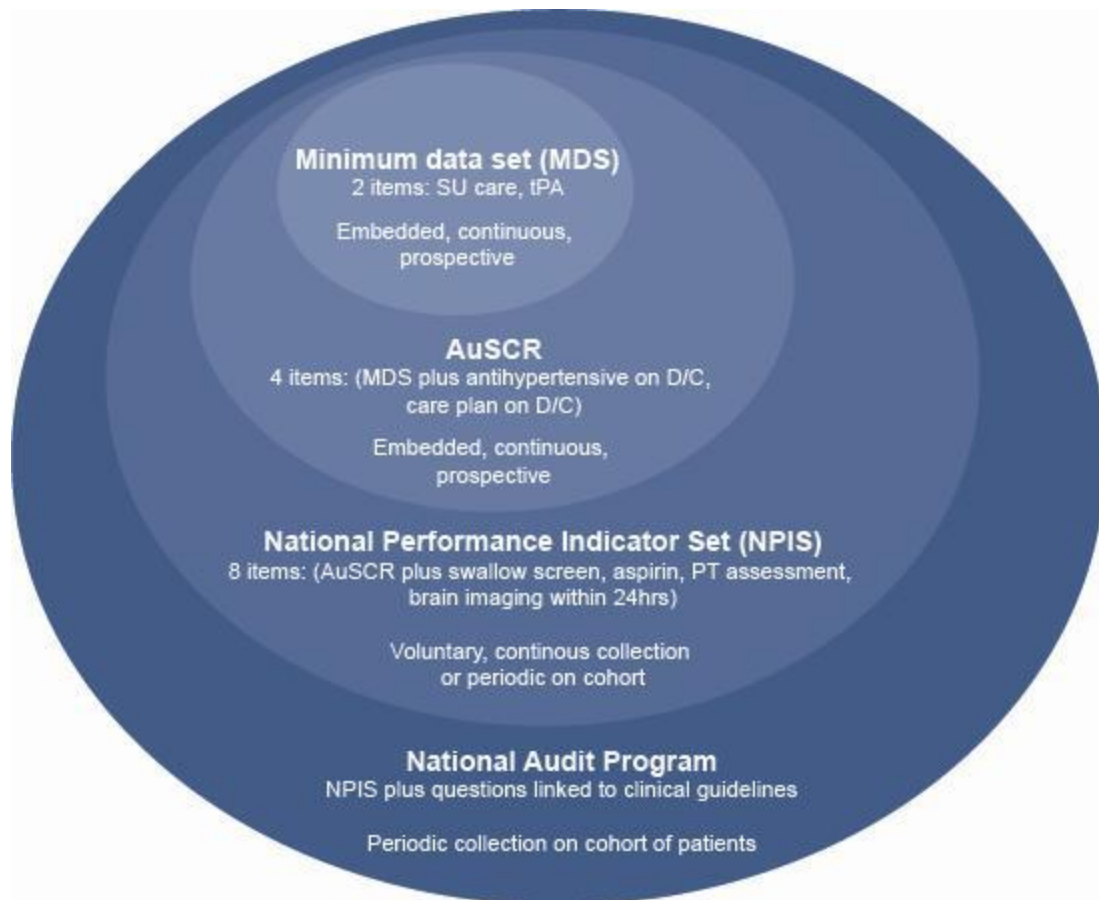
- NSF guidelines have been found to rate highly compared to other Australian guidelines.⁴⁷ However, keeping clinical guidelines current requires significant resources with each review taking 18-24 months to complete. Two out of the three previous guidelines developed have been funded by the Australian Government through the Department of Health and Ageing (DOHA). A more sustainable and cost effective process is needed to keep guidelines more up to date.

- **Data collection**

- **The Australian Stroke Services Framework**

- The Australian Stroke Services Framework⁴⁸ draws on evidence, expert clinical opinion and international experience, to present a framework for stroke data for quality improvement in Australia, integrating the work done through AuSCR and the National Stroke Audit (See Figure 1 below). It provides a mechanism whereby a small number of data items are collected on critical processes of care for all patients to ensure variations in care are captured, is then supplemented by a larger data set to provide greater insight into complex care processes, such as those provided by a multidisciplinary stroke team and to explain factors contributing to variation in care.

Figure 1: Data sets by which to monitor and improve stroke care in Australia



Australian Clinical Stroke Registry (AuSCR)

The AuSCR was established in pilot form in 2009 by a consortium comprising the National Stroke Research Institute, The George Institute for Global Health, the National Stroke Foundation, the and the Stroke Society of Australasia with funding received from the Australian Commission on Safety and Quality in Health Care (ACSQHC) and an unrestricted educational grant from industry. It was established to provide a system by which to monitor quality of stroke care in Australia and consists of a national data set on a small set of process of care and outcomes for patients admitted to hospital with acute stroke or TIA. An outline of the AuSCR pilot phase of the registry has recently been published in the International Journal of Stroke.⁴⁹

The AuSCR was developed to conform with the new national operating principles and technical standards for clinical quality registers.²⁸ In brief, these require a registry to have an appropriate governance structure and operations policies for data access and security, publications, and effective communication to allow results to be understood. Furthermore, registry data are required to be: kept minimal and not a burden to obtain; epidemiologically sound and reproducible; available on all eligible cases and collected from all eligible settings; and that results are reported routinely and include risk (case-mix) adjusted outcome analyses.

Features include: online data capture from acute public and private hospital sites; opt-out consent; expert consensus agreed core minimum dataset of four process indicators with standard definitions; formal governance oversight; and formative evaluations for improvements to the registry during the pilot phase.⁴⁹ The registry was designed to be used in both public and private

hospitals, and capable of storing data on both adults and children. All registered cases not known to have died in hospital, or after discharge where hospital staff know and modify the survival status, are followed up 3 months after the date of stroke onset.

Importantly AuSCR variables are consistent with the biennial National Stroke Audit Program (see below): acute services, so that both activities are complementary: AuSCR with a prospective collection of core dataset in large numbers of patients, while the NSF audit captures retrospective cross-sectional data (including vascular risk factors, stroke severity, processes of clinical care, and outcomes at time of hospital discharge) in a smaller subset of patients (e.g. 40 per site). Currently however there is no formal link between the two data collection systems.

As of November 2011, 20 hospitals have received ethics approvals and are now participating in the AuSCR program. Many other sites have shown interest however plans for expansion of AuSCR are currently limited by human resources and funding.

National Stroke Audit Program (Australia)

The National Stroke Audit Program commenced in 2007 as an initiative of the National Stroke Foundation to facilitate the delivery of evidence based care for stroke. The National Stroke Audit is designed to:

1. Foster a culture of audit and feedback.
2. Assess whether guidelines have been implemented.
3. Characterise the organisation of stroke services at a national level.
4. Enable hospitals to benchmark nationally against similar sites.
5. Provide data to form the basis of a cycle of ongoing quality improvement.

The National Stroke Audit was developed drawing upon experience from overseas and within Australia. This included surveys carried out previously by the National Stroke Foundation, the UK Royal College of Physicians Sentinel Stroke Audit and other local work such as:

- Stroke Services NSW together with the National Stroke Research Institute and their work in auditing hospitals in NSW pre and post installation of acute stroke units.²⁹
- The Rural Organisation of Australian Stroke Teams (ROAST) audit rural stroke care.⁵⁰
- The Queensland Stroke Collaborative who audit acute stroke treatment in Queensland.
- Stroke Care Outcomes: Providing Effective Services study, SCOPES (Stroke Care Outcomes: Providing Effective Services) study, which examined the structure, process, resource utilization and outcomes of care for stroke patients in Victoria.¹⁵

The National Stroke Audit comprises two components:

1. An Organisational Survey, (previously carried out in 1999 and 2004), which considers the resources required to deliver evidence based stroke care such as stroke units, imaging (including CT), multidisciplinary teams and team meetings.

2. A Clinical Audit which examines processes of care such as diagnostic procedures (CT, MRI and Carotid Doppler), early interventions (such as rt-PA and aspirin) and the way in which the evidence based recommendations are delivered.

The results of the audit are fed back to providers at a local level with a report on local performance compared to national benchmarks so that informed decisions can be made by which to improve the care delivered to stroke patients. The process of audit and feedback is therefore a crucial part of the guidelines implementation process and core to a cycle of continuous quality improvement. The results of the audit may also be used to inform planning at a local, state or national level with an aim to improving outcomes associated with stroke.

The Organisational Survey and Clinical Audit were developed in tandem and the results presented together. This is because areas of excellence and areas of need identified in the Clinical Audit may be better understood in association with information about the available resources obtained from the Organisational Survey.

The National Stroke Audit runs each year, alternating between acute and rehabilitation settings enabling changes over time to be examined in each setting. Since inception, data on the organisation of care in 237 Acute Hospitals and 114 Rehabilitation Hospitals has been collected. On top of this, data on more than 11,000 individual patients has been recorded from 96 acute hospitals and 96 hospitals providing rehabilitation. The larger hospitals that participate in the clinical audit provide care to 86% of all stroke patients in the acute and rehabilitation settings.

Embedded minimum data elements (Stroke unit care and thrombolysis)

These are yet to be embedded however are currently being advocated for at a national level and state level. Within Victoria the Victorian Stroke Clinical Network (VSCN) is advocating inclusion of these two data elements in the VAED data system.

The Australasian Rehabilitation Outcomes Centre (AROC)

AROC is a joint initiative of the Australian rehabilitation sector (providers, funders, regulators and consumers). It commenced operation on 1 July, 2002. With the support of its industry partners, AROC has been established by the Australasian Faculty of Rehabilitation Medicine (AFRM) of the Royal Australasian College of Physicians (RACP).

The purpose and aims of AROC were established as, and continue to be:

- Develop a national benchmarking system to improve clinical rehabilitation outcomes in both the public and private sectors.
- Produce information on the efficacy of interventions through the systematic collection of outcomes information in both the inpatient and ambulatory settings.

- Develop clinical and management information reports based on functional outcomes, impairment groupings and other relevant variables that meet the needs of providers, payers, consumers, the States/Commonwealth and other stakeholders in both the public and private rehabilitation sectors.
- Provide and coordinate ongoing education, training and certification in the use of the FIM and other outcome measures.
- Provide annual reports that summarise the Australasian data.
- Develop research proposals to refine the selected outcome measures over time.

AROC collects and reports on data from the specialist medical rehabilitation sector. This is an important role in its own right. However, rehabilitation is typically provided as part of a broader episode that may include primary, acute and home and community care. A longer term objective of AROC is to work with the relevant data management organisations to assess the feasibility of expanding the collection, or linking it to others, in order to measure and understand the role of rehabilitation within the broader health and community care systems. This is a complicated issue and will realistically take time to be addressed.

Quality improvement activities

NSF-StrokeLink Program

The NSF's StrokeLink program is a comprehensive, multifaceted quality improvement program (similar to a modified breakthrough series) designed to link clinical audit data with best practice care outlined in the guidelines. It is currently available throughout Queensland where it offers a range of interventions based around outreach visits by trained staff using interactive educational formats and local consensus processes. A key component of the program is the identification of local barriers to implementation and the development of an agreed action plan to overcome these barriers using a local consensus approach. A rapid quality improvement framework, plan-do-study-act (PDSA) then enables the agreed strategies outlined in the action plan to be tested. Ongoing support is also provided in the form of phone calls, emails, follow-up visits and linkage to other hospitals and clinicians facing similar issues. The StrokeLink program ensures that data collected through the Audit and AuSCR translates into better quality of care for stroke patients in Australia.

The following are some of the state government quality improvement initiatives specifically related to stroke.

South Australia Health

- **South Australian Stroke Services Plan 2009-2016**

The South Australian Stroke Services Plan (the Plan) 2009-2016 makes a series of recommendations aimed at ensuring all South Australian stroke patients and their carers receive the best possible care. The Plan addresses the entire spectrum of care from preventative measures through to lifelong support and end of life care.

The plan recognises the importance of measuring the quality of services provided to patients affected by stroke. It recommends the development of nationally consistent Key Performance indicators, state-wide quality improvement initiatives and benchmarking of data. It also states the need for a central database to collect data and that all Hospitals should participate in national audits and associated quality improvement activities.

- **SA Clinical Network:** The SA Clinical Network was established in 2009 to implement the SA stroke plan. The SA Stroke Plan has a number of recommendations within it, many of which relate specifically to data collection programs and the StrokeLink program. These include the development of nationally consistent Key Performance indicators, state-wide quality improvement initiatives and benchmarking of data. It also states the need for a central database to collect data and that all hospitals should participate in national audits and associated quality improvement activities.

Victorian Department of Health

- **Stroke care strategy for Victoria 2007:** The Stroke Care Strategy for Victoria (SCSV) provides a framework for the delivery of public acute and sub-acute stroke services in Victoria for the next five to 10 years. The strategy aims to guide the future provision of care, both in the design of stroke care service organisation, the delivery of stroke services and the development of an appropriate workforce to support it. The SCSV also aims to address long-standing and emerging issues for the delivery of stroke services.

The SVSC recognises the importance of measuring performance through data collection. The SCSV states “Stroke care providers practise across different settings, which results in variation in the type and quality of care provided. Key performance indicators (KPIs), supported by a minimum dataset, measure standards of care that are evidence-based, quantifiable and lead to continuous improvement in care. There are no agreed or defined stroke-specific minimum dataset or KPIs, nor are there KPIs for patient-related outcomes. Stakeholder consultation indicated that monitoring the performance of stroke care services and patient-specific outcomes is important because it would lead to continuous improvement and improved patient outcomes.”

Recommendation 10 of the strategy says “...*The Department of Human Services, in consultation with key stakeholders, should develop and implement a state-wide performance monitoring system for stroke care management and patient outcomes*”.

- **Victorian Stroke Clinical Network** was formed to assist with the development and implementation of the Stroke Care Strategy for Victoria (SCSV).⁵¹ The SCSV provides a framework for the delivery of public acute and sub-acute stroke services in Victoria from 2007 for the next five to 10 years. Recommendations from the strategy that directly relate to quality improvement in Hospital based stroke care include:

- Recruitment of Stroke Facilitators at sites identified as requiring active support to improve their services. Stroke facilitators were provided with training and support in project management skills and had designated positions funded to undertake coordination/activities. The facilitators established local multi-departmental/level and multi disciplinary stroke committees, chaired by executive members of staff who reviewed data, identified priority areas for change and develop action plans with regular review. These positions were temporary and are now coming to an end.
- The Department of Human Services, in consultation with key stakeholders, will develop and implement a state-wide performance monitoring system for stroke care management and patient outcomes. This would include the development of an agreed state wide data set for monitoring performance and participation in stroke audits to benchmark improvements across the state.

An initial evaluation of the SCSV was completed by National Stroke Research Institute. Evidence from the compilation of interview data obtained from 90 health professionals that participated in 39 interviews throughout October and November 2008 suggested that establishment of evidence-based stroke services was variable across the sites and impacted on by a range of factors including: patient numbers; available resources including staff and equipment; and cultural and professional beliefs about stroke care. Furthermore, in hospitals without a dedicated stroke unit, there was an overwhelming desire for this facility to be established so they could be “taken seriously” as a facility providing excellent stroke care. The new Stroke Facilitator positions were determined to be greatly beneficial for improving the focus and direction of stroke care across the nominated health services. Funding for implementation of the SCSV is due to finish in June 2011 and a post-implementation evaluation is in progress.

Queensland Health

- **Queensland Stroke Clinical Network:** supported by Queensland Health, is responsible for developing plans aimed at improving stroke services throughout Queensland. This network, chaired and driven by clinicians, identified data as a key part of monitoring improvement and has worked alongside the Clinical Practice Improvement Centre (CPIC) since its inception in 2006. The network has encouraged a coordinated approach to data collection, through participation in the clinical audit and other data collection systems and uses this data to identify gaps. This data is then used in conjunction with StrokeLink Queensland to create action plans aimed at driving change at a local level.
- **Clinical Practice Improvement Centre:** Part of Queensland Health, the Clinical Practice Improvement Centre (CPIC) was established in 2005. The key objective of Clinical Practice Improvement Centre is to improve patient outcomes in high impact areas by supporting and working with clinicians to better understand issues related to their clinical services and how these may be addressed. CPIC monitors clinical performance and patient experience and at a strategic level provides the broader community with information on patient safety and quality in Queensland Health. It contributes to the science of quality improvement through generating innovative approaches to healthcare.

CPIC has been working with the Queensland State Clinical Network to help establish a system for data collection linked to areas of clinical importance. CPIC and the network have

encouraged Hospital participation in the National Stroke Audit since 2007. More recently Queensland Health and the AuSCR have been negotiating for all Queensland hospitals to input a small amount of clinical information into a centralized data system and for this information to be given back to Queensland health for quality improvement purposes.

NSW Health

- **NSW Stroke Clinical Network** is the most established clinical network and part of the NSW Agency for clinical innovation.(The Agency) The Agency builds upon the work of the Greater Metropolitan Clinical Taskforce (GMCT) and uses the expertise of its Clinical Networks to engage doctors, nurses, allied health professionals, the wider community, public health organisations, managers, industry, scientists and academia in the process of identifying high quality, safe and cost-effective ways to care for patients within the NSW public health system. The Stroke Clinical network has been responsible for supporting the employment of a state-wide network of stroke coordinators. Previously these coordinators have contributed to a NSW hospital audit and feedback program designed by the National Stroke Research Institute where each hospital gets a detailed hospital report used by the local stroke champions to make changes to clinical practice. These data are also used as part of planned education and traveling road shows undertaken across the state. Currently all of the coordinators and many other Hospitals are involved in the NSF stroke audit and a smaller number are pilot sites in the stroke registry. Rural stroke coordinators have also been employed to develop local solutions in more regional and remote locations.^{29, 49}

Western Australia Department of Health

- **Western Australia Stroke Focus Group:** In Western Australia (WA) the Health Clinical Networks have been responsible for developing evidence based models of care and policy frameworks. Implementation of these models and frameworks is seen as a partnership between the networks, Area Health Services and other organisations involved in health care in WA. The Western Australia Stroke Focus Group (WASFG), a sub group of the Neuroscience and the Senses Network, is a multidisciplinary group of clinicians from stroke teams within WA. It meets regularly to jointly develop plans to improve stroke care in WA. Recently the WASFG, in conjunction with the Rural Health Network, has begun to consider data collection and better definitions of outcomes measures that can be used alongside the national stroke audit to drive quality improvement.

APPENDIX 2

INDICATOR AREA 3: ACUTE STROKE MANAGEMENT

Indicator Topic

Receipt of hyperacute pharmacological therapy for ischaemic stroke.

Rationale

It is well documented that anti-platelet and anti-thrombotic agents have a vital role in the secondary prevention of any future ischaemic stroke. Evidence from large robust studies confirm that early use of aspirin, within 48 hours of stroke, has small but important benefits on patient outcomes.

Thrombolysis is a life saving treatment that must be given as soon as possible after stroke. Pooled analysis from the rt-PA trials confirm that treatment with intravenous rt-PA has a clear net benefit in reducing the risk of death or dependency if given within 4.5 hours. Due to risk of harm from this intervention; however, intravenous rt-PA therapy should be delivered in well equipped and skilled emergency departments and/or stroke care units with adequate stroke expertise and infrastructure for monitoring, rapid assessment and investigation of acute stroke patients.

Type of Indicator

These are comparative rate based indicators addressing the process of patient care.

Desired Rate

3.4 - High

3.5 – High

Definition of Terms

For the purpose of Indicator 3.4

Within 48 hours is the time aspirin (150-300mg) is prescribed and recorded as administered on the patient's medication chart compared to the documented time of presentation to hospital. If aspirin is contraindicated or not prescribed; however, the clinical reason/s are documented in the patients notes (e.g. patients with cerebral haemorrhage or with adverse drug reaction or those already taking warfarin).

Stroke is defined as cerebral infarction or haemorrhage.

Separation refers to discharge, transfer or death. These indicators relate to **acute strokes only**.

Compliance requires:

- Date and time of presentation to hospital
- Date and time aspirin administered
- Dose of aspirin administered
- Contraindications clearly documented.

For the purpose of Indicator 3.5

There should be **documented evidence** that an agent for **intravenous thrombolysis** is **prescribed** and **recorded as administered** on the patient's medication chart.

This includes:

1. Presentation to hospital date and time
2. Date and time of rt-PA administration
3. Inclusion criteria:
 - a) >18 years old
 - b) < 4.5 hours from stroke onset
 - c) Brain scan (CT or MRI) does not show signs of haemorrhage or non-vascular cause of stroke
 - d) Measureable and clinically significant deficit on NIH Stroke Scale

Contraindications (e.g. haemorrhage confirmed on brain imaging) or other reasons patient was not eligible for the intervention should be documented.

Contraindications include:

1. Uncertainty about time of stroke onset (e.g. patients awaking from sleep) or > 4.5 hours since onset of symptoms.
2. Coma or severe obtundation with fixed eye deviation and complete hemiplegia.
3. Only minor stroke deficit which is rapidly improving.
4. Seizure observed or known to have occurred at onset of stroke.
5. Hypertension: systolic blood pressure ≥ 185 mmHg; or diastolic blood pressure >110 mmHg within the rt-PA time window on repeated measures, unless blood pressure can be stabilised below 185/110.
6. Clinical presentation suggestive of subarachnoid haemorrhage even if the CT scan is normal.
7. Patient having received heparin with the last 48 hours and has elevated PTT or has a known hereditary or acquired haemorrhagic diathesis (e.g. PT or APTT greater than normal).
8. INR >1.5 .
9. Platelet count is $<100,000$ uL.
10. Serum glucose is < 2.8 mmol/l or >22.0 mmol/l.

Stroke is defined as cerebral infarction or haemorrhage.

Separation refers to discharge, transfer or death. These indicators relate to **acute strokes only**.

Compliance requires:

- Date and time of stroke onset
- Date and time when thrombolysis treatment delivered
- Contraindications clearly documented.

Suggested data collection

Medical record review should be performed to ascertain documentation of stroke care. Both patient care and data collection would be facilitated by the use of an assessment, outcome and action sheet (or flow chart, check sheet) (which may be or incorporate the assessment tool) located in the patient notes or care plan. If the notes were reviewed periodically, then failures in the system could be detected and rectified in a timely manner.

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INDICATOR

CI. 3.4	<i>Numerator</i>	Total number of inpatients with a diagnosis of ischaemic stroke (ICD-10 Code) receiving aspirin within 48 hours of presentation to hospital.
	<i>Denominator</i>	Total number of inpatients separated from hospital with a diagnosis of ischaemic stroke (ICD-10 Code), without contraindication for aspirin.
CI. 3.5	<i>Numerator</i>	Total number of inpatients with a diagnosis of ischaemic stroke (ICD-10 Code), presenting to the hospital within 4.5 hours of stroke onset, with documented evidence that an intravenous thrombolysis agent was administered.
	<i>Denominator</i>	Total number of inpatients separated from hospital with a diagnosis of ischaemic stroke (ICD-10 Code), presenting to the hospital within 4.5 hours of stroke onset, who satisfy the inclusion criteria, without contraindication for thrombolytic agents.

CI 3.4	<i>Dimension of Quality</i>	Continuity of Care, Appropriateness, Effectiveness, Safety
	<i>EQulP 4 Criterion</i>	1.1.2, 1.1.4, 1.1.8, 1.3.1, 1.4.1, 1.5.1
CI 3.5	<i>Dimension of Quality</i>	Continuity of Care, Appropriateness, Effectiveness, Safety
	<i>EQulP 4 Criterion</i>	1.1.2, 1.1.4, 1.1.8, 1.3.1, 1.4.1, 1.5.1

All clinical indicators can be used to support criterion 1.1.4: Evaluation of care

Appendix 3

Quality in Acute Stroke Care (QASC)

Quality in Acute Stroke (QASC) was a cluster randomized study conducted in 19 stroke units in NSW, Australia. The intervention sites (n=10) received a multifaceted intervention included treatment protocols to manage fever, hyperglycaemia, and swallowing dysfunction with multidisciplinary team building workshops (including education, facilitated discussion and ongoing support) to address implementation barriers. The control sites (n=9) received only an abridged version of existing guidelines. Results from 1696 patient files (687 pre-intervention; 1009 post-intervention) showed that, irrespective of stroke severity, patients at the intervention sites were significantly less likely to be dead or dependent (mRS ≥ 2) at 90 days than patients at control sites (236 of 558 patients in the intervention group [42%] vs 259 of 449 in the control group [58%], $p=0.002$; number needed to treat 6.4; adjusted absolute difference 15.7% [95% CI 5.8-25.4]).⁵²

Stroke 123

STROKE123 is a national initiative to monitor and improve hospital care and health outcomes associated with stroke. Stroke123 is designed to evaluate the benefits of providing clinicians with integrated, high quality stroke data coupled with an evidence-based clinical quality improvement program. The project will provide essential information that will underpin efforts to develop national solutions to data collection for stroke and reduce the variations in the patterns of care that will directly benefit patients. The project will also have direct benefits in terms of policy translation, given the involvement of multiple government and non-government organisations devoted to developing stroke policy and other facets of health policy (i.e. data linkage), and will provide a platform for the national roll-out of enhanced data collection systems that can be linked to a model that we have shown to be effective in improving stroke care.

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