Acute Stroke Clinical Care Standard

An introduction for clinicians and health services

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE





Outline

- What Clinical Care Standards are
- Why we need the Acute Stroke Clinical Care Standard
- What the Acute Stroke Clinical Care Standard is about
- Your role in implementing the Clinical Care Standard



What is a Clinical Care Standard?

Clinical Care Standards

- identify and define the care that people should expect to be offered or receive, regardless of where they are treated in Australia
- play an important role in delivering appropriate care and reducing unwarranted variation
- are developed using up-to-date clinical guidelines and standards, information about gaps between evidence and practice, the professional expertise of clinicians and researchers, and consideration of issues important to consumers.



Clinical Care Standards

Clinical care standards include

- a small number (six to nine) of concise recommendations the quality statements.
- a set of suggested indicators to facilitate monitoring.

The Commission established the Clinical Care Standards program to support the development of clinical care standards by clinical experts and consumers for clinical conditions that would benefit from a coordinated approach.



Why do we need an Acute Stroke Clinical Care Standard?

There is variation in

- systems pivotal for access to intravenous thrombolysis
 - 60% of hospitals report organised pre-hospital services¹
- hospitalisation rates, which are
 - 1.4 times higher in remote areas compared to major cities
 - 1.3 times higher for the lowest socioeconomic group compared to the highest
 - twice as high for Aboriginal and Torres Strait
 Islander peoples compared to non-indigenous.
- 1. National Stroke Foundation. *National Stroke Audit Acute Services Report 2015.* Melbourne: NSF, 2015
- 2. Australian Institute of Health and Welfare. *Stroke and its management in Australia: an update.* Canberra: AIHW, 2013



Why do we need an Acute Stroke Clinical Care Standard?



National Stroke Foundation. National Stroke Audit - Acute Services Report 2015.



What is the Acute Stroke Clinical Care Standard trying to achieve?

Aim

• To ensure that a patient with stroke receives optimal treatment during the acute phase of management.

Scope

• Covers recognition of stroke, rapid assessment, early management and early initiation of an individualised rehabilitation plan.

Goal

• To improve the early assessment and management of patients with stroke in order to increase their chance of surviving the stroke, to maximise their recovery and to reduce their risk of another stroke.



Improving outcomes in the acute care of stroke



What can be achieved?



- 1. Quain DA et al Med J Aust 2008;189:429-433
- 2. Emberson J et al. Lancet. 2014. Epub 2014/08/12.
- 3. Stroke Unit Trialists' Collaboration. Organised inpatient (stroke unit) care for stroke. Cochrane review, 2013





Quality Statement 1 Early assessment



What should we do?

A person with suspected stroke is immediately assessed at first contact using a validated stroke screening tool, such as the F.A.S.T. (Face, Arm, Speech and Time) test.



Quality Statement 1 Early assessment



Why does it matter?

- 'Time is brain' delays in diagnosis and treatment matter
- Care provided in the first 24 to 48 hours after stroke onset is crucial for improving patient outcomes.¹
- Immediate assessment and efficient transfer to a suitable hospital facilitates time-critical therapies.²
 - e.g. intravenous thrombolysis for ischaemic stroke can only be given within 4.5 hours of stroke onset.

2. National Stroke Foundation. *Clinical Guidelines for Stroke Management.* Melbourne: NSF; 2010

^{1.} Australian Stroke Coalition.48 hours: Improving stroke management in the critical window. NSF, 2014

What can be achieved?

East Melbourne¹

- Melbourne Ambulance Stroke Screen (MASS)
- Training and education of ambulance officers

Newcastle, NSW²

- Stroke screening tool and protocol
- Training for ambulance services
- Pre-notification system and bypass protocol

Increased rates of thrombolysis **4.7% to 21.4%**

Increased

diagnostic accuracy from

78% to 94%

Reduced median time from symptom onset to ED arrival by **60 minutes**

- 1. Bray JE, et al, Prehospital Emergency Care. 2005; 9: 297-302
- 2. Quain DA, et al, Med J Australia. 2008; 189: 429-33



Quality Statement 1 Early assessment



What the quality statement means for

- Clinicians: assess all people with suspected stroke using a validated screening tool to guide diagnosis of stroke.*
- Health managers: ensure that a validated screening tool is available in pre-hospital and hospital settings to guide the diagnosis of people with stroke, and that it is used by clinicians.

* Validated stroke screening tools for consideration:

- i. Face, Arm, Speech and Time (F.A.S.T.) test
- ii. the Recognition of Stroke in the Emergency Room (ROSIER) Scale
- iii. the Melbourne Ambulance Stroke Screen (MASS).



What should we do?

A patient with ischaemic stroke for whom reperfusion treatment is clinically appropriate, and after brain imaging excludes haemorrhage, is offered a reperfusion treatment in accordance with the settings and time frames recommended in the *Clinical guidelines for stroke management*.¹

1. National Stroke Foundation. *Clinical Guidelines for Stroke Management*. Melbourne: NSF; 2010





Why does it matter?

- 80% of strokes are ischaemic
- Treatment is time-critical
- Intravenous rt-PA
 - within 3 hours of stroke onset increases odds of disability-free survival by 75% (OR 1.75, 95% CI 1.35-2.27)
 - within 3 to 4.5 hours of stroke onset increases odds of disability-free survival by 26% (OR 1.26, 95% CI 1.05-1.51)
- 1. Emberson J. Lancet. 2014. Epub 2014/08/12.



ELSEVIER

Effect of timing of alteplase (rt-PA) treatment on good stroke outcome (mRS 0–1)



Delay in rt-PA treatment

The Lancet 2014 384, 1929-1935DOI: (10.1016/S0140-6736(14)60584-5)

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Risk-benefit profile

- For every 100 people treated with rt-PA ≤ 3 hours, compared with people who are not treated, there are: ¹
 - 10 more people disability-free after 3 to 6 months
 - 2 more deaths in the first 7 days
 - no difference in deaths between treated and untreated at 3 to 6 months

1. Emberson J. Lancet. 2014. Epub 2014/08/12.





What the quality statement means for

 Clinicians: Urgently assess and arrange imaging for all patients with suspected stroke. Using clinical judgement and taking into consideration patient comorbidities, patient circumstances and patient preferences, discuss the risks and benefits of treatment options with each patient.

Following discussion with the patient, if it is clinically indicated and the patient's preferred option, offer reperfusion treatment (e.g. intravenous thrombolysis) within the time frames recommended in the *Clinical guidelines for stroke management*.¹

If a patient has a haemorrhagic stroke, consider time-critical therapies, such as blood pressure control.

1. National Stroke Foundation. *Clinical Guidelines for Stroke Management*. Melbourne: NSF, 2010





What the quality statement means for

• Health managers: ensure systems and processes are in place and services adequately resourced for clinicians to offer a reperfusion treatment to patients for whom it is clinically indicated at a hospital with staff trained in the delivery and monitoring of such treatments and within the time frames recommended in the *Clinical guidelines for stroke management*.¹

1. National Stroke Foundation. *Clinical Guidelines for Stroke Management. Melbourne:* NSF, 2010







What should we do?

A patient with stroke is offered treatment in a stroke unit as defined in the *Acute stroke services framework.*¹

Stroke unit refers to a dedicated area within a hospital that ensures specialist, multidisciplinary management of people with stroke.

1. National Stroke Foundation. Acute Stroke Services Framework NSF; 2015



Why does it matter?

Stroke unit care* reduces the odds of

- death or institutionalised care by 22%
- death or dependency by 21%¹

In Australia, 2015

- 67% of patients with acute stroke are treated in a stroke unit
- 39% spent most of their stay in the stroke unit
- 32% of stroke patients in hospitals with stroke unit beds, were not in the stroke unit (on the day of audit).²

*Compared with an alternative acute ward

- 1. Stroke Unit Trialists' Collaboration. Organised inpatient (stroke unit) care for stroke (Review). Cochrane Database of Systematic Reviews, 2013
- 2. National Stroke Foundation. *National Stroke Audit: Acute Services Report* 2015. Melbourne: NSF, 2015



What can be achieved?

Sydney Greater Metropolitan region ¹

 Redesign created nine stroke area networks with 19 stroke units (previously 7)

After redesign, patients with stroke were:

- more often admitted directly to a stroke unit (71% versus 13%)
- less likely to have a disabling outcome at discharge (OR 0.73, 95% CI 0.57 to 0.94)



- Increasing stroke unit access through system redesigns have achieved similar benefits to trials.
- Similar benefits found with redesign in rural locations.²

- 1. Cadilhac DA et al. Qual Saf Health Care 2008;17(5):329-33.
- 2. Cadilhac DA et al. Stroke 2013;44(10):2848-53.





What the quality statement means for

- **Clinicians**: ensure that patients with stroke are offered multidisciplinary care in a stroke unit as defined in the *Acute stroke services framework.*¹
- Health managers: ensure that the systems, infrastructure and resources are in place for patients with stroke to be treated in a stroke unit, as recommended in the *Acute stroke services framework*.¹ For rural and remote services, this may mean provision of rapid transport to a stroke unit, where safe to do so, or care at a locally-agreed alternative, bearing in mind the wishes of the patient.

1. National Stroke Foundation. *Acute Stroke Services Framework* Melbourne: NSF, 2015.





What should we do?

A patient's rehabilitation needs and goals are assessed by staff trained in rehabilitation within 24–48 hours of admission to the stroke unit. Rehabilitation is started as soon as possible, depending on the patient's clinical condition and their preferences.







Why does it matter?

- Many patients after stroke have impairments in mobility, vision, swallowing and communication.
- Stroke rehabilitation therapies¹:
 - improve functional recovery
 - support patients to return to doing usual activities
- Early assessment and initiation of activities within a few days after stroke helps reduce risk of complications.²

1. Langhorne P et al. Lancet. 2011;377(9778):1693-702.

2. National Stroke Foundation. *Clinical Guidelines for Stroke Management*. NSF; 2010



Why does it matter?



Recent audit data for patients with stroke found:

- 68% assessed by physiotherapist ≤ 48 hours¹
- 65% assessed by speech pathologist \leq 48 hours²
- 56% have swallow function checked \leq 24 hours²

- National Stroke Foundation. National Stroke Audit Acute Services Report 2015. Melbourne: NSF, 2015
- 2. National Stroke Foundation. *National Stroke Audit Acute Services Clinical Act Report 2013*. Melbourne: NSF, 2013





What the quality statement means for

 Clinicians: assess the rehabilitation needs and goals of patients with stroke within 24–48 hours of admission to the hospital, using a validated tool*, and start rehabilitation during the acute phase of care. Complete the sections of the assessment relevant to your practice (e.g. medical, nursing, physiotherapy, speech therapy) or complete the assessment together in a multidisciplinary team meeting or ward round.

* Australian Stroke Coalition Rehabilitation Working Group. Assessment for rehabilitation: pathway and decision-making tool, 2012.





What the quality statement means for

 Health managers: ensure processes and resources are in place so that the rehabilitation needs of patients with stroke are assessed within 24–48 hours and for rehabilitation to start as soon as possible in hospital. Processes should also include liaison with other rehabilitation providers responsible for continuing care as guided by the *Rehabilitation stroke services framework*.¹

1. National Stroke Foundation. *Rehabilitation Stroke Services Framework*. Melbourne: NSF, 2013.





What should we do?

A patient with stroke, while in hospital, starts treatment and education to reduce their risk of another stroke.

Why does it matter?

- Risk of stroke recurrence increases after a stroke
 - 11% at one year, 26% at five years, 40% at ten years post-stroke¹
- Preventive medicines and lifestyle modifications reduce the risk.

1. Mohan KM et al. Stroke. 2011;42(5):1489-94.



Risk of stroke recurrence after first-ever stroke



Mohan KM et al. Stroke. 2011;42:1489-1494





Why does it matter?



* Stroke patients with non-valvular atrial fibrillation CV = cardiovascular, CVA = cerebrovascular

- 1. Lakhan SE et al. Int Arch Med. 2009;2(1):30
- 2. Manktelow BN et al. Stroke. 2009;40(11):e622-3.
- 3. Algra A et al. . J Neurol Neurosurg Psychiatry. 1999;66(2):255.
- 4. EAFT Study Group. Lancet. 1993;342(8882):1255-62



Why does it matter?

- Starting treatment and education in hospital helps to:
 - improve risk factor management after discharge¹
 - promote long-term adherence to medicines²
 - improve long-term outcomes.³
- In 2015 of stroke patients audited:⁴
 - 56% received advice on **modifying risk factors** during admission
 - 66% with haemorrhagic stroke were prescribed **antihypertensive** medicines on discharge
 - 64% with ischaemic stroke were prescribed **combination** of cholesterol-lowering agent, antithrombotic and antihypertensive on discharge.
- 1.Touzé E et al. Stroke. 2008;39(6):1834-43
- 2. Thrift AG et al. Stroke. 2014;45(2):539-44
- 3. Cadilhac DA et al. Qual Saf Health Care. 2008;17(5):329-33

4. National Stroke Foundation. *National Stroke Audit - Acute Services Report 2015.* Melbourne NSF, 2015







What the quality statement means for

- **Clinicians**: assess, treat and educate patients with stroke about their risk of another stroke. This includes discussing risk factors, providing written information and prescribing medicines. It may also include important interventions that are time limited (e.g. carotid endarterectomy).
- Health managers: ensure processes and resources are in place for clinicians to assess, treat and educate patients about reducing their risk of another stroke and improve adherence to stroke management recommendations.





Quality Statement 6 Carer training and support



What should we do?

A carer of a patient with stroke is given practical training and support to enable them to provide care, support and assistance to a patient with stroke.



Quality Statement 6 Carer training and support



Why does it matter?

Being the carer of a stroke survivor has an associated burden¹

74% of stroke survivors at

3 months require assistance with activities of daily living from a family member or friend.²





48% receive training

 Rigby H, et al. *Int J Stroke*. 2009; 4: 285-92.
 Dewey HM, et al. *Stroke*. 2002; 33: 1028-33.
 National Stroke Foundation. *National Stroke Audit - Acute Services Report 2015*. Melbourne NSF. 2015



Quality Statement 6 Carer training and support



What the quality statement means for

- **Clinicians**: support carers by offering them education on stroke, practical training on how to provide care, contact details of support services, and other information to support their own wellbeing before patients with stroke leave hospital.
- Health managers: ensure processes and resources are in place to provide carers with education about stroke, practical training on how to provide care, access to support services (e.g. respite care), and other information to support carers before patients with stroke leave hospital.



Quality Statement 7 Transition from hospital care



What should we do?

Before a patient with stroke leaves the hospital, they are involved in the development of an individualised care plan that describes the ongoing care that the patient will require after they leave hospital.

The plan includes rehabilitation goals, lifestyle modifications and medicines needed to manage risk factors, any equipment they need, follow-up appointments, and contact details for ongoing support services available in the community. This plan is provided to the patient before they leave hospital, and to their general practitioner or ongoing clinical provider within 48 hours of discharge.



Quality Statement 7 Transition from hospital care



Why does it matter?

- Some patients miss out on medicines that may help to prevent another stroke and often they have poorly controlled risk factors.¹
- Many patients have other unmet needs after discharge.²
- An individualised care plan, which is developed with the patient while in hospital, may improve continuity of care once the patient returns to the community.

Currently

- 56% of patients with stroke receive an individualised care plan when discharged from hospital.³
- 1. Paul SL et al Hypertension. 2006;48(2):260-5.
- 2. Andrew NE et al. Int J Stroke. 2014
- 3. National Stroke Foundation. *National Stroke Audit Acute Services Report 2015.* Melbourne: NSF 2015



Quality Statement 7 Transition from hospital care



What the quality statement means for

- Clinicians: Develop an individualised care plan (e.g. using My stroke care plan) with each patient and provide it to them in writing before they leave hospital. Provide a copy to their general practitioner or ongoing clinical provider within 48 hours of the patient leaving hospital. The individualised care plan is separate to a clinical discharge summary and includes information about the patient's rehabilitation goals, their risk factors, lifestyle modification and medicines, any equipment they need, follow-up appointments, and contact details for ongoing support services available in the community.
- Health managers: Ensure processes and resources are in place so that clinicians can develop an individualised care plan with patients with stroke before they leave hospital, and can provide it to them and their general practitioner or ongoing clinical provider within 48 hours of discharge.



Questions to consider

- 1. Does the emergency department of your hospital currently use a standard validated stroke screening tool?
- 2. How quickly can a CT be performed and interpreted for patients with stroke?
- 3. How quickly can thrombolysis be administered to eligible patients, taking into account time needed for brain imaging to exclude haemorrhage and to discuss treatment potential benefits and harms with patients and carers?
- 4. What are the barriers that prevent rapid assessment of patients with stroke? What solutions could be considered?
- 5. What are the barriers that prevent more patients with stroke being treated in a stroke unit? What solutions could be considered?
- 6. What proportion of patients with stroke are prescribed ongoing preventive medications? Whose responsibility is referral to secondary prevention? How could this be improved?



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How can the quality statements be achieved in your health service?

- Add local context here
- What measures do we have?
- How well are we are achieving the quality statements?
- What could be changed?
- Who needs to be involved to help things change (internal and external)?
- Is there a successful service model we could adapt locally?

