Acute Coronary Syndromes Clinical Care Standard

An introduction for clinicians and health services

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Clinical Care Standards

Outline

- Overview of Clinical Care Standards and their purpose
- Why we need the Acute Coronary Syndromes Clinical Care Standard
- What the Acute Coronary Syndromes Clinical Care Standard is about
- Your role in implementing the Clinical Care Standard

Clinical Care Standards

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

Clinical care standards include

- a small number (between 6 – 9) 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.

Clinical Care Standards

Why do we need an Acute Coronary Syndromes Clinical Care Standard?

- In an Australian audit, optimal care was received by[1]
  - **13.5%** of STEMI patients
  - **12.4%** of NSTEMI patients
- There is significant variation in the care received by:[2,3]
  - People in **rural** areas compared to major cities
  - **Aboriginal and Torres Strait Islander** peoples
  - People at **higher clinical risk**
- Systems of care are important – 26% of people with an acute coronary syndrome (ACS) need at least one transfer

1. Chew DP et al, Heart 2009;95(22):1844-1850
2. Chew DP et al, Med J Aust 2013;199(3):185-191
3. Australian Health Ministers' Advisory Council. Aboriginal and Torres Strait Islander health performance framework 2012 report. 2012

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Aims of the ACS Clinical Care Standard

- To ensure that a patient with an acute coronary syndrome receives optimal treatment from the onset of symptoms through to discharge from hospital
- This includes recognition of an acute coronary syndrome, rapid assessment, early management and early initiation of a tailored rehabilitation plan

Goal

- To improve the early, accurate diagnosis and management of an acute coronary syndrome to maximise patients' chances of recovery, and reduce their risk of a future cardiac event

Clinical Care Standards

Improving outcomes across the ACS spectrum

- Immediate management(pathways)
- Early assessment
- Timely reperfusion
- Risk stratification
- Coronary angiography
- Secondary prevention

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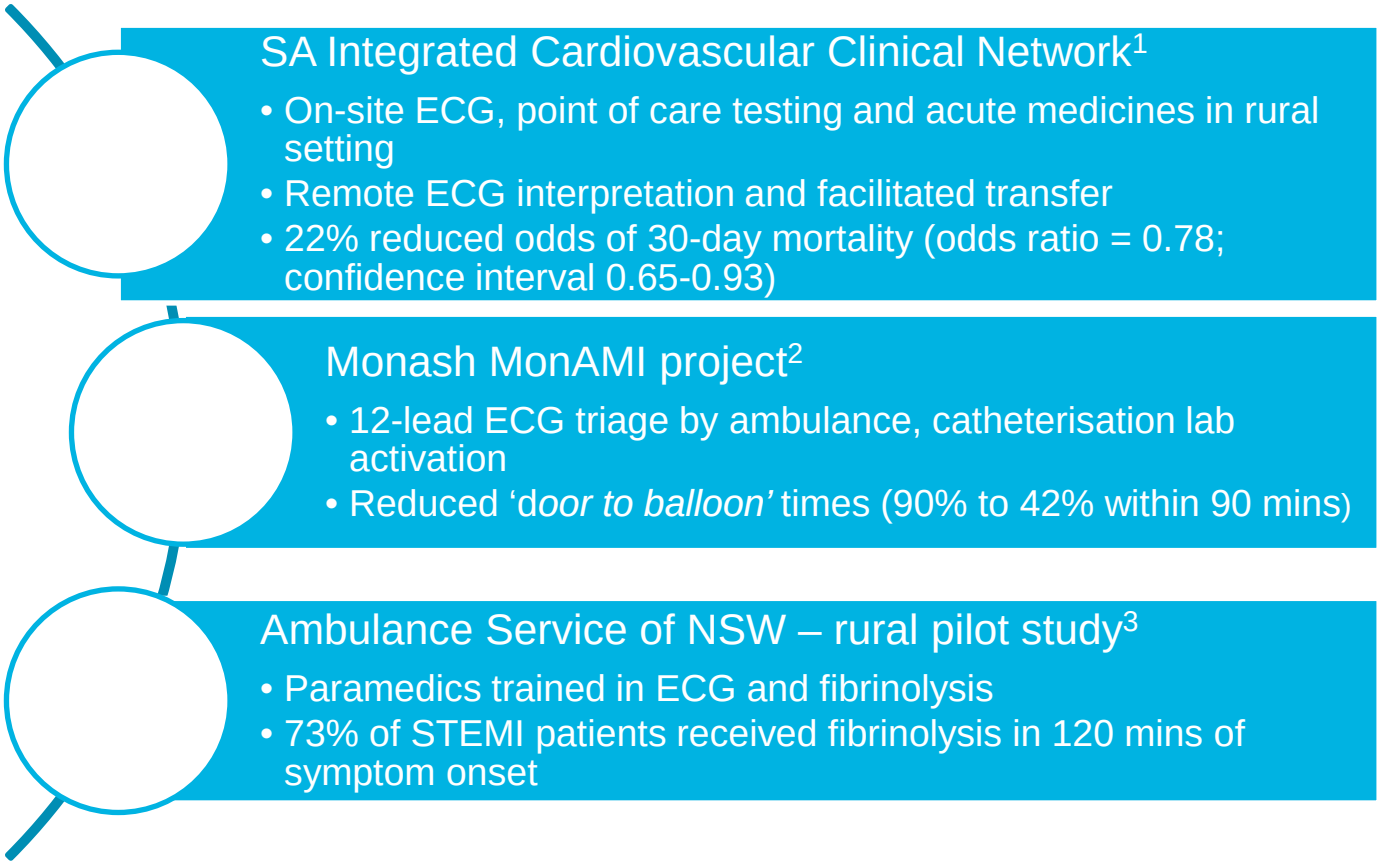
What can be achieved?



1. Tideman PA et al, Med J Aust 2014;200(3):157-160
2. Hutchison AW et al, Heart Lung Circ 2013;22(11):910-916
3. National Heart Foundation of Australia. A system of care for STEMI. 2012

Clinical Care Standards

Quality Statement 1
Immediate management

What should we do?

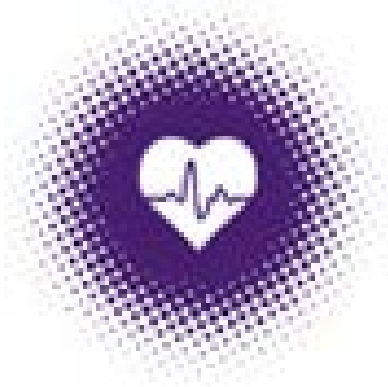
A patient presenting with acute chest pain or other symptoms suggestive of an acute coronary syndrome receives care guided by a documented chest pain assessment pathway.

Why does it matter?

- Missed diagnosis increases risk of early death (9.8% vs 5.5%).[1]
- 10-15% of undifferentiated chest pain have final ACS diagnosis.
- Standardised pathways streamline investigation and management of chest pain with <1% major adverse cardiac events.[2,3]
- Appropriate diagnostic pathways can reduce ED overcrowding.

1. Pope JH et al, N Engl J Med, 2000;342:1163-1170
2. Than M et al, JAMA Int Med 2014;174:51-58.
3. Macdonald SP et al, Emerg Med Australas 2011;23:717-725

Quality Statement 1
Immediate management



What the quality statement means for

- **Clinicians**: provide all patients presenting with symptoms of an acute coronary syndrome with care guided by a documented chest pain assessment pathway.
- **Health managers**: ensure that a chest pain assessment pathway is available and used by clinicians.

Quality Statement 2
Early assessment

What should we do?

A patient with acute chest pain or other symptoms suggestive of an acute coronary syndrome receives a 12-lead electrocardiogram (ECG) and the results are analysed by a clinician experienced in interpreting an ECG within 10 minutes of the first emergency clinical contact.

Why does it matter?

- Pre-hospital ECG can aid fast access to reperfusion
  - Reduce short-term mortality by 30-40%[1]
  - Reduce door to balloon time (100 vs 54 minutes)[2]

1. Nam J et al, Ann Emerg Med;2014;64:176-86
2. Hutchison AW et al, Heart Lung Circ, *2*013;22:910-916

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Quality Statement 2
Early assessment

What the quality statement means for

- **Clinicians**: assess all patients with a suspected acute coronary syndrome with a 12-lead ECG and interpret the results within 10 minutes of the first emergency clinical contact. This may involve facilitating referral to a clinician experienced in performing and/or interpreting an ECG.
- **Health managers**: ensure systems and processes are in place in the pre-hospital and hospital setting to assess patients with symptoms of an acute coronary syndrome using a 12-lead ECG, and for this to be analysed by a clinician experience in interpreting an ECG within 10 minutes of the first emergency clinical contact.

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Quality Statement 3
Timely reperfusion

What should we do?

A patient with an acute ST-segment-elevation myocardial infarction (STEMI), for whom emergency reperfusion is clinically appropriate, is offered timely percutaneous coronary intervention (PCI) or fibrinolysis in accordance with the time frames recommended in the current National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand *Guidelines for the Management of Acute Coronary Syndromes*.[1]

In general, primary PCI is recommended if the time from first medical contact to balloon inflation is anticipated to be less than 90 minutes, otherwise the patient is offered fibrinolysis.

1. ACS Guidelines Working Group. Guidelines for the management of ACS 2006. Med J Aust 2006;184(8):S1-S30

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Quality Statement 3
Timely reperfusion

Why does it matter?

- Treatment is time critical
- Currently[1]
  - 90% of STEMI patients present in time for reperfusion
  - 67% received any reperfusion
  - 23% received timely reperfusion
- More timely reperfusion could prevent an estimated 23 deaths and 213 recurrent MIs or strokes per 10,000 STEMI presentations.[2]
- Although PCI is preferred if available, timeliness is more important to outcome than the mode of reperfusion.[1]

1. Huynh LT et al, Med J Aust 2010;193:496-501
2. Chew DP et al, Heart 2009;95:1844-1850

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Quality Statement 3
Timely reperfusion

What the quality statement means for

- **Clinicians**: offer primary PCI or fibrinolysis to all eligible patients diagnosed with an acute STEMI, within the time frames recommended in the current National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand *Guidelines for the Management of Acute Coronary Syndromes.*[1]
- **Health managers**: ensure systems and processes are in place for clinicians to offer primary PCI or fibrinolysis to all eligible patients diagnosed with an acute STEMI within the time frames recommended in the current National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand *Guidelines for the Management of Acute Coronary Syndromes.*[1]

1. ACS Guidelines Working Group. Guidelines for the management of ACS 2006. Med J Aust 2006;184(8):S1-S30

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Quality Statement 4
Risk stratification

What should we do?

A patient with a non–ST segment elevation acute coronary syndrome (NSTEACS) is managed based on a documented, evidence-based assessment of their risk of an adverse event.

Why does it matter?

- Underestimating risk of a future major cardiac event can result in less intensive, less timely treatment.[1,2]
- Objective risk assessment tools (GRACE[3], TIMI[4], ACS Treatment algorithm[5]) can help clinicians to accurately predict risk and engage patients in shared decision-making.

1. Scott IA et al, Med J Aust 2007;187(3):153-9
2. Chew DP et al, Med J Aust 2013;199(3):185-91
3. GRACE score - www.outcomes-umassmed.org/grace
4. TIMI score - ww.mdcalc.com/timi-risk-score-for-uanstemi/
5. ACS treatment algorithm - www.heartfoundation.org.au

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Quality Statement 4
Risk stratification

What the quality statement means for

- **Clinicians**: manage all patients with NSTEACS based on an assessment of their risk of an adverse event.
- **Health managers**: ensure an evidence-based risk assessment process is available to guide the treatment of all patients with NSTEACS, and that it is used by clinicians.

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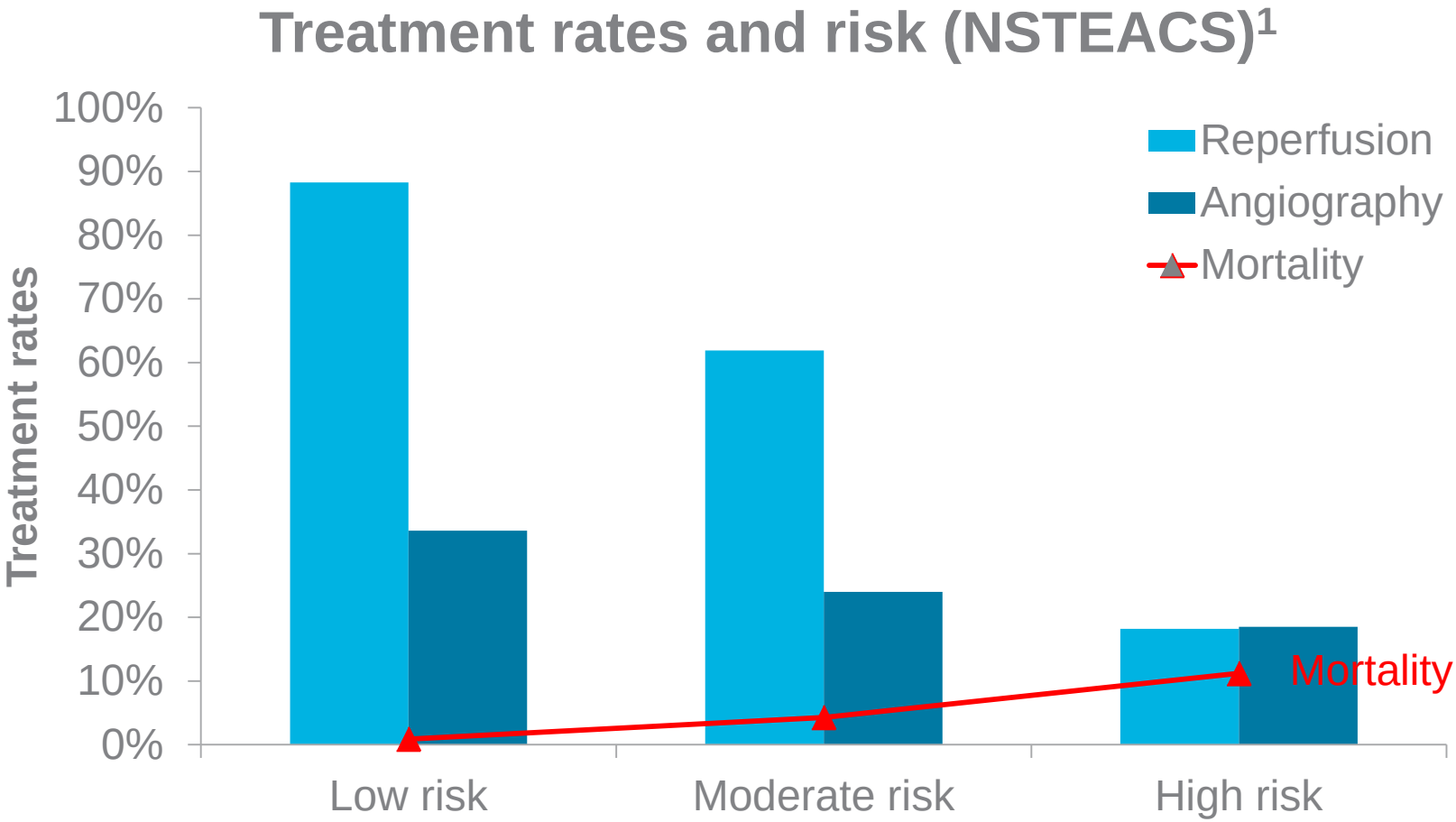
High-risk patients may have the lowest treatment rates



Reperfusion refers to fibrinolytic therapy or angioplasty

1. Scott IA et al, Med J Aust 2007;187(3):153-159

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Quality Statement 5
Coronary angiography

What should we do?

The role of coronary angiography, with a view to timely and appropriate coronary revascularisation, is discussed with a patient with a non–ST segment elevation acute coronary syndrome (NSTEACS) who is assessed to be at intermediate or high risk of an adverse cardiac event.

Why does it matter?

- NSTEACS more frequent than STEMI
- Similar rates of major cardiac adverse events (MI, stroke, death) within 12 months of admission for STEMI and NSTEACS (16-17%).[1]
- BUT - mortality is reduced with early angiography.[1,2]
- 16 more lives could be saved per 10,000 presentations of NSTEMI, with coronary angiography within 72 hours of admission.[3]

1. AIHW. *Monitoring acute coronary syndrome.* 2011
2. Chew DP et al, Med J Aust 2013;199:185-191
3. Chew DP et al, Med J Aust 2008;188:691–697
4. Fox KA et al, J Am Coll Cardiol 2010;55:2435-2445
5. Chew DP et al, Heart 2009;95:1844-1850

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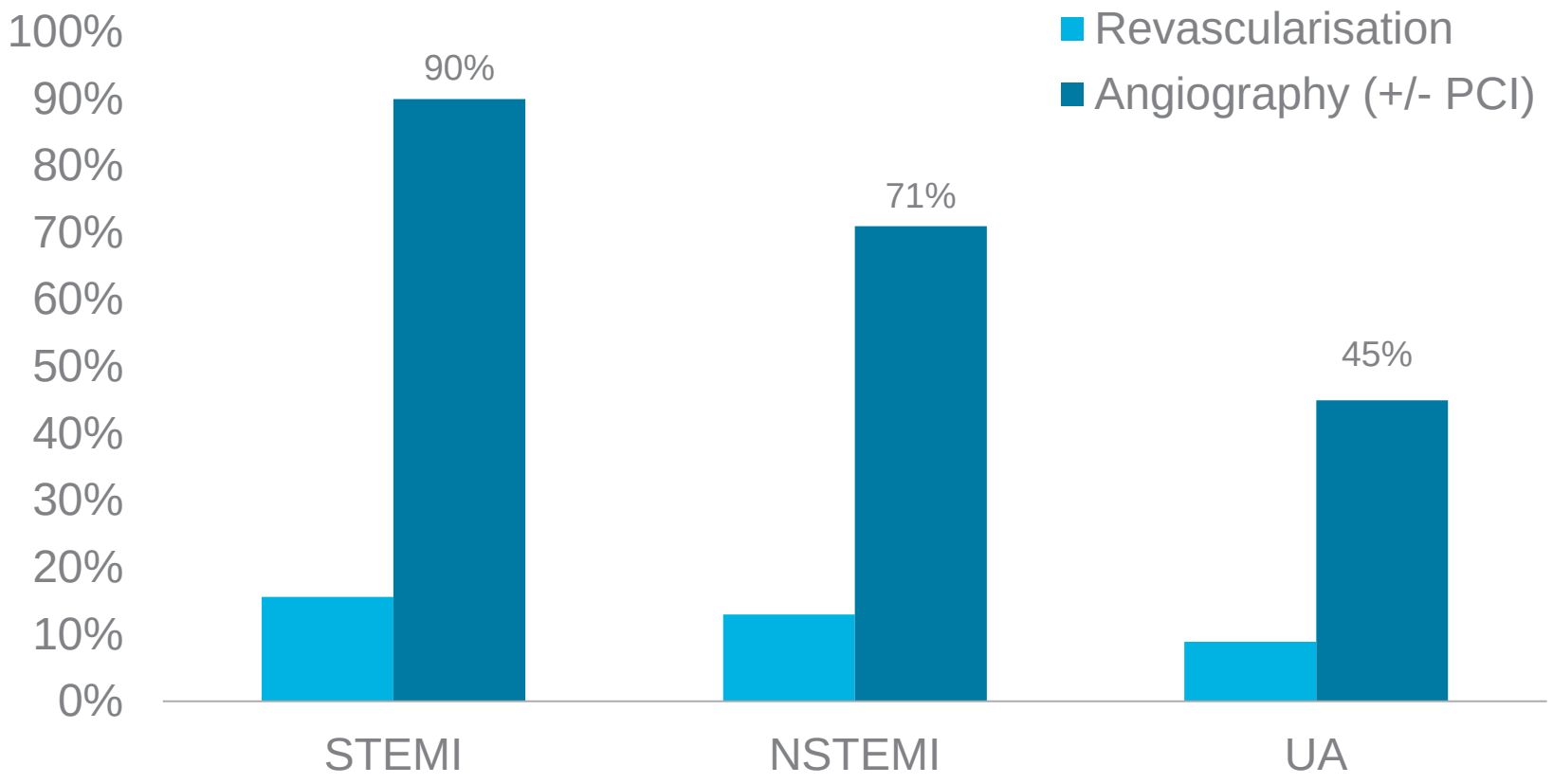
Coronary angiography before discharge



Chew et al, Med J Aust 2008;188(12):691–697

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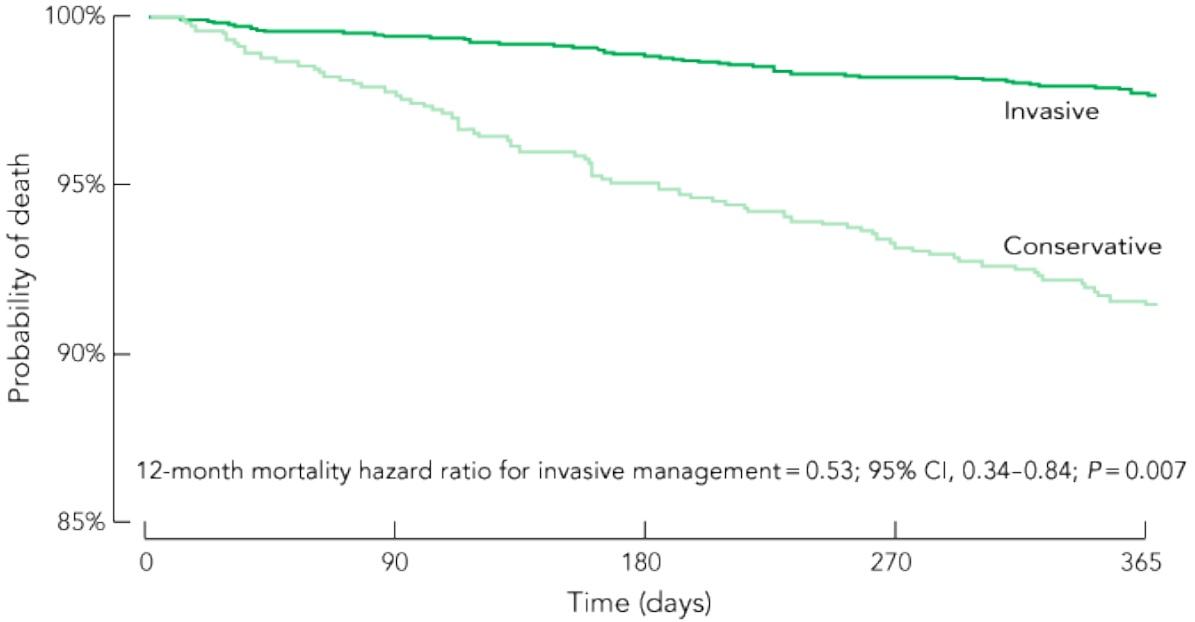
Angiography, revascularisation and reduced mortality

Invasive vs conservative management for patients surviving to hospital discharge – 12 month mortality



	Patients surviving				
Time (days)	0	90	180	270	365
Invasive	1760	1747	1735	1716	1437
Conservative	867	846	820	800	641

From: Chew DP et al, Medical Journal of Australia 2008;188(12):691–697

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Quality Statement 5
Coronary angiography

What the quality statement means for

- **Clinicians**: if patients are identified to be at intermediate or high risk of an adverse cardiac event, discuss with them and/or their carer the risks and benefits of coronary angiography and appropriate revascularisation.
- **Health managers**: ensure systems and processes are in place for clinicians to offer coronary angiography, and appropriate coronary revascularisation to all eligible patients with NSTEACS.

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Quality Statement 6
Individualised care plan

What should we do?

Before a patient with an acute coronary syndrome leaves the hospital, they are involved in the development of an individualised care plan. This plan identifies the lifestyle modifications and medicines needed to manage their risk factors, addresses their psychosocial needs and includes a referral to an appropriate cardiac rehabilitation or another secondary prevention program. This plan is provided to the patient and their general practitioner or ongoing clinical provider within 48 hours of discharge.

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Quality Statement 6
Individualised care plan

Why does it matter?

- Rehospitalisation costs made up almost a third of total costs for atherothrombotic disease in one year.[1]
- 64% of all ACS patients received 4 or more guideline-recommended therapies on discharge.[2]
- 46% are formally referred to cardiac rehabilitation – with metro/rural variation.[2]
- Compliance with secondary prevention is poor.
- Improved use of and adherence to guideline recommended therapies for at least 12 months could prevent 104 deaths and 191 recurrent heart attacks or strokes, per 10,000 ACS patients.[3]

1. Atkins E et al, BMC Health Services Research 2014;14:338
2. Chew DP et al, Med J Aust 2013;199:185-191
3. Chew DP et al, Heart 2009;95:1844-1850

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Quality Statement 6
Individualised care plan

What the quality statement means for

- **Clinicians**: develop an individualised care plan with each patient with an acute coronary syndrome and/or their carer before they leave the hospital. The plan identifies lifestyle changes and medicines, addresses their psychosocial needs and includes a referral to an appropriate cardiac rehabilitation or another secondary prevention program. Provide a copy of the plan to the patient and their general practitioner or ongoing clinical provider within 48 hours of discharge.
- **Health managers**: ensure processes are in place so that clinicians can develop an individualised care plan with patients with an acute coronary syndrome before they leave the hospital, and provide the plan to each patient and their general practitioner or ongoing clinical provider within 48 hours of discharge.

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Questions to consider

1. Does your hospital currently use a documented chest pain pathway?
2. How quickly can a 12 lead ECG performed and interpreted (pre and in- hospital)?
3. If STEMI is identified – how quickly is the patient able to receive PCI or fibrinolysis?
4. What are the barriers that prevent rapid assessment and PCI or fibrinolysis for patients with STEMI? What solutions could be considered?
5. How is risk of a future cardiac event assessed for patients with unstable angina or a non-ST segment elevation MI? When is angiography offered? What factors could support this?
6. How are patients referred to secondary prevention and/or prescribed ongoing preventive medications? Whose responsibility is referral to secondary prevention? How could this be improved?

More information

www.safetyandquality.gov.au/ccs

Clinical Care Standards

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?

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