NICE National Institute for Health and Care Excellence

NICE quality standard

Acute heart failure

Quality standard

Published: 3 December 2015

www.nice.org.uk/guidance/qs103

Contents

This standard is based on CG187.

This standard should be read in conjunction with QS100, QS99, QS15, QS9 and QS93.

Quality statements

Statement 1 Adults presenting to hospital with new suspected acute heart failure have a single measurement of natriuretic peptide.

Statement 2 Adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Statement 3 Adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Statement 4 Adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Statement 5 Adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an angiotensin-converting enzyme (ACE) inhibitor and an aldosterone antagonist.

Statement 6 Adults with acute heart failure have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Quality statement 1: Single measurement of natriuretic peptide

Quality statement

Adults presenting to hospital with new suspected acute heart failure have a single measurement of natriuretic peptide.

Rationale

Natriuretic peptide testing (B-type natriuretic peptide [BNP] or N-terminal pro-B-type natriuretic peptide [NT-proBNP]) is an important tool for rapidly assessing adults presenting to hospital with new suspected acute heart failure. It can be used to rule out a diagnosis of heart failure or to see if further investigation with echocardiography is needed. It can save time and distress for the adult presenting with new suspected acute heart failure.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults presenting to hospital with new suspected acute heart failure have a single measurement of natriuretic peptide.

Data source: Local data collection.

Process

a) Proportion of adults presenting to hospital with new suspected acute heart failure who have a single measurement of natriuretic peptide.

Numerator – the number in the denominator who have a single measurement of natriuretic peptide.

Denominator – the number of presentations of adults to hospital with new suspected acute heart failure.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Proportion of hospitals that use appropriate assay thresholds of plasma BNP less than 100 ng/litre and plasma NT-proBNP less than 300 ng/litre.

Numerator – the number in the denominator that use appropriate assay thresholds of plasma BNP less than 100 ng/litre and plasma NT-proBNP less than 300 ng/litre.

Denominator – the number of hospitals in England to which people may present with suspected acute heart failure.

Data source: Local data collection.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Length of stay.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

c) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac service providers) ensure that adults presenting to hospital with new suspected acute heart failure have a single measurement of natriuretic peptide that is undertaken by the cardiac team to rule out a diagnosis of heart failure. Also, hospitals in England to which people may present with suspected acute heart failure ensure they use appropriate assay thresholds of plasma BNP less than 100 ng/litre and plasma NT-proBNP less than 300 ng/litre.

Healthcare professionals ensure that adults with new suspected acute heart failure have a single measurement of natriuretic peptide on presentation to hospital to rule out a diagnosis of heart failure.

Commissioners ensure that adults with new suspected acute heart failure have a single measurement of natriuretic peptide on presentation to hospital to rule out a diagnosis of heart failure.

Adults presenting at hospital with new suspected acute heart failure have their natriuretic peptide (also known as BNP or NT-proBNP) level in their blood measured. This test is a quick way for doctors to find out whether the person is likely to have heart failure or if they need further assessment to see if their symptoms are caused by something else.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187 (2014), recommendation 1.2.2 (key priority for implementation)

Definitions of terms used in this quality statement

Natriuretic peptide

A protein substance secreted by the wall of the heart when it is stretched or under increased pressure. It has several forms and its level can be raised in a number of conditions, including heart failure. A normal natriuretic peptide level means that heart failure is unlikely, and its measurement can be used to exclude a diagnosis of heart failure.

[Adapted from NICE's full guideline on acute heart failure]

Appropriate assay thresholds of plasma BNP to assist in ruling out the diagnosis of heart failure

- Plasma BNP less than 100 ng/litre
- Plasma NT-proBNP less than 300 ng/litre.

[Adapted from NICE's full guideline on acute heart failure]

Quality statement 2: Transthoracic doppler 2D echocardiography

Quality statement

Adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Rationale

Performing a transthoracic doppler 2D echocardiogram within 48 hours of hospital admission for adults with new suspected acute heart failure and raised natriuretic peptide levels will enable earlier diagnosis and appropriate management in terms of pharmacological treatment, location of care and relevant input from the specialist heart failure team.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Data source: Local data collection.

Process

Proportion of adults admitted to hospital with new suspected acute heart failure and

raised natriuretic peptide levels who have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Numerator – the number in the denominator who have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Denominator – the number of hospital episodes of adults with new suspected acute heart failure and raised natriuretic peptide levels.

Data source: Local data collection.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Length of stay.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

c) Incidence of adverse events (withdrawal of beta-blockers and other disease-modifying drugs).

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

d) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac and radiology services) ensure that adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Healthcare professionals ensure that adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Commissioners ensure that adults admitted to hospital with new suspected acute heart failure and raised natriuretic peptide levels have a transthoracic doppler 2D echocardiogram within 48 hours of admission.

Adults admitted to hospital with new suspected acute heart failure have their natriuretic peptide levels (also known as BNP or NT-proBNP) in their blood measured. If the level is raised, they have an echocardiogram within 48 hours of admission to help find out if there is something wrong with their heart.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187, recommendations 1.2.3 (key priority for implementation) and 1.2.4 (key priority for implementation)

Definition of terms used in this quality statement

Transthoracic doppler 2D echocardiogram

An echocardiogram is a test that uses ultrasound waves to measure the pumping action and structure of the heart, including the heart valves. A probe is moved over the surface of the chest and picks up echoes of sound (similar to an ultrasound scan used in pregnancy), which are shown as a picture on a screen.

[Adapted from NICE's guideline on acute heart failure information for the public]

Quality statement 3: Organisation of care – early specialist input

Quality statement

Adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Rationale

A dedicated specialist heart failure team with early involvement is important for cost-effective care. It can also positively contribute to rapid diagnosis, reduced readmissions and better quality of life. Ongoing input of the dedicated specialist heart failure team will also help to ensure appropriate care and make subsequent readmission less likely.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Data source: Local data collection.

Process

a) Proportion of adults admitted to hospital with acute heart failure who have input within 24 hours of admission from a dedicated specialist heart failure team.

Numerator – the number in the denominator who receive input within 24 hours of admission from a dedicated specialist heart failure team.

Denominator – the number of adults admitted to hospital with acute heart failure.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac service providers) ensure that adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Healthcare professionals ensure that adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Commissioners ensure that adults admitted to hospital with acute heart failure have input within 24 hours of admission from a dedicated specialist heart failure team.

Adults admitted to hospital with acute heart failure have contact with a team within 24 hours of admission that specialises in treating heart failure and that is involved in their early care.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187, recommendation 1.1.2 (key priority for implementation)

Definitions of terms used in this quality statement

Input within 24 hours of hospital admission

Review and address the needs of acute heart failure patients within 24 hours of hospital admission. [Expert consensus]

Dedicated specialist heart failure team

This specialist inpatient team includes doctors, nurses (including heart failure specialist nurses), pharmacists, physiotherapists and psychologists, and has access to a palliative care specialist and other expertise as required. The team is led by a consultant specialist with a sub-speciality interest in heart failure. This team is based on a cardiology ward but also provides outreach services to heart failure patients on all other wards within the hospital. It is also part of a broader multidisciplinary specialist team working across primary and secondary care, as outlined by NICE guidance. [Adapted from NICE's guideline on chronic heart failure and expert consensus]

Quality statement 4: Starting or continuing beta-blocker treatment

Quality statement

Adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Rationale

In-hospital introduction of beta-blockers is associated with increased use of beta-blockers at follow-up and better long-term outcomes such as fewer adverse events and reduced mortality. Also, it is important that beta-blocker treatment is continued for adults who are already taking it.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

Process

a) Proportion of adults with acute heart failure due to left ventricular systolic dysfunction who are started on beta-blocker treatment during their hospital admission.

Numerator – the number in the denominator who are started on beta-blocker treatment during their hospital admission.

Denominator – the number of hospital admissions of adults with acute heart failure due to left ventricular systolic dysfunction in which the patient is not already taking a beta-blocker.

Data source: Local data collection.

b) Proportion of adults with acute heart failure due to left ventricular systolic dysfunction who continue with beta-blocker treatment during their hospital admission.

Numerator – the number in the denominator who continue beta-blocker treatment during their hospital admission.

Denominator – the number of hospital admissions of adults with acute heart failure due to left ventricular systolic dysfunction.

Data source: Local data collection.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

c) Incidence of adverse events (withdrawal of beta-blockers and other disease-modifying drugs).

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

d) Beta-blocker use at follow-up.

Data source: Local data collection.

e) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac service providers) ensure that adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Healthcare professionals ensure that adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Commissioners ensure that adults with acute heart failure due to left ventricular systolic dysfunction are started on, or continue with, beta-blocker treatment during their hospital admission.

Adults with acute heart failure due to left ventricular systolic dysfunction (known as LVSD, where the pumping chamber of the heart is not pumping well) start or continue beta-blockers while they are in hospital.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187, recommendation 1.5.2 (key priority for implementation)

Definitions of terms used in this quality statement

Beta-blocker

Treatment for heart failure, heart rhythm disturbances, angina and heart attacks, and high blood pressure. [Adapted from NICE's full guideline on acute heart failure]

Quality statement 5: Drug therapy

Quality statement

Adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an angiotensin-converting enzyme (ACE) inhibitor and an aldosterone antagonist.

Rationale

Early initiation of ACE inhibitors and aldosterone antagonists for adults with acute heart failure is positively associated with improved outcomes such as lower mortality and readmission rates. If the ACE inhibitor has intolerable side effects, an angiotensin receptor blocker will be offered.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an ACE inhibitor and an aldosterone antagonist.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

Process

Proportion of new hospital admissions for adults with acute heart failure and reduced left ventricular ejection fraction when an ACE inhibitor and an aldosterone antagonist are

offered.

Numerator – the number in the denominator treated with an ACE inhibitor and an aldosterone antagonist.

Denominator – the number of new hospital admissions for adults with acute heart failure and reduced left ventricular ejection fraction.

Data source: Local data collection.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac service providers) ensure that adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an ACE inhibitor and an aldosterone antagonist.

Healthcare professionals ensure that adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an ACE inhibitor and an aldosterone antagonist.

Commissioners ensure that adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an ACE inhibitor and an aldosterone antagonist.

Adults admitted to hospital with acute heart failure and reduced left ventricular ejection fraction are offered an angiotensin-converting enzyme inhibitor (also known as an ACE inhibitor) and an aldosterone antagonist.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187, recommendation 1.5.4 (key priority for implementation)

Definition of terms used in this quality statement

Reduced left ventricular ejection fraction

The fraction of blood that is pumped out from the left ventricle during each heartbeat. In healthy people it is typically at least 55%. It is reduced in systolic heart failure. [Expert consensus]

Quality statement 6: Follow-up clinical assessment

Quality statement

Adults with acute heart failure have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Rationale

It is important that adults with acute heart failure have early specialist heart failure follow-up by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge to reduce early readmissions, achieve better long-term outcomes and improve their quality of life.

Quality measures

The following measures can be used to assess the quality of care or service provision specified in the statement. They are examples of how the statement can be measured, and can be adapted and used flexibly.

Structure

Evidence of local arrangements to ensure that adults with acute heart failure have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

Process

Proportion of adults with acute heart failure who have a follow-up clinical assessment by a

member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Numerator – the number in the denominator who have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Denominator – the number of hospital discharges of adults with a diagnosis of acute heart failure.

Data source: Local data collection.

Outcome

a) Mortality rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

b) Readmission rates.

Data source: Local data collection. National data are collected in the National Institute for Cardiovascular Outcomes Research heart failure audit 2012/13.

What the quality statement means for different audiences

Service providers (cardiac service providers) ensure that adults with acute heart failure have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure team within 2 weeks of hospital discharge.

Healthcare professionals (community- or hospital-based specialist heart failure team) undertake a follow-up clinical assessment for adults with acute heart failure within 2 weeks of hospital discharge.

Commissioners ensure that adults with acute heart failure have a follow-up clinical assessment by a member of the community- or hospital-based specialist heart failure

team within 2 weeks of hospital discharge.

Adults with acute heart failure have a follow-up assessment by a member of the community- or hospital-based heart failure team within 2 weeks of hospital discharge.

Source guidance

Acute heart failure: diagnosis and management. NICE guideline CG187, recommendation 1.1.4

About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision-making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about how NICE quality standards are developed is available from the NICE website.

See our webpage on quality standards advisory committees for details about our standing committees. Information about the topic experts invited to join the standing members is available from the webpage for this quality standard.

NICE has produced a quality standard service improvement template to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

NICE guidance and quality standards apply in England and Wales. Decisions on how they apply in Scotland and Northern Ireland are made by the Scottish government and Northern Ireland Executive. NICE quality standards may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

Diversity, equality and language

Equality issues were considered during development and equality assessments for this quality standard are available. Good communication between healthcare professionals and

adults with acute heart failure is essential. Treatment, care and support, and the information given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English. Adults with acute heart failure should have access to an interpreter or advocate if needed.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

ISBN: 978-1-4731-1574-3

Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- British Society for Heart Failure
- Royal College of Physicians (RCP)
- The Pumping Marvellous Foundation
- British Heart Foundation