

Putting NICE guidance into practice

Costing statement: Acute heart failure

Implementing the NICE guideline on acute heart failure (CG187)

Published: October 2014

1 Introduction

- 1.1 This costing statement considers the cost implications of implementing the recommendations made in '[Acute heart failure: diagnosing and managing acute heart failure in adults](#)' (NICE clinical guideline 187).
- 1.2 NICE worked with the GDG and other professionals to explore recommendations that might have a resource impact. Several recommendations were identified but assessed not to have a significant resource impact¹. Therefore a costing statement has been produced for this guideline.
- 1.3 The guideline might have resource implications at a local level as a result of variation in clinical practice across the country. Therefore, we encourage organisations to evaluate their own practices against the recommendations in the NICE guideline and assess costs locally. Some of the resource effects to be considered locally are discussed in this statement.
- 1.4 Most acute heart failure services are commissioned by clinical commissioning groups and NHS England. NHS England commissions transcatheter aortic valve implantation procedures as an alternative to standard surgical aortic valve replacement in accordance with the criteria outlined in its [NHS England commissioning policy](#)².
- 1.5 Acute heart failure services are provided by NHS hospital trusts and specialist cardiac centres.

¹ A significant resource is where the net costs (or savings) arising from implementing guidance recommendations for the purpose of informing budget setting do not exceed £1 million.

² [Clinical commissioning policy: transcatheter aortic valve implantation \(TAVI\) for aortic stenosis. April 2013. Reference: NHSCB/A09/P/a.](#)

2 Background

- 2.1 Approximately 67,000 people with acute heart failure were admitted into hospital in England in 2012/13.³ Of these people, 44%⁴ (29,500 people) would be likely to have new suspected acute heart failure and be subject to B-type natriuretic peptide [BNP] or N-terminal pro-B-type natriuretic peptide [NT-proBNP] testing under this guideline (see section 3.3).
- 2.2 The guideline offers best practice advice on the care of people with acute heart failure and covers all the people discussed in section 2.1.
- 2.3 The guideline covers important aspects of the diagnosis and management of acute heart failure that are not addressed by the NICE guideline on chronic heart failure ([NICE clinical guideline 108](#)), which focused on long-term management rather than the immediate care of someone who is acutely unwell as a result of heart failure.

3 Recommendations with potential resource impact

- 3.1 All hospitals admitting people with suspected acute heart failure should provide a specialist heart failure team that is based on a cardiology ward and provides outreach services. [Recommendation 1.1.1].
- The cost-effectiveness modelling highlighted the optimum approach of care for acute heart failure patients as being one where as many acute heart failure patients are cared for by a specialist heart failure team. Those acute heart failure patients on non-cardiology wards should receive outreach care from specialist team in addition to their other care.
 - The key issues on providing specialist management care focused on team composition and whether or not there should be a discrete management unit. The Guideline Development Group (GDG) also

³ [The Health and Social Care Information Centre, Hospital Episode Statistics for England. Inpatient statistics, 2012–13.](#)

⁴ Nicol ED, Fittall B, Roughton M et al. (2008) NHS heart failure survey: a survey of acute heart failure admissions in England, Wales and Northern Ireland. *Heart* 94: 172–7.

considered early identification by specialist nursing staff to be important, particularly in hospitals without a separate cardiology unit.

- The GDG proposed that hospitals should develop a system to alert the heart failure specialist team of new admissions. A 'roaming' specialist might be an alternative model to a geographically discrete specialist management unit, particularly for patients with multiple comorbidities for whom acute heart failure is not the main issue.
- The main implementation issue for this recommendation is whether or not a heart failure specialist team exists and if it also provides inpatient outreach clinical sessions.
- Based on the National Institute for Cardiovascular Outcomes Research audit (NICOR) facilities survey in 2013, about 87% of participating acute trusts have a consultant cardiologist with a specific interest in heart failure; 80% of hospitals have a multidisciplinary team to review and address the needs of heart failure patients (all include a HFSN, and 99% include a cardiologist and a HFSN). Therefore, most hospitals already have the components of a heart failure specialist team in place, including providing care to acute heart failure patients. For this reason, costs are not likely to be significant.
- However, where organisations want to improve the quality of their service to be in line with the recommendation, costs may be incurred.
- Potential costs would include ensuring there is a complete heart failure team that is able to provide heart failure services in line with the recommendation. To achieve a complete heart failure team, organisations may need to recruit additional staff, provide for overtime working or provide additional training to existing staff. Costs would depend on how much change is needed to the current service to align it with the guidance recommendation.

3.2 A follow-up clinical assessment should be undertaken by a member of the specialist heart failure team within 2 weeks of the person being discharged from hospital. [Recommendation 1.1.4]

- The NICOR 2012/13 audit suggests that follow-up clinical assessments are already happening. The audit highlights that over half of the patients in the audit were referred to the cardiology and heart failure nurse follow-up services. Other patients were referred to cardiac rehabilitation and GP follow-up. However, there are no data to show if follow-up was within 2 weeks of discharge, which is the key focus of the recommendation.
- Clinical experts suggest that many hospitals do not provide follow-up clinical assessments within 2 weeks of discharge and therefore costs may be incurred by implementing this recommendation. The additional costs include additional staffing and/or additional staff time to ensure that the follow-up appointment takes place within the recommended 2 weeks of discharge.
- The cost of a follow-up outpatient appointment is £164⁵.

3.3 In people presenting with new suspected acute heart failure, use a single measurement of serum natriuretic peptides (B-type natriuretic peptide [BNP] or N-terminal pro-B-type natriuretic peptide [NT-proBNP]) and the following thresholds to rule out the diagnosis of heart failure: BNP less than 100 ng/litre : NT-proBNP less than 300 ng/litre. [Recommendation 1.2.2]

- This test is additional to current investigations for people who present with new suspected acute heart failure and should only be used for people with new suspected heart failure. NICOR (2014)⁶ shows that this test is already available in 67% of acute trusts, so additional costs may be incurred in 33% of acute trusts for testing approximately 9,700 people (33% of the 29,500 people likely to have new suspected acute heart failure as per section 2.1).

⁵ 2014–15 tariff – outpatient attendances. Treatment function: Cardiology and currency code 320. WF01B First attendance – single professional.

⁶ National Institute for Cardiology Outcomes Research (NICOR). Secondary analysis of the Heart 17 Failure Facilities Survey of England and Wales 2009 - 2013 (unpublished data), 2014

- The unit cost per BNP or NT-proBNP test is £28⁷. Based on the 9,700 people identified above, the estimated additional cost could total £271,600 nationally (or approximately £490 per 100,000 population).
- This testing may reduce up-front demand for echocardiography because it can be used to select patients who need priority referral for echocardiography and therefore it may help trusts to meet the 48 hours requirement mentioned in section 3.4.
- the testing may result in more appropriate heart failure management, thereby leading to fewer re-admissions (see section 4).

3.4 In people presenting with new suspected acute heart failure, consider performing transthoracic Doppler 2D echocardiography within 48 hours of admission to guide early specialist management. [Recommendation 1.2.4]

- The NICOR audit suggests that most patients with suspected heart failure have an echocardiography during the course of an admission. About 91% of patients admitted with suspected heart failure in 2012/13 had an imaging test of heart function, usually an echocardiogram.
- However, clinical experts suggest that this recommendation represents a change to current practice for most trusts because access to echocardiography is currently difficult at weekends. They also suggest that it might be difficult to deliver the test within 48 hours because there is a shortage of echocardiographers nationally.
- The potential resource implications of meeting the 48 hours recommendation are likely to be related to whether or not there is capacity to enable access to timely diagnostic and reporting services. Where there is a lack of capacity organisations may want to move to or implement a [7-Day Services](#) improvement programme. The NHS Improving Quality is working in collaboration with NHS England to help organisations move to seven day service models across England. Also available NHS Improving Quality website is a [seven day self-](#)

⁷ There is no national price for this test in England and Wales. The tariff price at St George's Healthcare Trust (London) is £27.71 for NT-proBNP testing (test costs are equivalent for BNP and NT-proBNP). The unit cost is likely to decrease as the number of tests performed increases. [NICE clinical guideline 108: Chronic heart failure costing template](#).

[assessment tool](#) that is accessible for use by all NHS providers to baseline and plan local delivery of seven day service provision. This may help ascertain the potential resource implications required to implement the recommendation.

- Potential resource implications may include additional staff time for cardiologists to provide additional clinical sessions, providing training to echocardiographers and or recruiting additional echocardiographers. The cost of a cardiologist is estimated to be around £400 per 4 hour clinical session.
- An echocardiographers post costs £43,000 (Agenda for Change Band 7 at mid-point of scale) per annum including on-costs. In cases where overtime is required, the hourly rate is £26 including on-costs.
- Earlier diagnosis may result in substantial savings from avoiding delay in heart failure therapy and avoiding harm from inappropriate therapy. In addition, waiting for echocardiography is one of the reasons why hospital stay can be prolonged, so delivering early echocardiography would shorten the time spent in hospital.

3.5 Ensure that the person's condition is stable for typically 48 hours after starting or restarting beta-blockers and before discharging from hospital. [Recommendation 1.5.3]

- In-hospital introduction of beta-blockers is associated with increased use of beta-blockers at follow-up without an increase in adverse events. Beta-blockers should be started once the patient has been clinically stabilised. This might be when intravenous diuretics are no longer needed. A period of patient observation of typically 48 hours was recommended following initiation of beta-blocker treatment to monitor for any clinical deterioration and to ensure tolerability.
- Clinical experts suggest this might increase length of stay in hospital. However, because the non-elective long-stay tripoint for acute heart failure is 40 days (HRG code EB03I) and 21 days (HRG code EB03H), it is unlikely to have cost implications for commissioners. Providers may need to review the impact on bed occupancy within their trusts

- The recommendation may help to reduce avoidable re-admissions and failed discharges. See section 4.

4 Savings and benefits

4.1 Implementation of the guideline should lead to improved management of acute heart failure and may lead to the following savings and benefits:

- Reduced re-admission rates due to patients being stabilised before discharge. For example, a saving per patient of £1668 (HRG EB03I – Heart Failure or Shock without complications and comorbidities) or £3668 (HRG EB03H – Heart Failure or Shock with complications and comorbidities).
- Improved quality of life for people with acute heart failure.
- Early and accurate diagnosis to enable patients to start appropriate drug treatment. This may reduce length of stay in hospital and improve patient care. It may also reduce mortality rates due to increased survival rates that are associated with drug treatment.

5 Other considerations

5.1 Monitor and NHS England are in the process of setting the 2015/16 National Tariff Payment System (the 2015/16 national tariff). There is a proposal to introduce a new heart failure [best practice tariff](#) in which payment is linked to encouraging adherence to a number of processes identified as being associated with good care.

6 Conclusion

6.1 A costing statement has been produced for this guideline because it is considered that implementing the recommendations will not have a significant resource impact at a national level. However, several issues have been highlighted to be reviewed at a local level.

About this costing statement

This costing statement accompanies '[Acute heart failure: diagnosing and managing acute heart failure in adults](#)' (NICE clinical guideline 187).

Issue date: October 2014

This statement is written in the following context

This statement represents the view of NICE, which was arrived at after careful consideration of the available data and through consulting healthcare professionals. It should be read in conjunction with the NICE guideline. The statement is an implementation tool and focuses on those areas that were considered to have potential impact on resource utilisation.

The cost and activity assessments in the statement are estimates based on a number of assumptions. They provide an indication of the potential impact of the principal recommendations and are not absolute figures.

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