

# Failure to Function

A review of the care received by patients who died in hospital following an admission with acute heart failure

## summary



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## **A review of the care received by patients who died in hospital following an admission with acute heart failure**

A report published by the National Confidential Enquiry into Patient Outcome and Death (2018)

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The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) is an independent body to which a corporate commitment has been made by the Medical and Surgical Royal Colleges, Associations and Faculties related to its area of activity.

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## Principal recommendations

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A guideline for the clinical management of acute heart failure should be available in all hospitals.

These guidelines should include standards for:

- The location of care - which should be on a specialist unit
- Arrangements for heart failure service review within 24 hours
- Initial investigations required to diagnose acute heart failure, including a standard protocol for the use of:
  - o BNP/NTproBNP testing
  - o Echocardiography
- Immediate treatments (medications guidance for treatment prior to specialist review)

Hospitals should audit against these standards annually. *(Medical Directors, Directors of Nursing, Clinical Directors)*

This recommendation supports NICE guideline CG187

This recommendation refers to the specialist heart failure/ cardiology team review - see also RECOMMENDATION 2 p.82 regarding all acute admissions and consultant review within 14 hours of admission.

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All heart failure patients should have access to a heart failure multidisciplinary team. Core membership of this team should include:

- A clinician with a sub-speciality interest in heart failure
- A specialist heart failure nurse
- A healthcare professional with expertise in specialist prescribing for heart failure
- The primary care team
- A specialist in palliative care

Other services such as cardiac rehabilitation, physiotherapy, occupational therapy, clinical psychology, elderly care, dietetics and clerical support should be involved as needed.

*(Commissioners, Medical Directors, Directors of Nursing and Clinical Directors)*

This recommendation supports the draft NICE guidelines for chronic heart failure management outlining the core membership with the addition of palliative care to the core group

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Serum natriuretic peptide measurement should be included in the first set of blood tests in all patients with acute breathlessness and who may have new acute heart failure.

It is central to the assessment of these patients to guide further investigation. *(All Clinicians)*

This recommendation supports NICE guideline CG187 rec 1.2.2

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An echocardiogram should be performed for all patients with suspected acute heart failure as early as possible after presentation to hospital, and within a maximum of 48 hours as it is the key to diagnosis, risk stratification and specialist management of acute heart failure. *(All Clinicians, Lead Physiologists and Medical Directors)*

This recommendation supports NICE guideline CG187 rec 1.2.4

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For all patients with heart failure, best practice in escalation decision making includes:

- Assessment of the goals and benefits of treatment escalation
- Inclusion of the patient (and their family where possible)
- Involvement of the cardiology or heart failure consultant
- Agreement among members of the multidisciplinary team
- Communication of the decision with healthcare professionals across the whole care pathway

For patients with advanced heart failure, pre-emptive discussion in the outpatient setting of treatments that would not be beneficial, along with consideration of palliative care needs, can prevent unnecessary admissions and should be encouraged. Escalation decisions should be reviewed at the time of all admissions with acute heart failure. *(Heart Failure Teams/Consultant Cardiologists)*

See also: Treatment and care towards the end of life: good practice in decision making (GMC 2010)

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# Introduction

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Heart failure is a clinical syndrome that occurs when the heart is unable to pump sufficient blood to provide for the needs of the body. It can be caused by poor function of the heart due to muscle damage, dysfunction of heart valves, disturbances of heart rhythm or other rare causes. Muscle damage can impair contraction (systolic function) and/or relaxation (diastolic function) of the heart which can be identified by echocardiography. There are two types of heart failure, acute and chronic and the care pathways for both overlap considerably. (see glossary on page 87).

Acute heart failure can present as a new diagnosis in patients with no previous heart disease or as an episode of worsening of chronic heart failure, triggered by other co-existing conditions. These conditions are commonly reversible or treatable events such as infections, arrhythmias or acute coronary syndromes. Acute heart failure is the commonest emergency admission in >65 year olds causing 5% of all emergency admissions and 70% of heart failure associated healthcare costs. It carries an inpatient mortality of 11%.<sup>1</sup>

Chronic heart failure is a long-term condition and the disease path is one of acute worsening rather than progressive deterioration. Chronic heart failure is one of the commonest long-term conditions and accounts for 2% of the NHS budget.<sup>1</sup>

Common symptoms of heart failure are breathlessness (due to congestion of the lungs with fluid), fatigue, and swelling of the ankles, legs or abdomen (also due to fluid retention).

There have been major advances in the treatment of chronic heart failure in the last ten years.<sup>2</sup> Drug treatments are increasingly tailored for individual patients, different combinations being used in systolic and diastolic dysfunction. Device therapy (complex pacing devices and implantable cardioverter/defibrillators) is also used for selected patient groups. These, combined with improved models of care, have resulted in a greater than 50% improvement in survival.

Alongside these improvements, acute heart failure management has remained largely unchanged for over 25 years. The improvements in long-term treatment combined with the often reversible nature of episodes of acute worsening means that investigation to establish an accurate diagnosis, and specialist review to ensure appropriate treatments are given, have become increasingly important. Published guidance for the management of both acute and chronic heart failure makes recommendations about pathways of care, specialist review and follow-up as well as investigations and treatments.<sup>3,4</sup>

In England and Wales there is an almost five-fold variation in inpatient mortality due to heart failure between acute hospitals (lowest 6%, highest 26%). The National Heart Failure Audit which includes 80% of patients admitted to hospital with acute heart failure has shown that care delivered in a specialist cardiology ward is associated with a 40% reduction in mortality, but that the proportion of patients transferred to cardiology varies.<sup>2</sup>

The National Heart Failure Audit has also shown that when patients are treated by a cardiologist, heart failure medications are prescribed more frequently and survival rates are better. Access to cardiology, however, is age and sex dependent; only 43% of patients >75 years vs 65% of <75 years and 44% of women vs 55% of men are cared for in cardiology wards.<sup>2</sup>

The study presented in this report was proposed to explore the variation in the organisation of heart failure services and clinical care for patients with acute heart failure on arrival at, and admission to, hospitals in the United Kingdom. We looked at a sample of patients who died in hospital during their admission due to a new diagnosis of heart failure, or an acute episode of their chronic heart failure. Case note review helps to answer the questions raised by the national audit by providing a more in-depth analysis of clinical care including a qualitative assessment of clinical practice in individual cases.

# Method and Data Returns

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## Study Advisory Group

The Study Advisory Group (SAG) comprised a multidisciplinary group of clinicians in: cardiology, acute medicine, critical care, palliative care, emergency medicine, specialist heart failure nursing, specialist outreach nursing, specialist cardiology pharmacist, ambulance service and lay persons.

### **Study aim**

To identify and explore avoidable and remediable factors in the process of care for patients with acute heart failure admitted to hospital as an emergency, and who died during the admission.

### **Objectives**

The Study Advisory Group identified a number of objectives that would address the primary aim of the study:

- Prompt recognition and diagnosis of heart failure and rapid initiation of a heart failure pathway
- Appropriate documentation and management of heart failure
- Prompt senior review and follow-up throughout admission
- Escalation of care decisions and planning including admission to critical care
- Assessing multidisciplinary team approach
- Assessing adequate communications with patient, families and carers
- Examining the management of the 'acute' end of life pathway and ceilings of treatment including appropriateness of interventions
- Equity of access for mechanical support / transplant centre and escalation decisions
- Organisational aspects of care delivery for heart failure patients on acute, general or cardiology wards to include aspects of staff training.

## Hospital participation

National Health Service hospitals in England, Scotland, Wales and Northern Ireland were expected to participate as well as public hospitals in the Isle of Man, Guernsey and Jersey.

Within each hospital, a named contact, referred to as the NCEPOD Local Reporter, acted as a link between NCEPOD and the hospital staff, facilitating case identification, dissemination of questionnaires and data collation.

## Study population and case ascertainment

All adult patients (aged 16 and older) who were admitted as an emergency between 1st January 2016 and 31st December 2016 inclusive with a primary diagnosis of heart failure (ICD10 codes: I11.0, I25.5, I42.0, I42.9 and I50.0, I50.1, I50.9) and died in hospital were included. A subpopulation of patients who died in hospital within seven days of admission were selected for detailed review of their care.

## Questionnaires and case notes

Two questionnaires were used to collect data for this study; a clinician questionnaire for each patient and an organisational questionnaire for each hospital participating in the study.

## Clinician questionnaire

This questionnaire was sent to the consultant responsible for the patient at the time of their death. If the consultant was not the most suitable person to complete the questionnaire they were asked to identify a more appropriate consultant. Information was requested on the patient's presenting features/comorbid conditions, previous hospital attendances/ interventions for heart failure, initial management, investigations, complications, escalation in care and palliation.

### Organisational questionnaire

The data requested in this questionnaire included information on the staff that manage patients with heart failure, guidelines and standard operating procedures relevant to the management of patients with acute heart failure, availability of specific investigations and interventions.

### Case notes

Copies of case note extracts were requested for each case that was to be peer reviewed:

Final inpatient admission

- All inpatient medical notes
- Ambulance service Patient Report Form/notes
- General practitioner referral letter
- Emergency department clerking proforma/records
- Nursing notes
- Critical care notes/charts
- Microbiology reports
- Blood gas reports
- Operation/procedure notes
- CT and other radiology investigation reports/ echocardiography/ECGs
- Anaesthetic charts
- Observation charts
- Haematology/biochemistry results
- Fluid balance charts
- Blood transfusion records
- Drug charts
- Heart failure pathway
- Nutrition/dietitian notes
- Physiotherapy notes
- Consent forms
- Do not attempt cardiopulmonary resuscitation (DNACPR)/treatment escalation forms
- Datix or other incident reports
- Discharge letter/summary
- Autopsy report if applicable.

In addition, for the twelve-months prior to this admission: any discharge summaries, outpatient letters, brain natriuretic peptide (BNP) results, and cardiac imaging (i.e. echocardiography and cardiac MRI results).

### Peer review of the case notes and data

A multidisciplinary group of case reviewers was recruited from hospitals across the UK to peer review the case notes and associated clinician questionnaires. The group of case reviewers comprised consultants, trainees and clinical nurse specialists, from the following specialties: cardiology, anaesthesia, intensive care medicine, high dependency medicine, acute medicine, emergency medicine, pharmacy, physiotherapy and cardiac nursing.

Questionnaires and case notes were anonymised by the non-clinical staff at NCEPOD. All patient identifiers were removed and the case reviewers had no access to patient identifiable information.

After being anonymised, each case was reviewed by at least one reviewer within a multidisciplinary group. At regular intervals throughout the meeting the Chair allowed a period of discussion for each reviewer to summarise their cases and ask for opinions from other specialties or raise aspects of the case for discussion.

Case reviewers answered a number of specific questions using a semi structured electronic questionnaire and were encouraged to enter free text commentary at various points.

The grading system below was used by the case reviewers to grade the overall care each patient received:

**Good practice:** A standard that you would accept from yourself, your trainees and your institution.

**Room for improvement:** Aspects of **clinical** care that could have been better.

**Room for improvement:** Aspects of **organisational** care that could have been better.

**Room for improvement:** Aspects of both **clinical and organisational** care that could have been better.

**Less than satisfactory:** Several aspects of clinical and/or organisational care that were well below that you would accept from yourself, your trainees and your institution.

**Insufficient data:** Insufficient information submitted to NCEPOD to assess the quality of care.

### Information governance

All data received and handled by NCEPOD complies with all relevant national requirements, including the Data Protection Act (DPA) 1998 and now GDPR 2016 (Z5442652), the NHS Act 2006 (PIAG 4-08(b)/2003, App No 007) and the NHS Code of Practice.

### Quality and confidentiality

Each case was given a unique NCEPOD number. The data from all questionnaires received were electronically scanned into a database. Prior to any analysis taking place, the data were cleaned to ensure that there were no duplicate records and that erroneous data had not been entered during scanning. Any fields that contained data that could not be validated were removed.

### Data analysis

Following cleaning of the quantitative data, descriptive data summaries were produced.

The qualitative data collected from the case reviewers' opinions and free text answers in the clinician questionnaires were coded, where applicable, according

to content to allow quantitative analysis. The data were reviewed by NCEPOD Clinical Co-ordinators, a Clinical Researcher and two Researchers to identify the nature and frequency of recurring themes.

Case studies have been used throughout this report to illustrate particular themes.

All data were analysed using Microsoft Access™ and Excel™.

The findings of the report were reviewed by the Study Advisory Group, Reviewers, NCEPOD Steering Group including Clinical Co-ordinators, Trustees and Lay Representatives prior to publication.

### Data returns

In total 4,768 patients were identified as meeting the study inclusion criteria (Figure 1.1). A sample of up to six cases per hospital was selected. This resulted in a total of 980 cases included in the main data collection. A large number of cases (369) were subsequently excluded (both originally sampled cases and reselections). In the majority of cases this was because on review of the case notes the patient was deemed not to have had an episode of acute heart failure. A total of 603/980 completed clinician questionnaires and 464 sets of case notes were returned to NCEPOD.

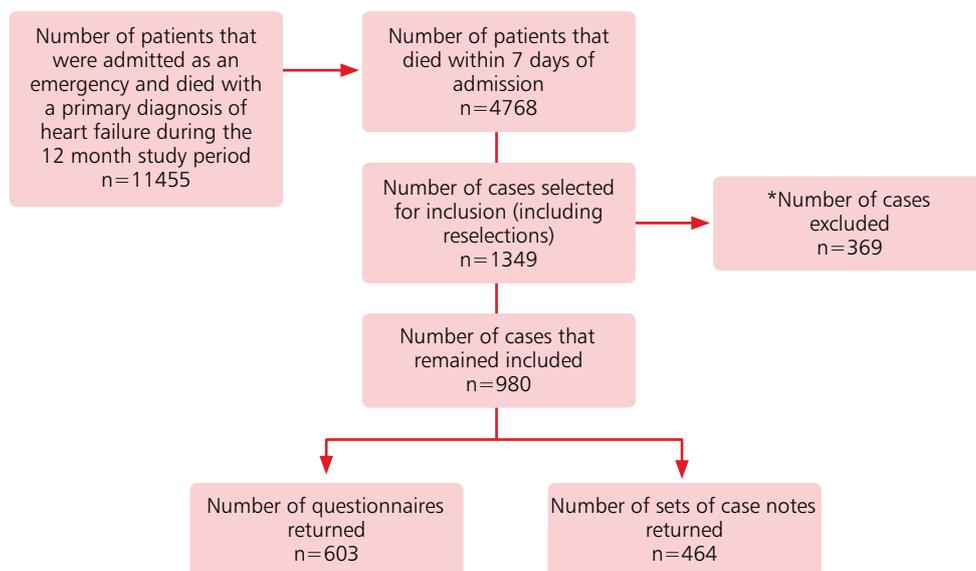


Figure 1.1 Data returns

## Key Findings

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### Organisation of heart failure services

- A specialist inpatient heart failure service was available at 157/178 (88.2%) hospitals
  - Outpatient provisions for heart failure patients were provided in 168/175 (96.0%) hospitals
  - 146/158 (92.4%) of hospitals in which there were three or more cardiologists had at least one with a specialist interest in heart failure
  - An on-site echocardiography service was available at 165/171 (96.5%) hospitals
  - An 'on demand' service for echocardiography within the outpatient heart failure clinic, was available at 95/166 (57.2%) of hospitals
  - A rapid access heart failure clinic was available at 91/174 (52.3%) hospitals. The target waiting time to access this clinic was two weeks or less for the majority of hospitals (72/86; 83.7%). This two-week target was achieved in 51/79 (64.6%)
  - The waiting time for echocardiogram was less than 48 hours from admission in 115/175 (65.7%) hospitals. The recommended waiting time of less than 48 hours was not met at 22 hospitals and for a further 48 the waiting time for echocardiography was not known
  - Supervision of care out of hours was provided either by a cardiology consultant on call rota (59/178; 33.1%) or by the general medical consultant on call rota (63/178; 35.4%) in approximately equal numbers of hospitals
  - A cardiac rehabilitation service was available at 148/178 (83.1%) hospitals. The waiting time for this service was unknown for 60/148 hospitals (40.5%)
- A guideline or protocol for acute heart failure was available at 119/178 (66.9%) hospitals. 78/118 (66.1%) used the national guideline
  - Follow up by a specialist team in either the hospital or the community was provided by 168/173 hospitals
  - In three quarters of hospitals (129/171; 75.4%), a written self-management plan was provided to patients
  - A palliative care service for heart failure patients was provided at the majority of hospitals (171/175; 97.7%).

### Study population

- The average age of the peer reviewed patients was 82.5 years
- 195/576 (33.9%) of the patients included were in the NYHA class IV category
- 328/458 (71.6%) patients were at least moderately frail
- The commonest co-morbidities were moderate or severe renal disease in 173/464 (37.3%), previous myocardial infarction in 140/464 (30.2%) and chronic obstructive pulmonary disease (COPD) in 121/464 (26.1%).

## KEY FINDINGS

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### Previous heart failure management

- The majority of patients (452/579; 78.1%) had a prior diagnosis of heart failure and more than three quarters (331/431; 76.8%) of these patients were diagnosed more than a year prior to the final admission
- 166/369 (45.0%) of the patients with a prior diagnosis of heart failure were under the care of a hospital heart failure team and 105/301 (34.9%) were under the care of a community heart failure team
- Only 74/126 (58.7%) patients with NYHA grade IV heart failure were under the heart failure team
- In the peer reviewed cases with a previous diagnosis of heart failure, 102/268 (38.1%) patients had been referred for intervention
- At the time of the last attendance, changes to the patients' treatment were made in 134/194 (69.1%)
- In 104/353 (29.5%) cases, the case reviewers considered that the final admission was avoidable. The commonest reason given for avoidable admission was that the patient should have received end of life care (48 cases).

### Pre-hospital and emergency department management

- The reviewers found that pre-hospital management was appropriate in 179/212 (84.4%) cases
- In 72/162 (44%) cases reviewed a pre-alert was used prior to arrival at the hospital
- There were 106/233 (45.5%) pre-hospital and 132/294 (44.9%) patients in the emergency department with a heart rate above 90 beats per minute
- In the 214 patients where NEWS was used, the score was five or more in 119/214 (55.6%). The score was seven or more in 62/214 (29.0%) patients
- 267/330 (80.9%) patients had an ECG in the emergency department. Only 28/330 (8.5%) had measurement of natriuretic peptides
- The reviewers considered that important investigations or treatments were omitted in the emergency department in 86/307 (28%) patients.

### Admission to hospital

- 339/456 (74.3%) patients included were admitted to hospital through the emergency department
- 197/585 (33.7%) patients were transferred to a specialist (cardiology, coronary care, or critical care) ward at some point during their admission
- There was room for improvement in the timing of the first consultant review in 72/421 (17.1%) cases
- Review by a specialist heart failure team only occurred in 199/603 (33.0%) cases
- 273/561 (48.7%) patients were reviewed by a cardiology doctor during their admission
- For the sub-set of patients who were reviewed by a specialist (cardiologist or member of the heart failure team) 65 (36.9%) were reviewed within 12 hours, 114 (64.8%) within 24 hours and 149 (84.7%) within 48 hours. However, when cases not reviewed were included (243 cases), then 114/419 (27.2%) were reviewed in 24 hours and 149/419 (35.6%) within 48 hours
- The peer reviewers were only able to identify the timing of the first cardiology review in 141 cases. In these cases, they considered that this review did not take place within an appropriate time frame in 38/133 (28.6%) cases
- When cardiology review did take place, it resulted in treatment changes in more than two thirds (90/134; 67.2%) of patients
- Overall the reviewers found that there were 106/448 (23.7%) cases where there was room for improvement in specialist input. In 80 of the peer reviewed cases, the area for improvement related to cardiology input either being delayed, not occurring at all or being by too junior a member of the team.

## KEY FINDINGS

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### Investigation, treatment and management

- Only a minority of patients had a measurement of their natriuretic peptides. This test was done infrequently in both newly diagnosed (17/95; 17.9%) patients and patients with an established (50/319; 15.7%) heart failure diagnosis
- Echocardiography was done twice as frequently in newly diagnosed patients (42/95; 44.2%) as in patients already known to have heart failure (71/319; 22.3%)
- The reviewers considered that important investigations were omitted in 146/430 (34%) cases. Most commonly, this was an echocardiogram (86 patients) and in 43 patients that the measurement of natriuretic peptides was indicated but not done
- The reviewers considered that treatments or interventions were omitted in 96/435 (22.1%) cases. The most common omissions were respiratory support (CPAP or NIV) in 27 patients, diuretic treatment in 19 cases and nitrates in 16 patients
- In total there were 123/464 (26.5%) patients where one or more medication issue was identified by the case reviewers
- There were 286 patients where the reviewers was able to identify whether or not the patient was reviewed by a pharmacist. Of these patients 110 (38.5%) were reviewed by a pharmacist
- Reviewers identified that diuretic management could have been improved in approximately one in five cases 86/428 (20.1%) patients
- Only a small minority of patients (8/457; 1.8%) underwent a procedure in the cardiac catheter laboratory. There were an additional 26/392 (6.6%) cases where the reviewers considered that the patient should have undergone a procedure.

### Treatment escalation and critical care

- 127/462 (27.5%) patients were referred for escalation to a higher level of care. Of the 127 patients referred, 55 (43.3%) were not admitted to a higher dependency area
- The reviewers identified a further 31/212 (14.6%) patients where they considered that escalation in care did not occur but was indicated
- In the majority of patients (406/451; 90%) a treatment escalation decision was made at some point during the admission
- In the group of patients with a frailty score of eight or nine, escalation decisions were more frequently made at an earlier stage of the admission (48/66; 72.7% vs 110/204; 53.9% within 24 hours)
- In 181/272 (66.5%) patients the escalation decision was made more than 24 hours before the patient died
- The grade of doctor who made the escalation decision was a consultant in almost half of the cases (187/383; 48.8%). Where the decision was not initially made by a consultant it was confirmed by a consultant in 131/195 (67.2%) cases. There was therefore room for improved practice in 64/383 (16.7%) cases where the decision was not made or confirmed by a consultant.

### End of life and palliative care

- The patient's death was anticipated in the majority (373/459; 81.3%) of the cases reviewed
- There were 74/464 (16.1%) cases where CPR was attempted prior to death. Two thirds (49/73; 67.1%) of CPR attempts reported took place in patients where death had not been anticipated
- Of the patients with an established diagnosis of heart failure prior to the final admission, 45/361 (12.5%) were already receiving input from a palliative care service
- Just over a quarter of the peer reviewed cases (118/464; 25.4%) were referred to or discussed with the palliative care team. Of the remaining patients, the reviewers felt that a discussion would have been useful in a further 121/335 (36.1%) cases.

### Clinical governance and audit

- It was reported that data from 165/175 (94.3%) hospitals contributed to the national heart failure audit. Fewer (119/171; 69.6%) kept a register of heart failure patients locally
- Annual audit of heart failure services took place in 107/178 (60.1%) hospitals
- More than nine out of ten respondents reported that they were aware of gaps in the service they provided for heart failure patients (156/169; 92.3%). There were plans to fill these gaps in 141 of these hospitals
- The case notes had been reviewed for a morbidity and mortality meeting in 150/395 (38.0%) cases. In 208 cases the clinician was unable to inform us if a mortality and morbidity meeting had taken place for the patient
- Of the 150 cases that were reviewed, remediable factors in the patients care were identified in eighteen cases
- The clinician reviewing the case records in their own hospital using a structured form for this study was asked whether there were lessons they had identified that could be learned. In almost a quarter of cases (89/363; 24.5%) where they gave an answer they considered that there were lessons to be learned.

# Recommendations

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## **RECOMMENDATION 1:**

A guideline for the clinical management of acute heart failure should be available in all hospitals.

These guidelines should include standards for:

- The location of care - which should be on a specialist unit
- Arrangements for heart failure service review within 24 hours
- Initial investigations required to diagnose acute heart failure, including a standard protocol for the use of:
  - o BNP/NTproBNP testing
  - o Echocardiography
- Immediate treatments (medications guidance for treatment prior to specialist review)

Hospitals should audit against these standards annually.

*(Medical Directors, Directors of Nursing, Clinical Directors)*

This recommendation supports NICE guideline CG187

This recommendation refers to the specialist heart failure/ cardiology team review - see also RECOMMENDATION 2 regarding all acute admissions and consultant review within 14 hours of admission.

## **RECOMMENDATION 2:**

All patients admitted with acute heart failure should be reviewed by a consultant within 14 hours of admission, or sooner as the clinical need dictates (e.g. cardiogenic shock or respiratory failure) and discussed with a member of the heart failure multidisciplinary team. For patients with worsening symptoms despite optimal specialist treatment, this discussion should include their palliative care needs. *(Consultants)*

## **RECOMMENDATION 3:**

All heart failure patients should have access to a heart failure multidisciplinary team. Core membership of this team should include:

- A clinician with a sub-speciality interest in heart failure
- A specialist heart failure nurse
- A healthcare professional with expertise in specialist prescribing for heart failure

- The primary care team
- A specialist in palliative care

Other services such as cardiac rehabilitation, physiotherapy, occupational therapy, clinical psychology, elderly care, dietetics and clerical support should be involved as needed. *(Commissioners, Medical Directors, Directors of Nursing and Clinical Directors)*

This recommendation supports the draft NICE guidelines for chronic heart failure management outlining the core membership with the addition of palliative care to the core group.

## **RECOMMENDATION 4:**

Due to the complexity of medications used by patients with acute heart failure and their common co-morbidities, medications should be reviewed by a pharmacist with specialist expertise in prescribing for heart failure on admission to and discharge from hospital.

*(Lead Pharmacists)*

## **RECOMMENDATION 5:**

Serum natriuretic peptide measurement should be included in the first set of blood tests in all patients with acute breathlessness and who may have new acute heart failure. It is central to the assessment of these patients to guide further investigation. *(All Clinicians)*

This recommendation supports NICE guideline CG187 rec 1.2.2

## **RECOMMENDATION 6:**

An echocardiogram should be performed for all patients with suspected acute heart failure as early as possible after presentation to hospital, and within a maximum of 48 hours as it is the key to diagnosis, risk stratification and specialist management of acute heart failure. *(All Clinicians, Lead Physiologists and Medical Directors)*

This recommendation supports NICE guideline CG187 rec 1.2.4

## RECOMMENDATIONS

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### **RECOMMENDATION 7:**

Due to the poor sensitivity of individual physiological parameters (in particular heart rate) in identifying severity of illness in acute heart failure, use of a composite physiology score such as the National Early Warning Score is recommended. *(All Clinicians, Medical Directors and Directors of Nursing)*

### **RECOMMENDATION 8:**

For all patients with heart failure, best practice in escalation decision making includes:

- Assessment of the goals and benefits of treatment escalation
- Inclusion of the patient (and their family where possible)
- Involvement of the cardiology or heart failure consultant
- Agreement among members of the multidisciplinary team
- Communication of the decision with healthcare professionals across the whole care pathway

For patients with advanced heart failure, pre-emptive discussion in the outpatient setting of treatments that would not be beneficial, along with consideration of palliative care needs, can prevent unnecessary admissions and should be encouraged. Escalation decisions should be reviewed at the time of all admissions with acute heart failure. *(Heart Failure Teams/Consultant Cardiologists)*

See also: Treatment and care towards the end of life: good practice in decision making (GMC 2010)

### **RECOMMENDATION 9:**

All treatment escalation decisions that are not initially made by a consultant should be confirmed by a consultant at the earliest opportunity afterwards. The reasons for treatment escalation decisions should be fully documented in the patient's records. *(All Clinicians, Consultants)*

### **RECOMMENDATION 10:**

On discharge from hospital, all acute heart failure patients should receive a summary that includes:

- A named healthcare co-ordinator and their contact details
- Their diagnosis and the cause of their heart failure
- Current medications and description of any monitoring required

- Individualised guidance on self-management
- Functional abilities and social care needs
- Follow up plans
- Information on how to access the specialist heart failure team and urgent care

*(All Clinicians, Heart Failure/Cardiology Leads)*

This recommendation adds to NICE guideline CG187

### **RECOMMENDATION 11:**

After an admission with acute heart failure, all patients should be followed up by a member of the specialist heart failure team within two weeks of discharge from hospital as recommended in NICE guidance (CG187 rec 1.1.4). *(Heart Failure Teams/Consultant Cardiologists)*

### **RECOMMENDATION 12:**

Patients with a confirmed diagnosis of heart failure benefit from ongoing review. In line with current NICE guidelines (CG108), this should occur at least every six months and more frequently in unstable patients or those with comorbidity. Review should include:

- Clinical assessment of cardiac rhythm and fluid status
- Assessment of functional and nutritional status
- Medication review; including side effects and the need for changes
- Measurement of renal function and electrolytes

The individual responsible and location of this review should be tailored to meet each individual patient's needs and be guided by the heart failure multidisciplinary team.

In advanced heart failure, the responsibility for follow-up may transfer from the heart failure team to the palliative care service. *(Heart Failure Teams/Consultant Cardiologists)*

### **RECOMMENDATION 13:**

Heart failure patients should be offered an exercise based programme of cardiac rehabilitation that also includes education and psychological support. This is in line with the NICE quality standard (QS9) for chronic heart failure in adults. A record should be kept of the number (and percentage) of suitable heart failure patients who receive cardiac rehabilitation. *(Commissioners and Heart Failure Teams/Consultant Cardiologists)*

## RECOMMENDATIONS

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### **RECOMMENDATION 14:**

Pathways should be in place for patients with advanced heart failure who deteriorate to access palliative care in the community, in a hospice or in hospital when appropriate. Referral to specialist palliative care services should be based on patient-need and choice and not delayed until deterioration is considered irreversible. A full anticipatory care plan should be agreed with the patient and this should be communicated to and available to all those involved in the acute heart failure pathway. *(Palliative Care Leads, Commissioners, Community Providers and Ambulance Services)*

### **RECOMMENDATION 15:**

Hospitals should collect and audit data on the total number of heart failure patients under their care. These data should be submitted to the national heart failure audit. *(Medical Directors)*

## Overall quality of care

The reviewers assessed the care of the cases they reviewed as good practice (a standard they would accept for their own patients) in 44% of cases. There was room for improvement in clinical care in 44% of cases, in the organisation of care in 20.8%. The care provided was considered to have fallen below an acceptable standard in a number of areas (less than satisfactory) in 4.2% of the cases reviewed (Figure 11.1).

There was no impact on the overall rating of care when services with or without a service lead were compared. The reviewers' rating of care was influenced by whether or not specialist review took place. When patients received appropriate specialist review, in 182/338 (53.8%) cases the care was rated as good practice and if specialist review did not take place, in only 13/105 (12.4%) was the care rated as good. There was room for improvement in clinical care in 124/338 (36.7%) and 72/105 (68.6%) respectively (Figure 11.2).

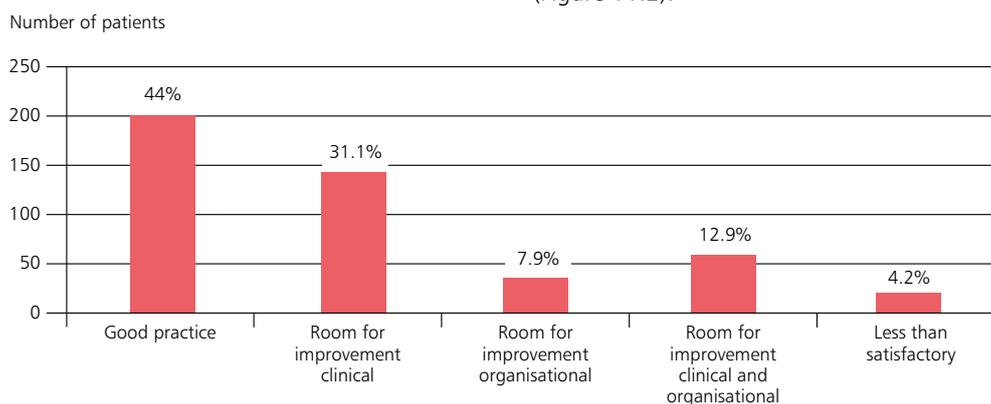


Figure 11.1 Overall assessment of care

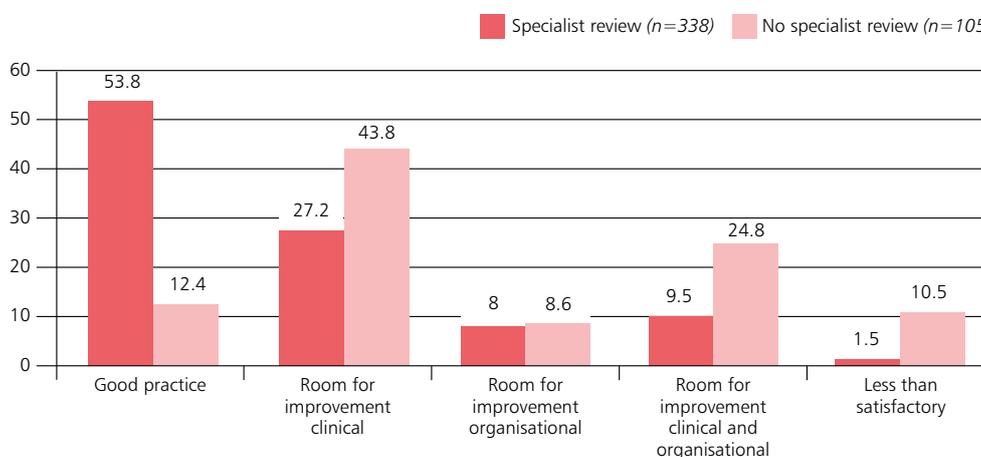
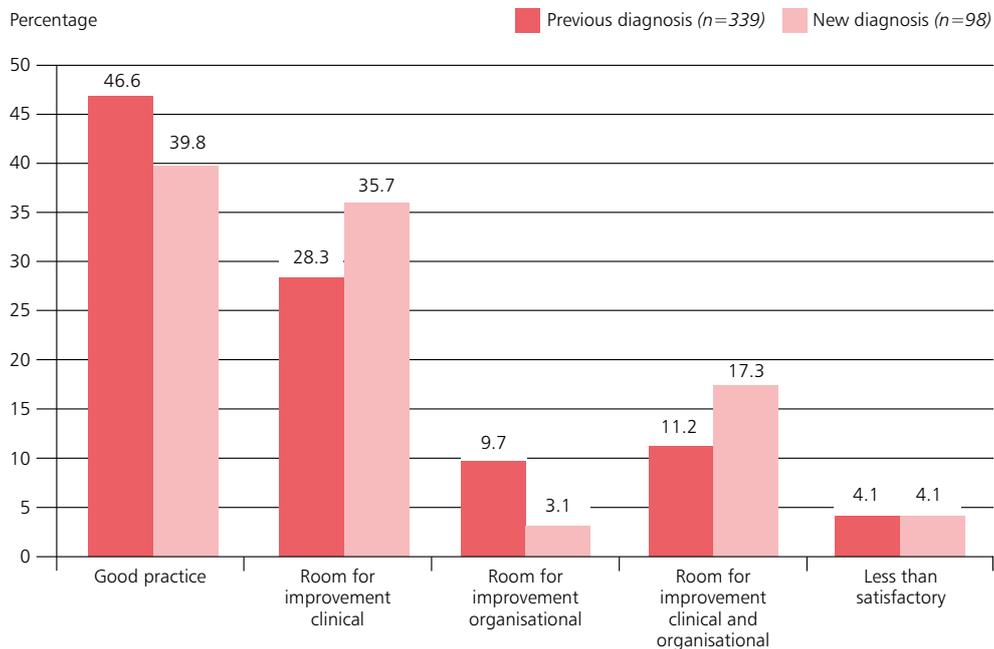


Figure 11.2 Overall assessment and specialist review (%)

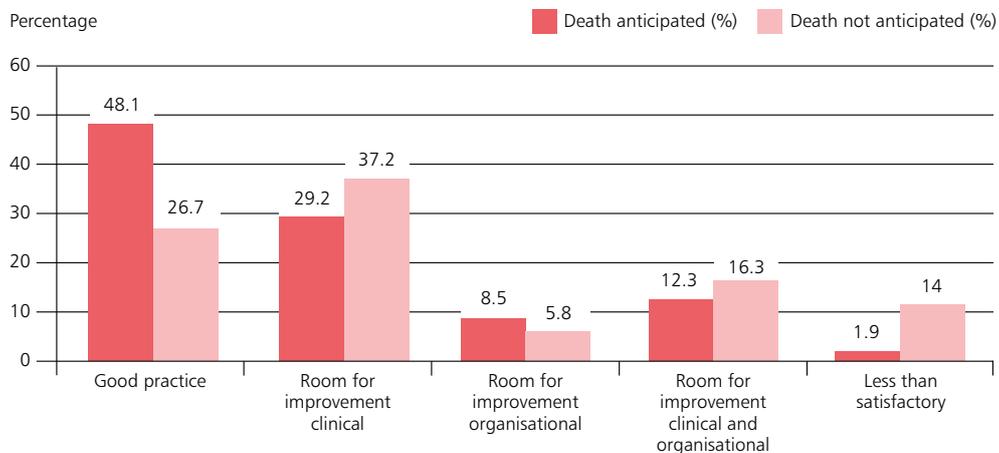
**OVERALL QUALITY OF CARE**

As discussed earlier, specialist review of newly diagnosed heart failure patients is of particular value. When the overall rating of care for newly diagnosed patients was compared with that of patients with an established diagnosis, there was room for improvement in clinical care in 53% of newly diagnosed patients and in 39.5% of patients with a previous heart failure diagnosis (Figure 11.3).

Similarly in the 86 patients where the death was not anticipated (the reviewers thought survival was more likely), there was room for improvement in clinical care in a greater percentage of cases (53.5% vs 41.5%). This also identified 12/19 cases where the care was rated as less than satisfactory (Figure 11.4).



**Figure 11.3 Overall assessment: new vs established heart failure**



**Figure 11.4 Overall assessment: death anticipated (n=366)/ not anticipated (n=86)**

## Summary

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This study included patients who died before the end of the seventh day of an admission with acute heart failure. It has uncovered a number of areas where improvements are needed in both the organisation of services and in the clinical care provided to these patients. The presence of chronic heart failure in the majority of patients also ensured that it was possible to assess the long term care pathway for these patients.

There was room for improvement identified in clinical patient care in 44% (200/459) of the patient cases reviewed. This applied in particular to patients with newly diagnosed heart failure, where there was room for clinical improvement in 53% (52/98) of patients in the study.

It is already known that access to a heart failure specialist improves access to investigations, uptake of heart failure treatment and mortality rates. This study has reinforced the value of specialist input: after detailed review, care was rated as good in 53.8% of cases where the patient had been reviewed by a specialist but in only 12.4% of those who were not. Only 33% (199/603) of patients were reviewed by a specialist heart failure team during the inpatient episode. Better access to heart failure specialists is clearly needed.

There was also room for improvement the investigation of these patients. Despite guidelines recommending the use of serum natriuretic peptide measurements, and their wide availability in hospitals, they have not been accepted in clinical practice. Abnormal natriuretic peptide levels can highlight the need for echocardiography. Only 15.7% (50/319) of patients with established heart failure and

19.9% (17/95) of patients with a new diagnosis had this test. Furthermore, only 84% (144/171) of hospitals reported having a service to undertake the test.

Echocardiography is an essential part of the assessment of patients with acute heart failure. It is needed to make an accurate diagnosis, to assess prognosis and to guide specific treatment. Only 22.3% (71/319) of patients with established heart failure and 44.2% (42/95) of patients with a new diagnosis had an echocardiogram.

For patients with advanced heart failure, palliative care teams can help with assessment and control of symptoms while providing support for patients and their families. A quarter (25.4%; 118/464) of these patients were referred to or discussed with the palliative care team. There were an additional 121 patients where the reviewers stated that discussion would have been appropriate.

To deliver the standard of care that these patients deserve, all hospitals need a heart failure multidisciplinary team that includes membership from all professional groups that care for these patients. Local guidelines should include standards for specialist review, investigation and treatment and the performance of services should be assessed against these standards. In advanced heart failure, proactive discussion about treatment escalation and early involvement of palliative care services will also help to improve the experience of patients and their families. There are plenty of resources available to guide the care of acute heart failure but faster and accurate diagnosis and action is required.

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