**Introduction**

This study included patients who died before the end of the seventh day of an admission with acute heart failure. It has uncovered 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.

A National Heart Failure Audit was established in 2007 to monitor the care and treatment of patients in England and Wales with acute heart failure. The audit reports on all patients discharged from hospital with a primary diagnosis of heart failure, publishing analysis on patient outcomes and clinical practice. Audit findings can be used to measure the implementation of guidelines for the clinical management of heart failure from the National Institute for Health and Clinical Excellence (NICE) and the European Society of Cardiology Heart Failure Association (ESC HFA). The audit has consistently shown that specialist cardiology input and the prescription of recommended treatments are associated with prolonged survival and better outcomes for heart failure patients.

This study was developed with the involvement of the National Heart Failure Audit and adds a different perspective on clinical practice and organisational systems and structures.

NCEPOD produces other tools and resources that you may find useful for using the report. These can be found at <http://www.ncepod.org.uk/2018ahf.html>

**Patient population**

Patients (aged 16 and older) who were admitted as an emergency with a primary diagnosis of heart failure and died in hospital were included in the study. A subpopulation of patients who died in hospital within seven days of admission were selected for detailed review of their care. Around a third of the sample had symptoms at rest or on minimal exertion (New York Heart Association (NYHA) category 4).

There are around 900,000 people in the UK with heart failure (chronic or acute)[[1]](#footnote-1). The in-hospital mortality rate for those admitted with acute heart failure is approximately 10%.

**Clinical issues**

* A specialist inpatient heart failure service was available at 88.2% hospitals
* Outpatient provisions for heart failure patients were provided in 96.0% hospitals
* An on-site echocardiography service was available at 96.5% hospitals
* An ‘on demand’ service for echocardiography within the outpatient heart failure clinic, was available at 57.2% of hospitals
* A rapid access heart failure clinic was available at 52.3% hospitals
* A cardiac rehabilitation service was available at 83.1% hospitals
* A guideline or protocol for acute heart failure was available at 66.9% hospitals. 66.1% used the national guideline
* Follow up by a specialist team in either the hospital or the community was provided by almost all hospitals
* A palliative care service for heart failure patients was provided at the majority of hospitals
* Only 58.7% patients with NYHA grade IV heart failure were under the heart failure team
* In 29.5% of 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.
* 80.9% patients had an ECG in the emergency department but only 8.5% had measurement of natriuretic peptides
* Overall, less than a fifth of both newly diagnosed and patients with established heart failure has natriuretic peptides measured
* Echocardiography was done more frequently in newly diagnosed patients (44.2%) than in patients already known to have heart failure (22.3%)
* Important investigations or treatments were omitted in the emergency department in 28% patients
* 33.7% patients were transferred to a specialist (cardiology, coronary care, or critical care) ward at some point during their admission
* Review by a specialist heart failure team only occurred in 33.0% cases and review by a cardiology doctor during their admission in less than half
* Treatments or interventions were omitted in 22.1% of cases. The most common omissions were respiratory support (CPAP or NIV), diuretic treatment and nitrates.
* Just over a quarter of the peer reviewed cases were referred to or discussed with the palliative care team. A discussion would have been useful in a further 36.1% of cases.

**Organisational issues**

* 94.3% of hospitals contributed to the national heart failure audit. Fewer (69.6%) kept a register of heart failure patients locally.
* Annual audit of heart failure services took place in 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.

**Key features of a service**

The report recommends that the following should be in place:

* 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:

* + BNP/NTproBNP testing
  + Echocardiography

• Immediate treatments (medications guidance for treatment prior to specialist review)

* A heart failure multidisciplinary team with a core membership of:
  + 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.

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

* 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, to prevent unnecessary admissions.
* Escalation decisions should be reviewed at the time of all admissions with acute heart failure.

**National guidance and reports**

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1. National Heart Failure Audit Annual Report. April 2015 – March 2016. [↑](#footnote-ref-1)