Enhancing and improving the quality of Heart Failure services:
Dashboards for acute and community heart failure services
Heart failure is a debilitating and potentially life-threatening condition that occurs when the heart cannot pump enough blood around the body, often when the heart muscle has been injured. The condition represents a major and growing cost to the NHS and wider society. Heart failure affects 550,000 people in the UK, with many more undiagnosed. It is the leading cause of hospital admission in over 65s and it is one of the five long term conditions responsible for 75% of unplanned hospital admissions.

UK-wide heart failure accounts for circa 1 million inpatient bed days and 5% of all emergency and medical admissions. In total, the condition accounts for almost 2% of the entire NHS budget, equating to approximately £2.3bn every year. Projections indicate that hospital admissions for heart failure are set to rise by 50% in the next 25 years due to an ageing population.

There are considerable variations in access to specialist care and outcomes for heart failure patients across the country. Patients not treated on a cardiology ward are 54% more likely to die in hospital and 14% more likely to die following discharge. A fifth of patients receive no specialist input to their care upon hospital admission with these patients almost twice as likely to die in hospital compared to those who are seen by a specialist cardiologist or heart failure specialist nurse. Currently, the 5 year survival rate for heart failure is worse than that of breast and prostate cancer.

There are a number of areas where there are opportunities to improve conditions for people living with heart failure. The EQ Heart Failure Programme monthly dashboard reports, would help to identify where such improvements can be made as well as provide a strong platform to discuss and ultimately make key recommendations to providers and commissioners.

The EQ programme was established in 2010 and is supported by strong clinical leadership, benchmarking and collaborative learning. The programme adopted four hospital process measures, derived from the Hospital Quality Incentive Demonstration (HQID) programme in the USA. It developed a suite of community measures, which together are used to identify and reduce variation in Heart Failure care. Improvement is delivered through the presentation of key evidence-based clinical measures in monthly dashboard reports at trust and site level across KSS. In 2015 the EQ programme began utilising the National Heart Failure Audit (NHFA) for the purpose of data collection and monthly reporting.

Early results from KSS HF project

The Enhancing Quality (EQ) Heart Failure Programme is clinically led and data driven. It aims to tackle variation in care for heart failure patients, improve outcomes and save lives across Kent, Surrey and Sussex (KSS). The EQ programme was established in 2010 and is supported by strong clinical leadership, benchmarking and collaborative learning. The programme adopted four hospital process measures, derived from the Hospital Quality Incentive Demonstration (HQID) programme in the USA. It developed a suite of community measures, which together are used to identify and reduce variation in Heart Failure care. Improvement is delivered through the presentation of key evidence-based clinical measures in monthly dashboard reports at trust and site level across KSS. In 2015 the EQ programme began utilising the National Heart Failure Audit (NHFA) for the purpose of data collection and monthly reporting.

Measurement helps to improve quality of care and patient experience in hospital and in the community. After local consultation it was agreed that six key fields from the NHFA would be included in the acute care bundle, with four fields reported on for information only. For community services, two measures align with NICE Quality Standards and seven additional information fields will be reported on to demonstrate the complexities and symptoms of the patient group.

We believe that the delivery of regional robust monthly reports at trust and service level for 15 hospitals and 12 community heart failure services across KSS will enable commissioners and providers to examine and understand how they can deliver better care and outcomes for people with Heart Failure and their families. It will also address the considerable variation that currently exists in the management of Heart Failure and associated outcomes.

Accurate measurement of the care delivered is necessary to identify strengths and weaknesses and to quantify the impact of the implementation of changes.

The heart failure pathways have shown an improvement in care bundles from just above 10% in 2010 to 80% in 2015, representing continuous improvement across the region. The pathway in 2015 has now merged with the NHFA in the acute trusts and aligned with NICE quality standards in the community services. It is too early to share any results from the new measures.

We envisage the EQ Heart Failure Programme could be adopted in other regions with training on the collaborative process and the KSS AHSC providing analytical support and delivering monthly dashboard reports.

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Using NICE Quality Standards and examining the variations demonstrated in the National Heart Failure audit reports that has been running since 2007.

Regional Clinical Leadership and expertise was crucial, designing appropriate metrics using the evidence, gaining a clinical consensus and then having providers of the different parts of the pathway come together to review their respective performance against the metrics and how they can work together better in the interests of the patient.

The Enhancing Quality programme is a large scale change programme which uses various quality improvement tools including driver diagrams and process mapping to create a culture of sharing best practice across the region.

The facts:
- Heart Failure affects 550,000 people in the UK(1), with many more undiagnosed(2)
- Heart Failure is the leading cause of hospital admission in over 65s(3)
- Projections indicate that hospital admissions for Heart Failure are set to rise by 50 per cent in the next 25 years due to an ageing population(4)
- 5 year survival rate for Heart Failure is worse than breast or prostate cancer(10).

The purpose:
- To facilitate widespread adoption of the EQ programme in heart failure services nationally.
- To drive improvement by delivering key evidence based clinical measures in monthly reports at trust and site level to improve outcomes, reduce variation and save the lives of people living with Heart Failure.

The set up process in other regions:
- Educate teams on the NHFA data detail
- Hospital inputs data to NHFA database monthly
- Hospital extracts all core mandatory fields’ data from the NHFA database and submits it to the EQ team in line with EQ timelines
- EQ team sends out the monthly dashboard reports at trust and site level, benchmarked for all hospitals in the region that have been set-up
- Bi-annual collaborative learning events are established.

The Enhancing Quality programme was established in 2010 and works with 15 hospitals and 12 community services across Kent, Surrey and Sussex to bring together Heart Failure specialist teams from Acute and Community settings to benchmark the quality of care being provided, to measure improvement of that care and provide regional and international comparisons. Integrating care across delivery settings was essential to improving patient outcomes. In 2015 the EQ programme merged with the National Heart Failure Audit for the purpose of data collection and reports on six key measures that form a care bundle and four additional fields are reported on for information only. The monthly reports are delivered at Trust and site level and benchmarked for all hospitals across the region. In the community the measures have been reviewed and aligned with NICE quality standards and also report on information only fields to demonstrate the symptoms and complexity of the patient group.

In addition to delivering monthly dashboard reports, the Enhancing Quality programme offers peer to peer support visits across services and hosts bi-annual collaborative learning events to bring together acute and community heart failure clinicians and patients to enable a transparent discussion around areas of variation and to learn how we can pick up and share best practice to make a marked improvement in outcomes and care for patients.

The ability to benchmark results at individual clinician, ward or team level assists with peer review, the improvement cycle and identifying beacons of excellence or areas of concern. A clear data dictionary ensuring comparability and transparency of the data is key.
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Acute care bundle measures and key standards

**Specialist input**

*Standards*
People admitted to hospital because of Heart Failure are supported by a multidisciplinary heart failure team who contribute to their management plan. (6)

**ACE / ARB on discharge (LVSD population)**

*Standards*
People with chronic Heart Failure due to left ventricular systolic dysfunction are offered angiotensin-converting enzyme inhibitors (or angiotensin II receptor antagonists licensed for Heart Failure if there are intolerable side effects with angiotensin-converting enzyme inhibitors) and beta-blockers licensed for Heart Failure, which are gradually increased up to the optimal tolerated or target dose with monitoring after each increase. (6)

**Beta blocker on discharge (LVSD population)**

*Standards*
People with chronic Heart Failure due to left ventricular systolic dysfunction are offered angiotensin-converting enzyme inhibitors (or angiotensin II receptor antagonists licensed for Heart Failure if there are intolerable side effects with angiotensin-converting enzyme inhibitors) and beta-blockers licensed for Heart Failure, which are gradually increased up to the optimal tolerated or target dose with monitoring after each increase. (6)

**Echocardiography (during admission or in last 12 months)**

*Standards*
People referred for specialist assessment including echocardiography (either because of suspected Heart Failure and previous myocardial infarction, or suspected Heart Failure and high serum natriuretic peptide levels) are seen by a specialist and have an echocardiogram within 2 weeks of referral. (6)

**Heart Failure Management Plan**

*Standards*
People admitted to hospital for Heart Failure are discharged only when stable and receive a clinical assessment by a multidisciplinary Heart Failure team within 2 weeks of discharge (6).

**Referral to Heart Failure Specialist Nurse Follow Up (LVSD population)**

*Standards*
People admitted to hospital because of Heart Failure have a personalised management plan that is shared with them, their carer(s) and their GP. (6)
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There is a considerable variation in quality of Heart Failure care in the NHS. Patients who receive no specialist input are almost twice as likely to die in hospital compared to those who are seen by a specialist cardiologist or Heart Failure specialist nurse. (5)

A fifth of patients receive no such specialist input to their care upon hospital admission. (5)

Outcomes are consistently poor for patients who receive suboptimal care. But input from Heart Failure specialists and prescription of evidence-based Heart Failure therapies have a significant impact on prognosis and life expectancy. (6)

Place of care, specialist input and age have the greatest influence upon reducing one-year mortality rates. (7)

Patients who received specialist Heart Failure care are around three times more likely to be referred to follow-up with a cardiologist or Heart Failure nurse. (7)

Men are more likely than women to receive an echo (7).

Patients treated on cardiology wards are more likely to receive an echo than patients who are not seen by a specialist doctor or nurse. (7)

Input from Heart Failure specialist nurses shows a significant improvement in the quality of life of patients and a reduction in admissions, which results in a cost saving per patient to the NHS. (9)

Men and younger patients are more likely than women to receive referrals to specialist follow-up services, as are patients over 75 years old. (7)

Referral to specialist follow-up is associated with better outcomes that are still evident several years after discharge. (7)
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Community measures

Management (LVSD population)

Standards
People with chronic Heart Failure due to left ventricular systolic dysfunction are offered angiotensin-converting enzyme inhibitors (or angiotensin II receptor antagonists licensed for Heart Failure if there are intolerable side effects with angiotensin-converting enzyme inhibitors) and beta-blockers licensed for Heart Failure, which are gradually increased up to the optimal tolerated or target dose.

Clinical assessment within 2 weeks

Standards
People admitted to hospital because of Heart Failure are discharged only when stable and receive a clinical assessment from a member of the multidisciplinary Heart Failure team within 2 weeks of discharge.

Community evidence

Management (LVSD population)

The average drug dose will be measured and compared to a target of at least 50% of the maximum dose in this measure: Measuring the average dose vs % reaching maximum dose is to maximise improvement in outcomes, as for a significant proportion of patients the maximum dose is not achievable for good clinical reasons. (5) Fats wants to know if this is the right reference?

To achieve improvement in outcomes patients needed to be on at least 50% of the maximum dose. (5)

Outcomes are consistently poor for patients who receive suboptimal care but input from Heart Failure specialists and prescription of evidence-based Heart Failure therapies have a significant impact on prognosis and life expectancy. (6)

Clinical assessment within 2 weeks

Population is: all patients who have been referred and accepted to the community Heart Failure service caseload should receive a clinical assessment within two weeks of the referral being received.

Input from Heart Failure specialist nurses shows a significant improvement in the quality of life of patients and a reduction in admissions, which results in a cost saving per patient to the NHS. (9)

The frequency of follow up and detail of monitoring needs to be personalised according to the severity of symptoms, stability of clinical status, intensity of treatment, and any co-morbidity. (4)

The follow-up interval should be short (up to 2 weeks) if the clinical condition or medication has changed, and at least every 6 months if the person's condition is stable. (4)
**Acute**

**Main place of care**
The ward in which the patient received the majority of their care is used to examine variations in care and outcomes deriving from variation in treatment and management, and the association of this with ward of treatment during admission. (7)

**Was a review appointment with the specialist MDT HF team made and a date given to the patient on discharge?**

People admitted to hospital for Heart Failure are discharged only when stable and receive a clinical assessment by a multidisciplinary Heart Failure team within 2 weeks of discharge. (8)

**Referral to Heart Failure Nurse Specialist follow up? (Non-LVSD population)**
Referred for follow-up with a Heart Failure specialist nurse - this could be at a hospital or community-based clinic. This should record a referral has been made in the notes at point of discharge (7)

**Aldosterone Antagonist (MRA) on discharge. (LVSD population)**
Treating Heart Failure due to LVSD: for second-line treatment consider adding an aldosterone antagonist.(4)

**Breathlessness:**
This is a standard breathlessness score used to assign New York Heart Association Classification on 1st Clinical assessment.
NYHA 1, 11, 111, 1V.

**Oedema:**
This is an assessment of the level of peripheral oedema present at 1st clinical assessment. Ankle or sacral oedema on 1st Clinical assessment.

**Echo assessment:**
Results of echocardiography, or other gold standard test (including MRI, nuclear scan, angiogram and CT scan) (Multiple options may be selected).

**Other long term conditions:**
(multiple options may be selected)
1. Arthritis
2. Asthma
3. Atrial Fibrillation
4. Cancer
5. Chronic Kidney Disease: eGFR < 60
6. Chronic obstructive pulmonary disease
7. Dementia

**Community**

**Breathlessness:**
This is a standard breathlessness score used to assign New York Heart Association Classification on 1st Clinical assessment.
NYHA 1, 11, 111, 1V.

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Results of echocardiography, or other gold standard test (including MRI, nuclear scan, angiogram and CT scan) (Multiple options may be selected).

**Other long term conditions:**
(multiple options may be selected)
1. Arthritis
2. Asthma
3. Atrial Fibrillation
4. Cancer
5. Chronic Kidney Disease: eGFR < 60
6. Chronic obstructive pulmonary disease
7. Dementia
8. Depression / stress and anxiety
9. Diabetes
10. Fainting (independent but at high risk of developing disability)
11. Hypertension (on anti-hypertensive)
12. Ischaemic heart disease
13. Stroke or TIA

**Anticoagulants:** (this is linked with 3. Atrial fibrillation in the LTC section above)
The anticoagulants section will be reported on for all patients who are indicated to have atrial fibrillation (AF) in the long term conditions section. The drug name and dose will be recorded monthly. The population who have AF and have ‘none’ recorded for anticoagulant will be referred to their GP for review.

Atrial fibrillation is the most common sustained cardiac arrhythmia and estimates suggest its prevalence is increasing. If left untreated atrial fibrillation is a significant risk factor for stroke and other morbidities. Men are more commonly affected than women and the prevalence increases with age. The aim of treatment is to prevent complications, particularly stroke, and alleviate symptoms. Drug treatments include anticoagulants (to reduce the risk of stroke) and antiarrhythmic (to restore or maintain the normal heart rhythm, or to slow the heart rate in people who remain in atrial fibrillation). (11)

Aldosterone Antagonist (MRA) on discharge. (LVSD population)
Treating Heart Failure due to LVSD: for second-line treatment consider adding an aldosterone antagonist.(4)

Patients with HF due to LVSD that leave hospital with a prescription of ACE Inhibitor / ARB, Beta blocker and MRA have far better outcomes than those who do not.(7)

Ivabradine:
Ivabradine should be initiated only by a Heart Failure specialist after 4 weeks of stable optimal standard therapy: monitoring and dose titration should be carried out by a member of the specialist Heart Failure MDT. (12)

Drug name and dose prescribed will be recorded monthly.

The follow-up interval should be short (up to 2 weeks) if the clinical condition or medication has changed, and at least every 6 months if the person’s condition is stable. (4)
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References

To note: all standards and supporting evidence in the acute care bundle measures have been extracted from the current NHFA guidance (2015).


