1.1. What is Heart Failure?

Heart Failure (HF) refers to a reduction in heart function (either emptying or filling) leading to a rise in filling pressures in the heart. This eventually leads to the clinical features of congestion; symptoms of breathlessness and fatigue, and signs such as ankle swelling. HF is common, affecting approximately 900,000 people in the United Kingdom. It causes or complicates about 5% of all emergency hospital admissions in adults and consumes up to 2% of total National Health Service (NHS) expenditure. It is the final common pathway of most serious forms of cardiovascular disease. In the UK it is most commonly attributable to myocardial (heart muscle) dysfunction.

In the UK, the most common type of HF is due to left ventricular systolic dysfunction, where there is significantly impaired contraction of the left ventricle. This is called HF with reduced Ejection Fraction (HFrEF). In HFreF the left ventricular ejection fraction (LVEF) is ≤40%. HF with more mildly reduced systolic function (LVEF 41-49%) is referred to as HFmrEF. HF can also be attributed to impaired filling of the left ventricle when the heart muscle is thickened, often as a result of long-standing high blood pressure, which is called HF with preserved ejection fraction (HFpEF). HF is often described as Chronic Heart Failure (CHF) when patients have relatively stable symptoms of breathlessness, fatigue and ankle swelling, and Acute Heart Failure (AHF), when the symptoms become severe and the patient usually requires admission to hospital. However, in many cases deterioration occurs gradually over several weeks before hospital admission and might be prevented if detected and managed earlier. The typical course of CHF is punctuated by periods of acute or sub-acute decompensation into AHF, although good management and monitoring will make these episodes less frequent.

HF is often associated with marked reductions in quality of life and high levels of debility, morbidity and mortality. This imposes a heavy burden, not only on patients, but also on those who care for them. Repeated hospitalisations are a measure of the adverse effects of HF on quality of life, the failure to control symptoms and disease progression, the high levels of co-morbidity and ultimately of an adverse prognosis; they also make a large contribution to the huge fiscal cost of HF to the NHS. Survival rates for HF patients are variable, dependent on the age and severity of disease of the patient, and the quality of care they receive.

Outcomes are consistently poor for patients who receive suboptimal care but input from the HF specialists and prescription of evidence-based HF therapies have a substantial prognostic benefit, alongside important improvements in the quality of life.

The National Heart Failure Audit (NHFA) deals with a specific and crucial phase in the patient journey. It reports on the characteristics of patients admitted to hospital with acute or sub-acute HF, describes their in-hospital investigation and care, the treatment given and the discharge planning and follow up which is offered.

The audit is now well established, reporting key metrics on over 70% of admissions with a primary diagnosis of HF and trends on key performance indicator (KPIs) and outcomes compared to previous years.

1.2. Management of patients with Heart Failure

The treatment of HF is determined by the mode of presentation, that is acute or chronic, and the underlying type of cardiac dysfunction (HFrEF or HFpEF).

There has been little progress in the treatment of AHF over the last forty years. Oxygen and intravenous diuretics rapidly relieve (usually within 30-90 minutes) symptoms of pulmonary congestion (breathlessness). Diuretics are also the mainstay of treatment for peripheral congestion although this may require several days of intensive treatment before it is controlled. Once patients are euvolaemic, after intravenous therapy, they are converted to oral diuretics to ensure that they remain free from symptoms and signs of congestion (breathlessness and peripheral oedema).

For those who have HFrEF as the underlying cause of their HF, key disease modifying medicines need to be given. These are ACE inhibitors (ACEi) or Angiotensin Receptor Blockers (ARBs), and Beta-Blockers (BBs) and Mineralocorticoid Receptor Antagonists (MRAs). More recently, the Angiotensin-Neprilysin Inhibitor (ARNI) sacubitril valsartan has emerged as a replacement for ACEi in certain patients with CHF. Data from numerous clinical trials in HF show that these medicines improve or reduce recurrent worsening of symptoms and reduce hospitalisations for HF and mortality. Previous audit reports show that patients discharged on all three of these drugs i.e. an ACEi (or ARB, or ARNI), a BB and an MRA, have better survival rates from discharge out to 6 years of follow up compared to those discharged on fewer or none. The prescription of these medicines for HFrEF is a KPI in this audit. Audit KPI's are under constant review. Most recently a new class of drugs, the SGLT2 inhibitors, including dapagliflozin and empagliflozin have also been shown to reduce mortality and hospitalisations for HF in patients with HFrEF. These will be added as KPIs going forward.

1.3. Guidelines and Quality Standards

The NHFA dataset is continuously evolving to ensure it remains an appropriate rapporteur of current evidence-based guideline recommended HF care, and wherever possible reflects current Quality Standards. This 14th report reflects practice for the last financial year, and therefore should be assessed in the context of the then available acute HF guidelines including the 2014 NICE Guideline for AHF and the related 2015 Acute HF Quality Standards, and the 2016 European Society of Cardiology (ESC) Heart Failure Guideline. The 2018 NICE Chronic HF Guideline places particular emphasis on transfer of care from the hospital to the community, with early specialist review. The most recent European Guidance was published during 2021.

The guidelines are based on evidence from many randomised controlled trials that enrolled many thousands of patients. The NICE guidelines also include economic modelling of the cost-effectiveness of implementing the findings of these trials. Some of this work has used data from the National Heart Failure Audit. Thus, a virtuous cycle is established whereby audit data from routine practice is used to identify deficiencies in care that can be improved by implementing guidelines and quality standards leading to improved care and outcomes. However, patients will only derive benefit if the information is acted upon, as outlined below.

The audit data are used to determine where the Best Practice Tariff (BPT) for HF has been achieved. Hospitals are expected to include ≥70% of their HF emergency admissions in the first diagnostic position and, of these, 60% should have been seen by a specialist, ideally early and repeatedly, during the admission.