

# Earlier heart failure diagnosis in primary care

A timely and accurate heart failure diagnosis is the gateway to effective treatment that can improve quality of life and prognosis for patients;<sup>1</sup> however, almost 80% of people receive an initial diagnosis following emergency admission to hospital.<sup>2</sup> This is distressing for patients and families, costly to the NHS, and usually denotes progression to a later stage of disease. The British Heart Foundation has called for earlier diagnosis of heart failure to be prioritised,<sup>3</sup> but what are the challenges for primary care?

### HEART FAILURE BURDEN

Around a million people in England are living with heart failure, and nearly 200 000 are newly diagnosed each year.<sup>4</sup> Patients typically experience increasing breathlessness, fatigue, and leg swelling, which can impair their quality of life. The outlook following a heart failure diagnosis is worse than many common cancers and survival rates have not improved substantially in the last two decades.<sup>5</sup> The NHS spends around £2 billion per year on heart failure care, with most of the cost incurred through emergency department attendance, prolonged hospital stay, and frequent readmissions.<sup>1</sup> Families and carers are also impacted and can often play a vital role in supporting patients following diagnosis.

### TREATABLE CONDITION

Heart failure is categorised according to left ventricular ejection fraction to guide management: heart failure with reduced ejection fraction (HFrEF) and heart failure with preserved ejection fraction (HFpEF).<sup>1</sup> There is a substantial evidence base for HFrEF treatments, such as angiotensin-converting enzyme inhibitors, beta-blockers, and mineralocorticoid receptor antagonists, which can improve quality of life, reduce hospital admissions, and increase survival. Newer drugs such as sacubitril/valsartan, ivabradine, and most recently sodium-glucose

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cotransporter-2 (SGLT2) inhibitors, are also available for specialist initiation. Prognostically beneficial treatments for HFpEF have been limited until recently when SGLT2 inhibitors dapagliflozin and empagliflozin showed promising results in clinical trials.<sup>6</sup> Treatment of valvular heart disease and arrhythmias is also important if a correctable cause of heart failure is found. For all types of heart failure, diuretic therapy is vital to relieve fluid overload.

### NATRIURETIC PEPTIDE TESTING

The National Institute for Health and Care Excellence (NICE) chronic heart failure guideline recommends that patients presenting to primary care with symptoms suggestive of heart failure undergo natriuretic peptide testing.<sup>1</sup> B-type natriuretic peptide (BNP) and NT-proBNP are both clinically available and perform similarly for diagnosis.<sup>7</sup> If the natriuretic peptide level is raised, the patient requires referral for echocardiography and further assessment by a specialist to confirm the diagnosis of heart failure. Thresholds for referral differ between European and NICE guidelines, and this is further explored in our accompanying diagnostic accuracy study in this edition of the *BJGP*.<sup>8</sup> A very high natriuretic peptide level is associated with an increased risk of hospitalisation and worse prognosis, so NICE recommends patients with a NT-proBNP level >2000 ng/L be seen within 2 weeks, and all patients with a NT-proBNP >400 ng/L be seen within 6 weeks.<sup>1</sup>

### DIAGNOSTIC DELAYS

The pathway to heart failure diagnosis

is complex, however, and dependent on patient, clinician, and system factors that can lead to delays. The mean age at diagnosis is 77 years, and most patients have other long-term conditions and take several medications.<sup>4</sup> The main symptoms of heart failure are also common, with a variety of causes, and awareness of the condition among the public is limited. Qualitative interviews with people recently diagnosed with heart failure found participants ‘normalised’ symptoms such as breathlessness, putting it down to old age or another condition, which led to a delay in accessing medical services.<sup>9</sup> The term ‘heart failure’ itself was perceived to be frightening and often misunderstood.

There is also evidence of delays between patients first presenting to primary care with symptoms and subsequent referral to specialist services.<sup>10</sup> Clinicians may initially link common symptoms such as breathlessness to existing disorders (for example, lung disease) and optimise management before considering an alternative diagnosis. A normal natriuretic peptide level can be helpful to rule out a heart failure diagnosis but universal access to rapid testing is needed. A recent large study using primary care data to analyse trends in natriuretic peptide testing between 2004 and 2018 showed testing increased during the study period, with NT-proBNP being the favoured test. However, only one in four patients had a natriuretic peptide test prior to heart failure diagnosis.<sup>11</sup>

There are also capacity issues in echocardiography services, and analysis of primary care data showed that timeframes recommended by NICE for patients to receive a formal heart failure diagnosis through imaging and specialist assessment were not being achieved in practice.<sup>10</sup>

### RAISING AWARENESS

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*"Inspired by the 'FAST' acronym for stroke, we created BEAT-HF – Breathless, Exhausted, Ankle Swelling, Time for a simple blood test – with the aim to raise awareness among the public, patients, and healthcare workers in primary and secondary care to consider a diagnosis of heart failure."*

among the public. Cancer awareness campaigns have successfully highlighted the symptoms of common cancers and a similar approach could be helpful in heart failure to encourage symptomatic patients to seek help. Inspired by the 'FAST' acronym for stroke, we created BEAT-HF – Breathless, Exhausted, Ankle Swelling, Time for a simple blood test<sup>12</sup> – with the aim to raise awareness among the public, patients, and healthcare workers in primary and secondary care to consider a diagnosis of heart failure. The patient-led heart failure charity Pumping Marvellous Foundation is successfully leading the BEAT-HF campaign and we hope the acronym will be adopted more generally across the healthcare system.

### ACHIEVING EARLIER DIAGNOSIS

Heart failure is a common, costly, yet treatable clinical syndrome; but while guidelines offer clear pathways for diagnosis, the complexity and multimorbidity of patients in primary care means the reality of the diagnostic journey is far more challenging. Changes

across the patient pathway are required to prevent admissions to hospital and facilitate diagnosis at a more treatable stage. Greater public awareness of heart failure symptoms, clinicians considering the diagnosis in patients with new-onset or worsening breathlessness, increasing use of natriuretic peptide testing to inform decision making, investment in echocardiography capacity, and access to rapid diagnostic referral pathways are all needed to achieve earlier diagnosis in primary care.

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### Provenance

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### Competing interests

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