Heart failure (HF) affects approximately 900,000 people in the UK and is a leading cause of hospitalisation, accounting for 5% of emergency admissions.¹ Correct identification of patients with HF holds promise for ensuring that patients receive appropriate intervention and management. However, there is good evidence that this is problematic in two respects: first, with respect to correct diagnosis of the presence or absence of HF; and, second, with respect to correct categorisation of the type of HF, if HF is indeed present.

**DIAGNOSIS OF THE PRESENCE OR ABSENCE OF HF**

Studies have documented underdiagnosis of HF, especially among older patients presenting with dyspnoea.² However, others have documented overdiagnosis: an audit of 10 practices in Northwest England found that 18% of diagnoses were inappropriate.³ Correct identification of patients with HF holds promise for ensuring that patients receive appropriate intervention and management. However, there is good evidence that this is problematic in two respects: first, with respect to correct diagnosis of the presence or absence of HF; and, second, with respect to correct categorisation of the type of HF, if HF is indeed present.

**PRESENTATION AND DIAGNOSIS OF HFrEF**

Patients with HFrEF typically present with exercise intolerance and other signs and symptoms of heart failure. Symptomatic patients with HFrEF may have increased natriuretic peptides, but the increase may be less than that seen in similar patients with HFpEF. Echocardiographic findings for HFrEF are less easily interpreted. Although diastolic dysfunction in HFpEF is observed by echocardiogram in two-thirds of affected patients at rest, some clinicians argue that assessment of diastolic function should be performed during exercise as this is more likely to achieve greater diagnostic accuracy. The recent 2016 European Society of Cardiology (ESC) HF guidelines now stipulate the following for diagnosis of HFpEF: clinical signs and symptoms of HF; preserved EF; elevated natriuretic peptides (in the non-acute setting, BNP >35 pg/mL or NT-proBNP >125 pg/mL); and evidence of structural heart disease (left ventricular hypertrophy or left atrial enlargement) and/or diastolic dysfunction at rest or with exercise.⁶ They characterise an EF >50% as HfEF, and an EF 40–49% as HF with a mid-range EF.

**TREATMENT OF HFpEF: WHY CORRECT CATEGORISATION MATTERS**

None of the specific pharmacological treatments used for HFrEF has been found to improve outcomes in patients with HFpEF.⁷ Class I recommendations in the ESC guidelines are to control symptoms with diuretics and to manage comorbidities, including hypertension, because these appear to be drivers for the inflammation that lies at the root of the condition.⁸
“A primary care focus, leading to more accurate categorisation of patients with heart failure, would allow patients with HFpEF to receive treatment appropriate to their form of HF ... who could be recruited into studies focused on improving their management and care.”

However, given patients’ age and likely duration of conditions, tight glycaemic control may not be warranted. Greater understanding of the pathophysiology of HFpEF is helping to identify potential targets for pharmaceutical treatment, but these may require more precise patient phenotyping in order to identify specific groups of patients who can benefit.

Non-pharmacological approaches hold promise. A meta-analysis of randomised clinical trials of exercise training in patients with HFpEF (six trials, 276 patients) found it was safe and effective in improving cardiorespiratory fitness and quality of life.9 A small study of 100 patients with HFpEF (mean age 67 years, 80% female, mean BMI 39 kg/m²) found that those in the restricted-calorie diet, exercise training, or diet plus exercise arms showed improvement in fitness at 20 weeks compared with baseline and the control group. Both diet and exercise resulted in weight loss and improvement in symptoms.10 Cardiology services focus on patients with HFrEF, so in the UK the majority of patients with heart failure with preserved ejection fraction are managed in primary care. Thus, the management of HFpEF is of major concern for primary care. Patients with HF symptoms and/or signs should have their natriuretic peptides measured and, where these are elevated, progress to echocardiography. Where this shows preserved EF with diastolic dysfunction or suggestive structural abnormalities and no other reason found for their symptoms, patients could be Read-coded for HFpEF from existing practice-held data. Correct diagnosis of HF — especially of HFpEF — would allow its management against evolving evidence-based guidelines, avoid use of non-evidence-based HFrEF treatment, and offer the possibility of research to improve outcomes for an HFpEF as a hitherto under-recognised condition. Patients can only benefit from maximising the accurate diagnosis and categorisation of HF. Studies such as Valk and colleagues8 show that we still have work to do.

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WHY IS A PRIMARY CARE FOCUS NEEDED?

Despite the expected prevalence of HFpEF among patients with heart failure in primary care, Read codes indicating HFpEF or diastolic heart failure are rarely used in general practice records. Using a representative set of 300,000 adults aged >18 years in the Clinical Practice Research Database (CPRD), we found 1.26% prevalence of any one of the five Read codes for HFpEF or diastolic HF among patients coded for HF. This limited identification of patients with HFpEF in primary care is unsurprising, given the lack of QOF incentives specific to HFpEF and diagnostic difficulty. Yet failure to identify and diagnose patients with HFpEF has implications both for patient care and for costs to the health system, because evidence-based conventional treatment for HFpEF is largely ineffective in HFpEF. A primary care focus, leading to more accurate categorisation of patients with heart failure, would allow patients with HFpEF to receive treatment appropriate to their form of HF and avoid wasteful, ineffective use of treatment more suited to patients with HFrEF. It would also identify a cohort of patients with HFpEF who could be recruited into studies focused on improving their management and care.

REFERENCEs