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ENHANCE HF™: optimising the management of heart failure in primary care

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Heart failure (HF) imposes a significant burden across the UK, both for patients and the NHS. Optimal management of HF could improve patient outcomes and reduce costs for clinical commissioning groups (CCGs). HF is, however, complex to manage, and despite recent improvements there is evidence of a continuing lack of adherence to guideline recommendations. Enhance HF™ is a tool that supports GPs in optimising the management of HF due to left-ventricular systolic dysfunction to help deliver more cost-effective care for patients in their practice.

POINTS FOR THE CLINIC

- Heart failure (HF) affects 1-2% of the UK population and results in high costs for the NHS
- Treating HF is challenging in primary care, but optimising management could improve outcomes for patients and reduce costs for clinical commissioning groups (CCGs)
- Enhance HF™ is a new tool designed to help GPs optimise their management of HF and support CCGs in implementing national guidelines
- Since Enhance HF™ was introduced in Bradford Districts CCG, there have been improvements in HF register management and data validation

Heart failure (HF) currently affects around 900,000 people in the UK or 1-2% of the population,[1,2] but prevalence is expected to rise through a combination of improved survival of people with ischaemic heart disease, better treatment for HF, and the effects of an ageing population. Providing services to HF patients costs the NHS an estimated £625 million per year,[3] HF accounting for a total of 1 million inpatient bed days and 5% of all emergency admissions to hospital.[1]

Improved identification and treatment of HF would reduce the number of avoidable deaths and result in an increase in quality-adjusted life-years.[4] However, although survival rates are improving and waiting times for diagnostic tests are falling, HF services in England have been slow to improve over the last decade and still lag behind their international counterparts.[4] There are relatively low levels of compliance with evidence-based guidelines.[4] One study evaluating the management of HF in primary care showed that while most HF patients receive an ACE inhibitor (ACEi) or angiotensin receptor blocker (ARB), few are titrated to target dose and many do not receive a beta-blocker.[5] Of patients who do receive a beta-blocker, 56% were not up-titrated at three years.[6]

In England, national objectives for HF management are driven by National Institute for Health and Care Excellence (NICE) guidance and by NHS priorities to achieve efficiency savings. The latter include optimising the management of patients in line with current guidelines,[1,7] reducing unnecessary hospital admissions and readmissions[8-12] and improved patient mortality and morbidity.[9]

Management of HF presents a challenge to GPs, who have to consider the treatment of symptoms as they occur, while aiming to prevent worsening of HF through the use of several different medications that require multiple dose changes depending on tolerance. In secondary prevention of HF each drug must be carefully titrated against the patient's condition, with careful monitoring of symptoms and parameters such as blood pressure (BP), heart rate and rhythm and renal function. This task is further complicated by acute exacerbations of HF or other acute illness. These often require reduction or withdrawal of preventive medications in the acute phase, putting the onus on community teams to reinstate and up-titrate medication on recovery.

ENHANCE HF™

HF accounts for around 5% of all non-elective hospital admissions in Bradford, equating to around 10,000 bed days per year. In Bradford Districts Clinical Commissioning Group (CCG) the current cost of HF due to left-ventricular systolic dysfunction (LVSD) is in the region of £2 million in about 820 patients (for hospitalisation and medication costs).[13] Around half the patients with heart failure due to LVSD in Bradford have optimal management in primary care. By improving optimal management to 100% the CCG would make a net saving of about £1 million. There is clearly a cost in terms of the work required to achieve this optimisation, but given the current financial strain in the NHS today, any money saved is significant. It is against this background that Enhance HF™ was developed as a solution to help optimise the management of HF due to LVSD in primary care.

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Enhance HF™ is provided as a service to medicine by Servier Laboratories Ltd and was developed by Oberoi Consulting Ltd in conjunction with Dr Matthew Fay. It was launched in Bradford Districts CCG in June 2013, and includes intervention with pathway integration into the primary care clinical system, audit and benchmarking. The objective of Enhance HF™ is to assist CCGs in implementing national HF guidelines by identifying patients who are currently suboptimally managed and ensuring they receive optimal treatment and advice following clinical assessment by healthcare professionals within a practice.

The clinical audit element of Enhance HF™ assesses current HF management in the practice and produces a gap analysis, highlighting patients who require optimisation of their medication. This includes not only an ACEi or ARB and beta-blocker, but also triple therapy with the addition of an aldosterone antagonist (AA), or alternative options.

Enhance HF™ also identifies patients who are yet to be coded with a HF or an LVSD diagnosis. This is important to the clinician on two levels. First, a patient who is not coded and identified cannot be appropriately managed, since the clinical system will not automatically prompt the clinical team to ensure optimal medication. Second, if Quality and Outcomes Framework (QOF) populations are not appropriately identified, less funding is received and the practice budget is not effectively managed.

To ensure a consistent approach to HF management, the clinical audit process is supplemented by embedding locally developed clinical protocols in line with the European Society of Cardiology (ESC)[7] and NICE guidelines on managing HF.[1] The protocol guides clinicians through the stages of LVSD management using the patient's clinical parameters and omitting stages where optimal dosing has already been achieved.

Participating practices can view their progress in improving HF management on the Enhance HF™ website and benchmark their performance against other practices in the CCG. This not only demonstrates how well the practice is managing its own patients, but also what can be achieved in comparison to best practice. By exploiting competition between general practices, this will hopefully further drive up standards. A learning log is also available for practice staff to record time spent on Enhance HF™ for continuing professional development.

THE HEART FAILURE NURSE ADVISOR

Following development of Enhance HF™ it was recognised that key to its success was education around the elements of the service and HF management. To support delivery of the project at practice level, the role of the heart failure nurse advisor (HFNA) for Enhance HF™ was developed, initially in Bradford Districts CCG and more recently in other CCGs.

The HFNA works with and provides education to the lead Enhance HF™ clinician for each practice, assessing where management could be improved and developing an action plan to address this need. Support includes updating registers and validating data, in addition to analysing patient notes and identifying individual management plans where required. The HFNA's role also extends to mentoring and education on HF management to the whole practice in a format tailored to individual practice requirements. This includes large group training sessions for all clinicians, one-to-one sessions for clinical-coding staff and individual or small group training for nursing staff. This helps to ensure sustainability and consistency to any changes in HF management across the whole practice.

The HFNA has worked alongside nurses running practice clinics to provide education on clinical assessment and monitoring, practical advice on up-titration and medical management, the use of the embedded clinical protocol in a clinic setting and patient self-management. The last mentioned included the promotion of a self-management pack designed through collaboration with Bradford District Metropolitan Council and local HF services. Other practical support provided by the HFNA has included education on using the Patient Plan facility on SystmOne to give a summary of proposed HF management and how to access local HF clinical guidelines on the Clinical Algorithms Gateway; working with practice nurses and Oberoi to design a clinical assessment template for HF; promoting referral to local heart failure nurse specialist (HFNS) services; and involving practice pharmacy staff in training sessions and clinics.

DELIVERING IMPROVEMENT: KEY ISSUES

Initial work with the practices focused on improving HF and LVSD registers, since treatment cannot be optimised unless all relevant patients are identified. Changes to QOF 2012/13 coding meant a drop in the size of left ventricular dysfunction (LVD) registers (used for HF 003 and 004 performance indicators) as codes for Left Ventricular Failure (LVF) and Left Ventricular Diastolic Dysfunction (LVDD) were no longer included in the rule sets.[14,15] Only codes specifically stating 'left ventricular systolic dysfunction' place patients on the LVSD register. The clinical audit highlights miscoded patients, and a review of the notes enables the clinician to rectify the data where appropriate.

The audit also highlights patients with LVSD codes but no HF diagnosis code, and therefore not included in the overall HF register. The next stage analyses the audit report for the LVSD register and identifies patients whose treatment may not be optimised and who therefore need review. The report highlights eight different therapy groups. Each therapy group subdivides into different sections that risk-stratify patients and prioritise them for review (Table 1).

Table 1: Therapy groups and subsections highlighted by Enhance HF™

Therapy groups

1. ACEi or ARB only
2-5. BB and/or other rate control medication (alone or in combination with other HF medication)
6. ACEi or ARB and aldosterone antagonist
7. AA only
8. No therapy

Sections

- Non-compliant or declined therapy
- Contraindication recorded
- No heart rate, rhythm, blood pressure or electrolytes recorded in the last 12 months
- Heart rate not optimised (≥70 bpm)

AA = aldosterone antagonist; ACEi = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; HF = heart failure

Clinicians then carry out desktop reviews of each patient's notes to determine their individual plan for treatment and to arrange an appointment with the most appropriate person. This part of the process can be time-consuming depending on the size of the LVSD register, but is required in order to deliver an improvement in care. The embedded clinical protocol can be used to facilitate this desktop review and guide treatment plans.

Practices may choose to break the task into more manageable segments, concentrating on one section of the report at a time: for example, patients taking no therapy, patients who have not had their clinical parameters measured, or those on triple therapy whose heart rate is not optimised. The HFNA can help with this process by reviewing notes and sending tasks with a summary of the management suggestions to an identified person.

Patients then require face-to-face review. The action plan agreed by the practice determines the form of that review. The gold standard would be a proactive, dedicated HF clinic to optimise therapy with patients added to the recall list for regular review, ideally every six months as recommended by NICE.[1] In practice, a variety of methods are used, including:

- Nurse-led HF clinics with GP support
- Healthcare assistant review to update clinical parameters prior to clinician review
- Messages to the patient's usual GP to address any required changes in therapy at the next review
- Messages to nursing staff to address changes to therapy at the next chronic disease review with signposting to the GP if needed
- Messages to community nursing staff to measure parameters or assess symptom control in patients who are housebound or in care facilities
- Referral to the local community HFNS or cardiology services for patients with more complex needs

Clinicians can use the embedded clinical protocol during face-to-face review to record clinical parameters and ECG results, apply appropriate codes (for instance, QOF exception and maximum tolerated dosing), and to guide treatment. There are also direct links to enable clinicians to make these referrals. When clinicians require further support in a decision to commence second- and third-line therapy or need general advice on management, they are encouraged to use the e-consultation facility that links directly to the chosen local primary or secondary care cardiology service. Practices are encouraged to refer patients to the community HFNS service if they require additional support to optimise treatment.

SUPPORTING IMPROVEMENT

Progress in HF register management and data validation has been evident since the introduction of Enhance HF™. In the 14 practices in Bradford Districts CCG that originally signed up to the service, a total of 202 HF patients were added to practice registers after the data validation process[16] (Figure 1). This led to average HF prevalence increasing from 0.78% at baseline to 0.88% after validation, with an estimated increase in HF QOF income for an average-sized practice of £813. Data validation identified a further 169 LVSD patients, with the average number of LVSD patients per practice increasing from 24 to 36 (Figure 2).

Change in the population management of HF takes longer to achieve, but data so far and evidence from working with the practices show that consistent

Figure 1: Changes in the overall heart failure (HF) register since the adoption of Enhance HF™

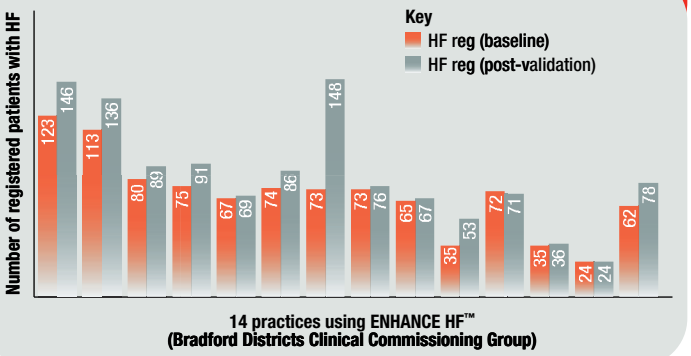
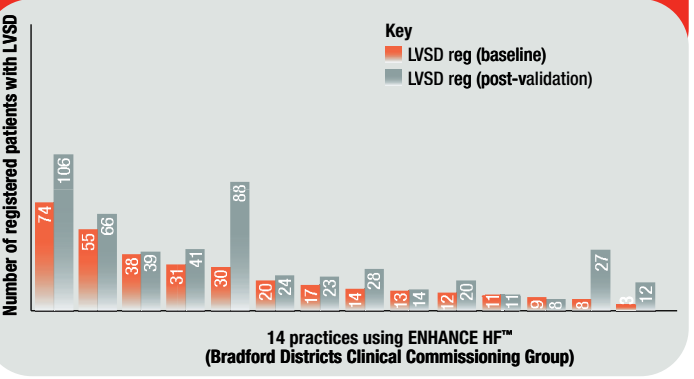


Figure 2: Changes to the left ventricular systolic dysfunction (LVSD) register since the adoption of Enhance HF™



methods of review and need for treatment optimisation has enabled progress in the clinical monitoring of HF patients. Among practices, there is increased awareness of current evidence-based management and also of the local specialist services available to support patients.

The process of improving, monitoring and optimising therapy begins opportunistically when notes are analysed during data validation and gaps in management are identified for individual patients. Data from the original 14 practices show a modest positive impact on the recording of clinical measures such as heart rate, rhythm and BP after the data validation process. Current (August 2014) data collected from the original 14 practices show that this improvement has continued post-validation as patients start to be systematically reviewed (Table 2).

Optimising medical therapy is a more involved, ongoing process requiring review with a clinician, followed by further review to monitor progress and achieve optimum dose, or alternatively referral to specialist services. As shown in Table 2, there has been a steady increase in the number of patients prescribed appropriate triple therapy with ACEi or ARB, beta-blocker and aldosterone antagonists (practice training sessions have raised awareness of the specific renal monitoring requirements of patients on aldosterone antagonists). The number of patients receiving rate-control medication and with optimal rate control has also increased.

Finally, better quality of life for patients is a key objective. Data are

Table 2: Impact of Enhance HF™ on clinical measures and optimisation of therapy

	Baseline (n= 335)	Post-validation (n=504)	Current (n=536)
BP recorded	318 (95%)	480 (95%)	524 (98%)
Heart rate recorded	266 (79%)	403 (80%)	454 (85%)
Heart rhythm recorded	206 (61%)	354 (70%)	407 (76%)
Heart rate <70 bpm	127 (38%)	197 (39%)	233 (43%)
BB and/or other rate control medication (alone or in combination with other HF meds)	230 (69%)	357 (70%)	387 (72%)
Triple therapy (ACEi/ARB, BB, AA)	47 (14%)	80 (16%)	93 (17%)

AA = aldosterone antagonist; ACEi = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; BB = beta-blocker; BP = blood pressure; bpm = beats per minute; HF = heart failure

currently being collected from patients attending some of the HF review clinics established as a result of the service.

CONCLUSIONS

Enhance HF™ provides a solution to address the care needs of a growing number of HF patients, ensuring consistency in review and optimisation of medication while aiming to reduce hospital admissions and improve quality of life. Healthcare professionals in other parts of the country are now being trained to implement Enhance HF™, ensuring the benefits of this consistent approach are extended to as many HF patients as possible. Bradford Districts CCG has recently adopted a similar population-based approach in an ambitious project named Bradford's Healthy Hearts.[17] This aims to address cardiovascular mortality in the city through clinical audit, protocols and benchmarking, as well as action planning and leadership training.

The future of chronic disease management in primary care requires a systematic approach that improves patient outcomes and is cost-effective. Effective use of GP clinical systems to identify appropriate patients through audit helps CCGs to achieve this important objective while improving clinical care and adherence to clinical guidelines through embedded clinical protocols.

Declaration of interest

Anne Williams: employed by Oberoi Consulting Ltd as Heart Failure Nurse Advisor for Enhance HF, which is in turn provided as a service to medicine by Servier Laboratories Ltd. Dr Matthew Fay: Honoraria and funding for transport have been variously given by Abbot, Bayer, Boehringer-Ingelheim, Bristol Myers Squibb, Dawn 4S, INRStar, Medtronic, Oberoi Consulting, Pfizer, Roche, Sanofi and Servier Laboratories Ltd.

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MORE INFORMATION

More information on ENHANCE HF™ is available from: **http://www.enhancehf.co.uk**