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**Heart Failure Project Case Studies**

**Local Heart Failure Project Jan 23-March 24**

**healthinnovationwestmidlands.org**

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**BACKGROUND INFORMATION**

Heart failure (HF) affects around 900,000 people in the UK, and this number is likely to rise, due to an ageing population, more effective treatments, and improved survival rates after a heart attack. Heart failure is a large burden on the NHS, accounting for 1 million bed days per year, 2% of the NHS total, and 5% of all emergency admissions to hospital. (NICOR (2021). Heart Failure Audit 2021 summary report)

Despite advances in treatment, mortality is high with around 30-40% of patients dying within a year of diagnosis. HF can also have a major impact on quality of life with patients experiencing shortness of breath, fatigue and fluid retention. However, evidence has shown that with evidence-based therapies, input from HF specialists and lifestyle changes many people can have a good quality of life.

Poorly managed heart failure – particularly heart failure with reduced ejection fraction (HFrEF), can result in repeated hospital admissions and is associated with poor prognosis.

The diagnosis of heart failure relies on clinical expertise to recognise the signs and symptoms promptly and accurately, as well as have timely access to the laboratory tests and imaging procedures needed to confirm the diagnosis. Around 80% of people are diagnosed following a hospital admission, despite many of the symptoms being recognised within primary care settings.

Health Innovation West Midlands (HIWM) recognised that there is a wide variation in timely access to diagnostics and treatment, resulting in sub-optimal treatment. We want to address some of the pinch points within the clinical pathway that can be improved, either through education or implementation of innovations that will enable improvement. Therefore, we developed a local project that would be implemented in all 6 ICS’s of the West Midlands from January 23-March 24.

As part of the HIWM Heart Failure project, heart failure clinical champions were embedded into each ICS within the West Midlands region to aid the achievement of the following aims;

* To improve the detection of patients with heart failure, ensure timely diagnosis (Natriuretic Peptide Tests and echocardiogram) in primary care.
* To improve the quality of registers in primary care to ensure patients with heart failure are appropriately coded (HFrEF and HFpEF).
* To ensure that patients with HFrEF receive a 12 monthly review and optimisation of their therapy to prevent avoidable hospital admissions.
* To ensure that patients with HFpEF receive optimal management of their co-morbidities.

The clinical champions have engaged at practice or PCN level, and this case study report demonstrates some of what they have achieved in some of these PCNs.

**SEDGLEY, COSELEY AND GORNAL PCN**

### The opportunity for change

Within the Black Country, the heart failure (HF) prevalence is currently 1.0% according to the 21/22 QOF data. However, there is variation across PCN's of 0.6% to 1.9%. With an estimated population of 1.26 million in the ICB, this leaves a detection gap of approximately 5000 patients.

Castle meadows practice within this PCN was highlighted as a practice with an incredibly low HF prevalence of 0.3%, indicated via Public Health profiles - OHID (phe.org.uk). The practice welcomed a review of the HF QOF register to determine reasons for its low prevalence.

### Activities

HF champion has supported the practice in case finding for HF patients, providing the HIWM HF toolkit case finding slides to assist with the search process.

They have provided information on heart failure related pathways eg Chronic breathlessness pathway and have provided detailed advice following HF register case review to the practice-based pharmacist to encourage ongoing minimum 12-month reviews of patients.

Education has been offered and a redesign of the HF template for Black country EPR GP systems has commenced which will aid spread and adoption across whole ICS.

Good stakeholder engagement was beneficial, which included the HIWM HF champion and project manager, 2 practice based Pharmacists, 1x Practice manager, 1x Heart failure service commissioner, 1 x EPR system manager and additional HF champion to support with the alteration of heart failure assessment.

### Results

Following the case finding search, 36 patients were identified as being on practice register with heart failure.

17 of these were previously known to community heart failure team.

HF champion agreed to work with practice pharmacist to look at these 36 patients to see what improvements could be made, either with coding to ensure reviews or with optimisation.

This took 3-4 hours to go through the 36 patients.

Patients who needed review and medication management were then to be contacted by practice pharmacist and agreed to contact HF champion for advice if required.

Discussed HF codes and need to ensure standard approach – possibility of the HF nursing team to pilot a change on template letters sent to GP / copied to patients with HF code included.

9 patients were identified that required a review. All have been contacted and optimisation has been delivered when appropriate and safe with th practice pharmacist.

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### Discussion

The approachability of the practice manager and pharmacist set a catalyst to form a foundation of how the HF champion could work with other practices to improve the recognition of heart failure in Dudley. An additional PCN agreed to HF champion intervention following ‘word of mouth’ due to work completed at the practice.

This intervention has improved working relationships with heart failure team in local area. Pharmacist has approached the team if concerns regarding individual patients. Pharmacists have shadowed the nurses in specialist heart failure clinics.

It identified to the HF champion how the specialist nursing team can improve communication with primary care team to improve coding.

It identified the need for a more robust referral form for primary care to use to refer to specialist care.

### Next steps

Practice manager will undertake further searches to identify more patients that may not be coded already, by searching patients that are on long term conditions registers or have a MRA already prescribed. This initial search brought up over 500 patients, so will require some intermittent dedicated time. However, this will be the next step to increase prevalence and enable patients to have 12-month reviews.

Practice will pilot new review template.

Evaluate impact on adding recognised HF code to HF nurse to GP letters ‘HF001’- this is a starting point as too many codes on the templates could possibly incur incorrect codes.

Evaluate effect of unified heart failure nurse team referral form – reduced rejected referrals (inappropriate – avoids delay for direct cardiology referral)

### Feedback

‘*Thank you so much Jacqui, this piece of work is amazing, and I believe will be a major asset to primary care in the management and detection of HF.*

*When I first met with you, I was a HCA/Practice Manager with a knowledge of EMIS searches.  I thought I would do some register cleansing and that would be it but through our conversations and shared knowledge I have achieved so much more.’*

(Practice Manager)

*‘It has been so useful working with you, and I am impressed how your input has really helped numerous patients (which I am still working through).  A unique opportunity to work with Jacqui Elson-Whittaker which has demonstrated the value of fluid collaborative work between primary and secondary care services and the impact it can have in preventing Heart Failure related hospital admissions and improving patient outcomes.’*

(Practice Pharmacist)

## Stourbridge, Wollescote and Lye PCN

### The opportunity for change

Within the Black Country, the heart failure prevalence is currently 1.0% according to the 21/22 QOF data. However, there is variation across PCN's of 0.6% to 1.9%. With an estimated population of 1.26 million in the ICB, this leaves a detection gap of approximately 5000 patients.

Chapel Street Surgery is a small surgery serving a multiethnic population Census 2021 = 32.3%. It was highlighted as a practice a low HF prevalence of 0.4%, indicated via [Public health profiles - OHID (phe.org.uk)](https://fingertips.phe.org.uk/search/heart%20failure#page/1/gid/1/pat/204/par/U18020/ati/7/are/M87628/iid/262/age/1/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1) with a patient population of approx.2600. However, in 2022/23, the practice has taken on a proportion of the nursing and residential home patients, therefore it does not reflect existing numbers. The practice manager responded to the Heart failure (HF) champion offer of support to determine how they could approach improving their QOF register.

### Activities

HF champion shared HIWM toolkit to aid practice staff to undertake searches.

HF champion shared pathways relevant to aid diagnosis.

HF champion offered detailed advice on patients identified in case finding review.

Education and support offered to PCN staff.

Good stakeholder engagement with PCN staff including HIWM project manager and HF champion as well as practice manager, practice pharmacist and practice nurse.

**Results**

Searches made for those coded with HF identified only 11 patients, which was the same as previous search undertaken 4 years ago

A desktop review of these patients took 2 hours. 4 of these 11 were now either deceased or had left the practice.

Further searches undertaken to add in patients on MRA meds, which identified many more patients, who had had a review, but were not coded as heart failure, and therefore added with a heart failure code.

A further search of ‘oedema’ and ‘breathlessness’ identified a further 9 patients who had a heart failure diagnosis, had not had a review, and were not coded as heart failure patients.

Some patients coded inappropriately as heart failure were removed from register.

The practice pharmacist then contacted patients for review to aid in up titration of medications and any other appropriate treatment or referrals required and offered support of HF champion for advice. This is ongoing.

Residential / Nursing home team lead has contacted the HF champion regarding further advice for care planning HF patients and education.

Shadowing of the heart failure specialist nurses has occurred to support education.

**Discussion**

Approaching the surgery with offer of support enabled them to realise that no HF searches had been undertaken for 4 years and allowed them to see this as an opportunity for a quality improvement project.

The practice has additional patients from local nursing homes/ residential homes. There is a team of nurses who ‘ward round’ the homes and the pharmacist indicated that this is a population he has identified as an opportunity to work with the team and ensure a plan of care is in place for these patients.

This support identified the need for an improved review template for heart failure patients.

This support identified the need for education for primary care staff.

### Next steps

Continue to work through searched patients to identify opportunities of improved management.

Progress to nursing home and residential care patients – potential opportunity here for use of digital technology as in HF@Home approach to aid up titration.

Evaluate use of revamped heart failure review template.

**Feedback**

*‘Thank you so much for your time and effort today’.*

(Practice Pharmacist)

‘Of note we found that the template for LTC HF reviews could be more specific with options for "breathlessness", "Known HF? if not then needs BNP" and the NYHA score’.

(Practice Pharmacist)

## Your Health Partnership PCN

### The opportunity for change

Your Health Partnership (YHP) PCN identified to focus on improving their heart failure register and to upskill their MDT in optimising medical therapy for heart failure to prevent avoidable hospital admissions.

Your Health Partnership is comprised of seven surgeries, Regis Medical Centre, Great Bridge surgery, Carters Green Surgery, Oakham Surgery, Mace Street Surgery, White Heath Surgery and Rowley Village Surgery. It is not a deprived PCN, however the initial heart failure with left ventricular systolic dysfunction (LVSD) prevalence across the PCN was 0.6% which totalled 288 patients, to improve the prevalence to the recommended 1.10% there was an opportunity to assist YHP in finding 65 patients.

**Activities**

The designated HF champion engaged with the practice manager and senior practice nurse based at Regis Medical Centre via email. A teams meeting followed, and the following actions were decided.

* **Data Search:** Practice nurse to complete an up-to-date search for heart failure patients in particular searching for patients on a mineral-corticosteroid-antagonist (MRA) either spironolactone or eplerenone, as this very specific to heart failure therapy.
* **Template review**: Practice manager to email the PCNs heart failure template, so that this could be reviewed
* **Further contacts:** To arrange a meeting with the PCNs coding team so that HF champion can assist in any coding queries in relation to diagnosis and medical terminology.
* **MDT:** Agreed for HF champion to attend a monthly PCN Multidisciplinary Team (MDT) meeting to assist in any queries for patients who are difficult to manage.
* **Education:** Agreed to share the “tool kit” with the MDT within the PCN for the management of heart failure. A date set to deliver the education programme approved by HIWM.
* **Upskilling:** Dates set for physician associates (PA) to shadow heart failure champion in clinic to upskill them with heart failure assessments. PAs are currently looking after long-term conditions and providing clinics for these patients, including a heart failure clinic.

**Results**

* **Data search:** Twenty-one patients were found to be on an MRA that had not been coded as heart failure.This impacted on the prevalence for all cause heart failure and patients received the appropriate management.
* **Template Review:** This is being looked at across whole ICB as part of the overall HF project.
* **Further contacts:** The meeting for the coding team is still to be arranged.
* **MDT:** Attending the MDT begins at the end of October, data will be collated with regards to hospital avoidance and any appropriate changes to the management of the patient, for example referral to cardiology and or changes to medication optimisation.
* **Education:** Tool kit successfully shared across 7 surgeries within the PCN, this was well received, data now in progress recording the frequency the tool kit is used. Delivery of the education programme completed on the 6th of July to 25 clinicians. Good feedback received and the session lasted 3 hours in total.
* **Upskilling:** Physician associates shadow HF champion clinics, one PA at a time for 3-4 hours in the mornings. Education on NICE Guidelines for the management of heart failure shared, good feedback received. HF champion has requested an audit to be completed when in their own clinics, this is to record when they have identified the need to optimise heart failure therapy and when they have identified a decompensated or unstable heart failure patient and escalation was needed. This will show hospital avoidance is taking place and the management of heart failure patients is improving preventing future hospital admissions.

**Discussion**

Providing multitude levels of support that PCN staff can have access to enables a PCN approach to improving heart failure care.

Opportunities have been identified that can improve communication between primary care and heart failure specialists.

**Next Steps**

There are 9 PAs that has a working group and H champion has identified one of them to be the heart failure champion that will continue to update, reinforce, and upskill PAs and new staff.

Your health partnership to collate data on patients taking ivabradine, medication specific to heart failure that will possibly increase prevalence.

Review audit undertaken by YHP.

## WBC PCN

### The opportunity for change.

The Wargrave, Belmont and Cantilupe (WBC) primary care network (PCN) within Herefordshire and Worcestershire integrated care system (ICS) identified that their prevalence of heart failure was below the average of their ICS and had decreased over time. They had no community heart failure service and admissions for heart failure within the ICS had risen from 245 to 403 in one year.

Therefore, they sought funding for the NHS Managing Heart Failure @ Home programme with support from HIWM, and the embedded HF champion within Hereford and Worcester was based within this PCN, therefore a good opportunity to undertake work for both projects.

**Activities**

An EMIS search was undertaken utilising Oberoi Heart Failure tool, which demonstrated there were 152 patients on the Heart Failure (HF) register in a city practice with list size of 12593 patients in October 2022. This also highlighted that out of the parent list of HF patients 69 had an HFrEF coding. There were three HFrEF patients on triple therapy (ACEi/ARB/ARNI +BB+MRA) and two HF patients with preserved ejection fraction on an SGLT2 inhibitor. There were currently 117 patients with NYHA coding and 116 pending annual HF review.

To reduce the gaps in coding, patients were recoded based on the QOF coding from the initial diagnosis. An ejection fraction (EF) was added to the ‘Problems’ section alongside the codes to advise the clinician recruiting patients to the project and to review medications.

The HF champion developed a local medicines optimisation pathway based on current guidance to enable up titration and dose optimisation. Relevant codes were added during medication reviews to indicate if patient was on maximal tolerated doses of BB and ACEi/ARBs. In addition, notes on medicines indicated if patients were on maximal tolerated doses, to help patients and clinicians from other settings in decision making with medication changes and to reduce admissions and GP appointments.

Education was delivered to the onboarding team for the HF@home project, including a pharmacy technician, so that capacity for onboarding patients were maximised.

The champion delivered education to other PCNs, and information was provided on the HF@home project, to aid spread and adoption of both projects.

The HIWM HF Toolkit was delivered to staff within PCN and other PCNs within ICB.

**Results**

A further EMIS search done in August 2023, has shown the prevalence of HF patients has increased by 2%. Of this,107 patients now have HFrEF coding. Out of the patients recruited to HF@Home project 12 patients have had a medication review and meds optimised. Of which 58% (n=7) has been optimised on four pillars.

**Discussion**

### This has enabled to develop a process pathway to manage HFrEF patients’ medicines optimisation. The process has highlighted other cardiovascular outcomes that require management as hypertension and lipids, which have been managed as part of the review.

It has also enabled primary care to forge links with secondary care and community teams by the champion and other PCN staff attending monthly multidisciplinary meetings. The good practice has been shared with interested PCNs in the area as well, and other areas are beginning to attend the MDTs.

**Next Steps**

Continue to onboard patients to HF@home project which will enable increased optimisation of 4 pillars.

Champion to continue engaging with other PCNS to demonstrate impact of case finding.

Education required in wider ICB.

**Feedback**

*‘I found the session very helpful and would recommend any pharmacist undertaking their prescribing in Heart Failure to have a meeting similar to this’.*

*‘I have started to use the resources you sent me to review medication records and have even made some recommendations on how to optimise medicines since we spoke’.*

*‘Thank you for giving up your time to go through this with me.’*

## Coventry and Rugby PCNs

### The opportunity for change.

Heart Failure prevalence within the ICS is below 1%, which is below the expected prevalence. There are circa 625 emergency admissions to hospital in Coventry every year. Admissions in Coventry and Rugby CCG are higher compared to the England average (2021). Unplanned Heart failure admissions have risen sharply for Coventry and Rugby area equating to 191 per 100,000, which is substantially higher than the national average of 161 per 100,000 population. With the known evidence that 80% of heart failure admissions are diagnosed with an acute setting, despite 40% of these having signs and symptoms that could have triggered an earlier assessment, there is an opportunity to raise awareness within the primary care setting of heart failure.

**Activities**

HIWM HF champion coordinated with local HF teams to offer a structured Programme for PCN pharmacists.

This included:

* + PCN pharmacists observing 2 HF nurse's clinics and 2 HF consultant clinics.
  + Attending HF MDT.
  + Training/education sessions.

HIWM Heart Failure toolkit was shared with shadowing pharmacists and all ICS staff that have attended structured education sessions.

**Results**

10 clinical pharmacists have so far participated and 4 more waiting which has involved 100 hours of pharmacists from 7 PCNs shadowing heart failure specialists.

Many of these pharmacists have now gone onto deliver HF review clinics within their PCN or at the stage of setting this up, which has involved them reviewing registers within their practice to identify patients that need reviewing.

**Discussion**

The above approach has enabled;

* ↑ Knowledge of HF diagnostic pathway.
* ↑ Review of HF registers.
* ↑ Knowledge of different types of HF.
* ↑ Knowledge of prognostic medications for each type of HF.
* Self-management and lifestyle changes to be discussed with patients.
* Pharmacists to understand when to seek advice and guidance from HF team.
* A New clinical pharmacist MDT.
* New communication channels.
* Improved Joint up working.
* Improved patient journey.

**Next Steps**

* Create opportunities for all PCNs to access in Coventry and Rugby.
* Bedworth and Nuneaton HF team willing to replicate for their PCNs.
* On Board South Warwickshire HF team for S Warwickshire PCNS.
* Set up MDT for clinical pharmacist across ICS.
* Study sessions/Communities of practice for these newly created PCN HF champions.
* Increased review of HF registers and ensure correct coding.
* Continue to improve joined up working and accessibility to HF team.
* Continue to improve patient journey.

**Feedback**

*‘I had a telephone consultation with a patient as we had a letter from the consultant asking us to increase bisoprolol, start dapagliflozin and switch candesartan to entresto. I went through it all with him and arranged for U+Es after 2 weeks. I also checked he was doing his daily weights. He has also seen another cardiologist on the same day to arrange ablation for atrial fibrillation and was querying whether he should start the meds the heart failure consulted had recommended. After the shadowing I felt confident to reassure him why the entresto and dapagliflozin are important, how they work and to encourage him to contact heart failure specialist nurses if any issues. Prior to shadowing the heart failure nurses I wouldn't have felt confident to have this conversation or to start the medication. I will f/u after he has the U+Es The shadowing has really helped with my knowledge and with this clinical decision - plus I feel 100% comfortable contacting you for advice’.*

(PCN Pharmacist)

*‘I have enjoyed and appreciated all the shadowing I have had from the nurses. It’s been invaluable to me. Spending time in clinics helped me to structure the way I do my HF reviews in clinic now. I follow the same structure, so I don't miss anything. I have recently presented to the other PCN pharmacists about how I do my reviews now too, so we cover everything needed.’*

(PCN pharmacist)

*‘I have found the shadowing sessions with the HF nurses and professor Banerjee to be invaluable in building my knowledge and confidence in managing my HF patients and in gaining my IP in HF. The team were very supportive in my learning and helped with my clinical knowledge and consultation skills, as I was able to see first-hand how symptoms were medically managed and how patients were examined, educated, and supported. Attending the MDTs allowed me to see the thought process behind the management of more complex cases and allowed me to discuss my own patients. Two such patients had their medications optimised as an outcome of my attendance to the MDT with one patient starting on an SGLT-2 and another on entresto. Both patients had long been discharged from the HF service, so without being able to attend this MDT, they both would’ve potentially missed out on optimising to the most current evidence-based treatments available’ (*PCN Pharmacist)

**SUMMARY OF PROJECT OUTCOMES**

HIWM have supported this Heart Failure Project through;

**Leading through Convening**

* Collaborated with the regional cardiac network to provide regional meetings for HF teams to share and learn and surveyed all the regions heart services to provide a landscape review.
* HIWM embedded HF champions into each ICS targeted PCNS in relation to health inequalities and HF prevalence.

**Supporting the workforce of the Future**

* Offered upskilling workshops to raise awareness of HF.
* Supported primary care workforce to undertake quality improvement projects at PCN/practice level.

**Delivering evidence-based interventions to improve health and wealth**

* Designed and promoted a toolkit for primary care to aid quality improvement projects.
* HF champions targeted PCNS in relation to health inequalities and HF prevalence.

**Delivering at pace and scale**

* Identified areas of good practice and produced case studies to aid spread and adoption of improved HF care.

The outcomes the project has achieved has been:

* 46% of PCNs engaged with champions agreeing to undertake HF improvement work.
* 22% of PCNS adopting our developed resources to undertake quality improvement projects.
* 5 Case studies developed by participating practices which will aid spread and adoption.
* 8 ICB wide HF upskilling workshops provided with 216 attendees.
* Some PCN pharmacists have shadowed HF champions and gone onto set up HF clinics within their own PCN.
* Toolkit developed and shared.
* State of the Region report produced following survey of all HF services.
* 2 regional workshops held in collaboration with cardiac network.

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