MIDLANDS HEART FAILURE PATHWAY TOOLKIT

A resource for health care professionals and commissioners

Created by Health Innovation West Midlands (HIWM) and NHSE Midlands

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Scope of Toolkit

- The NHS Long Term Plan and the Cardiac Pathways Improvement Programme both indicate that improvement in heart failure is part of the national NHS agenda.
- All heart failure patients will access GP services and heart failure patients have a high hospital admission rate.
- This toolkit is for health care professionals working across all settings and aims to give health care professionals top tips of how they can be managed effectively.
- Advice and guidance is always available from your local specialist team and check your local pathway for specific information. This guide is developed as an overarching toolkit.

Image ref

What is Heart Failure

- Heart failure (HF) is a common complex clinical syndrome of symptoms and signs that occur when the heart is unable to pump blood around the body as effectively as it should.
- HF can occur at any age but is most common in older people.
- HF is caused by structural or functional abnormalities of the heart and usually occurs because the heart has become too weak or stiff.
- HF is a long-term condition that tends to get gradually worse over time.
- HF cannot usually be cured; with appropriate medication the symptoms can often be controlled for many years.

The main symptoms of HF are:

- breathlessness,
- fatigue
- oedema (fluid retention).

TYPES:

The degree of heart failure is based on measurement of the left ventricular ejection fraction **(LVEF)**.The ejection fraction (EF) is a measure of how much blood the left ventricle pumps out with each contraction. It is expressed as percentage. **A normal ejection fraction is considered to be greater than or equal to 55%.** Heart failure patients with an ejection fraction of 50% or more are classed as having heart failure with preserved ejection fraction **(HFpEF)**. In HFpEF the heart can pump blood out but is unable to relax to fill with blood sufficiently.

Patients with an **ejection fraction of less than 40% are classed as having heart failure with reduced ejection fraction (HFrEF).** HFrEF is also referred to as left ventricular systolic dysfunction (LVSD). When a patient has HFrEF the left ventricle of the heart does not pump well enough to adequately meet the needs of the body. Heart failure with mildly reduced ejection fraction **(HFmEF**) are those patients with a LVEF between 41% and 49%

Around 60% of all heart failure patients have HFrEF, however in England, only 33% of heart failure patients have an LVSD/HFrEF code in their primary care clinical record. There is a strong evidence base showing that optimisation of medication can reduce morbidity and mortality in patients with HFrEF

CAUSES:

- Coronary heart disease
- High blood pressure
- Heart valve disease
- Arrhythmias, such as atrial fibrillation
- Cardiomyopathy
- Congenital heart disease

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What should we do?

The overall aims of improving heart failure care within your clinical setting should be to:

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

Why should we do it?

Benefits -

For the patient:
- Initiation and optimisation of evidence-based therapies
- Improved symptom control
- Improved quality of life
- Education and empowerment to self-manage
- Reduction in readmissions

For Primary Care Networks (PCNs) and GP practices:
- Increased recorded heart failure prevalence leading to an increase in QOF income
- Improved coding, resulting in an up-to-date heart failure register enabling practices to recall patients with ease for ongoing review
- Education and upskilling of clinical staff

For Secondary Care providers
- Reduced length of stay
- Reduced waiting lists
- Opportunity to focus on advanced/specialist care

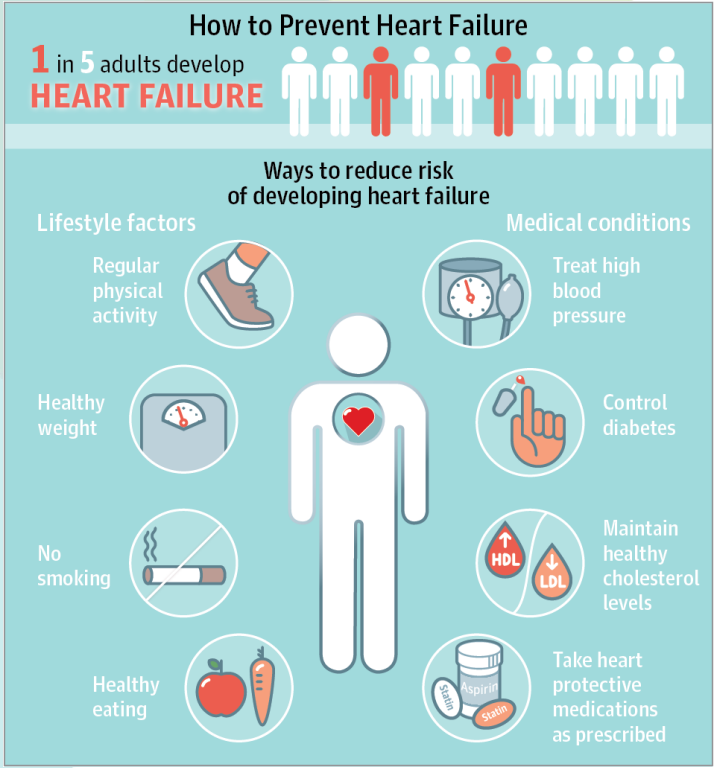
For the whole NHS:
- Reduction in non-elective admissions and readmissions for heart failure
- Opportunity to have improved links between primary and secondary care

How can health care professionals aid in the prevention of heart failure

Prevention is key. When you have patients increasing in age and those with other pre -existing cardiovascular risk factors or conditions it is important to think of preventing heart failure and other CVD conditions early.

Here is a checklist that you can use as a guide when considering prevention:

- Perform **NHS Health Checks** and utilise the **QRISK** tools
- Case finding and optimise hypertensive patients using a framework such as the **UCL Proactive care frameworks**
- Optimise lipid treatments using the **national lipid pathways.** The West Midlands also has a FH service that you can refer to.
- Rate control patients with atrial fibrillation and anticoagulate them effectively.
- Refer diabetic patients to the **diabetes prevention programme**
- Utilise the **digital weight management service**
- Refer smokers to your local **smoking cessation** service
- Utilise any available **exercise prescription** service
- Utlilise **social prescribers** or **community connectors** within your area to assist patients in setting goals to improve their overall cardiovascular health.
- Perform **annual reviews** for patients with existing heart disease or risk factors. Maximise the use of the workforce to undertake these reviews.



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Why is case finding important?

The estimated true prevalence of heart failure is 1.4%, however currently in England the prevalence is approximately 1.0%, leaving a **detection gap of over 300,000 people.** Around 60% of all heart failure patients have HFrEF, however in England only 33% of heart failure patients have an LVSD/HFrEF code in their primary care clinical record.

There is a strong evidence base showing that optimisation of medication can reduce morbidity and mortality in patients with HFrEF.

The objectives of case findings are as follows:

- **Increase heart failure prevalence**
- **Improve LVSD coding**
- **Increase the uptake of medications as per NICE guidelines**

Heart failure (HF)

Indicator	Points	Thresholds
Records		
HF001. The contractor establishes and maintains a register of patients with heart failure	4	N/A
Initial diagnosis		
HF008. The percentage of patients with a diagnosis of heart failure on or after 1 April 2023 which: 1. Has been confirmed by an echocardiogram or by specialist assessment in the 6 months before entering on to the register; or 2. If registered at the practice after diagnosis, with no record of the diagnosis originally being confirmed either by echocardiogram or by specialist assessment, a record of an echocardiogram or a specialist assessment within 6 months of the date of registration.	6	50–90%
Ongoing management		
HF003. In those patients with a diagnosis of heart failure due to left ventricular systolic dysfunction or whose heart failure is due to reduced ejection fraction the percentage of patients who are currently treated with an angiotensin-converting enzyme inhibitor (ACE-I) or Angiotensin II receptor blockers (ARB).	6	60–92%
HF006. The percentage of patients with a diagnosis of heart failure due to left ventricular systolic dysfunction or whose heart failure is due to reduced ejection fraction, who are currently treated with a beta-blocker licensed for heart failure.	6	60-92%
HF007. The percentage of patients with a diagnosis of heart failure on the register, who have had a review in the preceding 12 months, including an assessment of functional capacity and a review of medication to ensure medicines optimisation at maximal tolerated doses	7	50-90%

HF006 and HF007 are difficult to interpret due to the variability in the LVSD coding . This is due to denominator (number of people with HF due to LVSD) is inaccurate and underestimates the total LVSD burden. Besides, the QOF data only records if a patient has been prescribed a drug, not if they have been prescribed the maximum tolerated dose.
By addressing the quality of LVSD coding will improve the interpretation of QOF data.

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Case finding tools

There are many case-finding tools available for practices to obtain to aid them in case finding.
They are there to assist GP practices to interrogate their clinical data enabling them to improve management and care of HF patients with LVSD. Many provide detailed reports to enable practices to prioritise which patients to review.
This list is not exhaustive, but these are some that we are aware of that other primary care networks have used to aid case-finding.

- UCL PROACTIVE CARE FRAMEWORK – a free resource for primary care to utilise to undertake searches and perform HF reviews Heart Failure Proactive Care Framwork (pcdn.co)
- ENHANCE-HF (Oberoi Consulting) Paid service provided by Servier and developed and delivered by Oberoi Consulting Project HF Page – Oberoi Disease Management (oberoi-dm.co.uk)
- ARDENS TOOLS – Paid service but many practices already would have this system embedded in their systems, thus making it a more familiar system to work with and provides templates and alerts for EMIS. Heart Failure : Ardens EMIS Web
- ECLIPSE – risk stratification system for primary care Primary Care — Eclipse Live
- CDRC- search tools that can be embedded into primary care systems - Clinical Digital Resource Collaborative (cdrc.nhs.uk)

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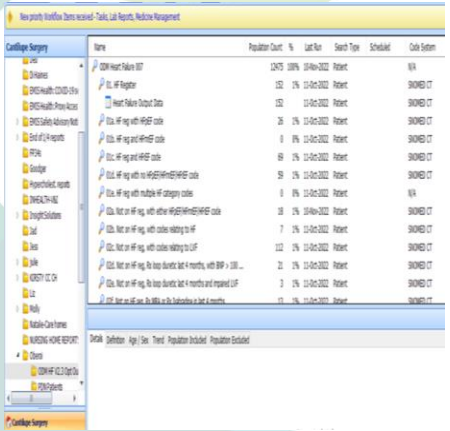

Ardens case finding tool , **click for the image**

CVD Prevent is also available as a national audit of GP records, that is now beginning to have some HF indicators to review

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Performing your own case finding exercise

The aim of the code cleansing search is to identify patients where a diagnosis of HF has been made previously but has not been correctly coded. By searching through hospital discharge letters, cardiology letters and ECHO reports coding can be improved. You could look for the following:

- Patients with a previous high NTproBNP but not on the register
- Patients where LVSD is recorded but not heart failure
- Patients where a code has been used but not a QOF recognised code
- Patients on spironolactone or epleronone but not on the HF register
- Patients with a HF code but not coded as LVSD.

The next step would be to perform virtual reviews of patients who have HFrEF/ LVSD to create a risk-stratified list of patients, some of whom will need further action.

Priority One -Symptomatic and/or unplanned admission in the past six months and fully optimised on medications available in primary care	Discuss with specialist team
Priority Two Symptomatic and/or unplanned admission in the past six months and not fully optimised on the range of medications available in primary care	Optimise medicines in primary care Consult with HF specialist team if unsure of titration guidance.
Priority Three - not symptomatic and no unplanned admissions in past six months	Check therapy optimised. Review every 6 –12 months.

What can I do in primary care?

- Consider using one of the tools in this toolkit to case find your patients
- Talk to IT colleagues, medicine management colleagues, or colleagues within practice that have experience of coding and performing searches and utilise their experience to undertake a case-finding exercise.
- Once a code cleansing exercise has been done you can ensure that:

➢ all patients with heart failure are given a heart failure code
➢ all patients with HFrEF are given the appropriate code
➢ identify patients coded as having HFrEF who are not on optimal treatment in preparation for reviewing these patients.

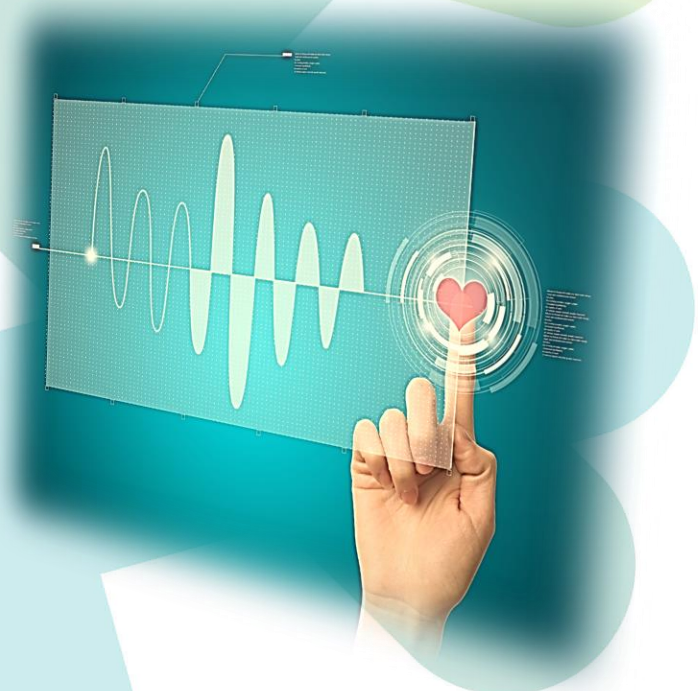

Image ref

Patient breathless, patient tired, patient has swollen ankles.. Think heart failure

How can we quickly assess?

Early diagnosis can enable patients to live longer, healthier lives. 80% of heart failure is currently diagnosed in hospital, despite 40% of patients having symptoms that should have triggered an earlier assessment. The following four interventions will be key in enabling you to diagnose heart failure earlier and potentially preventing hospital admissions for these patients.

NTpro BNP blood test	**ECHO**	**ECG**	**Breathlessness Clinic Referral/Urgent HF clinic**

Pumping Marvellous charity has posters available for health care settings, that can raise patient awareness of the symptoms.

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NTProBNP Blood Test

Natriuretic peptides are substances made by the heart. Two main types of these substances are brain natriuretic peptide (BNP) and N-terminal pro b-type natriuretic peptide (NT-proBNP). Normally, only small levels of BNP and NT-proBNP are found in the bloodstream. High levels can mean the heart isn't pumping as much blood as the body needs, therefore an indicator of heart failure.

If the NT-pro-BNP level is **above 2000 ng/L (236 pmol/L), refer urgently** for specialist assessment and echocardiography **to be seen within 2 weeks.**

•If the NT-pro-BNP level is **between 400–2000 ng/L (47–236 pmol/L), refer** for specialist assessment and echocardiography **to be seen within 6 weeks.**

•If NT-pro-BNP is **less than 400 ng/L (47 pmol/L)**, be aware that a diagnosis of heart failure is less likely. Consider **discussion with your local heart failure specialist** if heart failure still suspected.

CAUTION: remember the NTproBNP can be raised in other conditions - atrial fibrillation, CKD, COPD, HTN, advanced age, infection. Therefore, it is important is to observe for signs and symptoms of HF first, then do the NTProBNP

ECHO

Natriuretic peptides may aid in establishing a working diagnosis in patients suspected of HF, but echocardiography remains the optimal choice for diagnosing HF. Therefore, referral for an ECHO is important and a specialist referral will not be accepted without one.

However, we know that ECHO waiting times are hugely variable and the pandemic has had a greater impact on this.

Consider:

- **utilising community diagnostic centres for obtaining the ECHO**
- **tapping into primary care GPs that have a specialist interest in HF and may be able to utilise and perform ECHO when appropriately trained**
- **having point of care ultrasound within PCN's so that ECHOs can be obtained quickly and where appropriately trained staff are available**

ECG

The electrocardiogram (ECG) at rest is a non-invasive investigation that is recommended in the initial evaluation of patients with heart failure. This is because the ECG is crucial in the detection of many abnormalities that may either cause or worsen HF. Again, specialist referrals may not be accepted without one.

- **Consider having ECG availability in GP practices, or at least at PCN level.**
- **Utilise advice and guidance for interpretation of ECGs.**
- **Utilise community diagnostic hubs to obtain ECGs.**

Breathlessness Clinics

If a patient is breathless, always consider heart failure. However, we know that diagnosis and symptom control can be challenging.

- **Always follow the breathlessness pathway.**
- **Research and obtain any local pathways for practice staff to utilise**
- **Refer to any breathlessness clinics or urgent HF clinics**
- **Consider commencing a breathlessness clinic within PCNs utilising appropriate workforce which may include GPs with a specialist interest in breathlessness and physios, respiratory nurses and physios for pharmacological and non-pharmacological management**

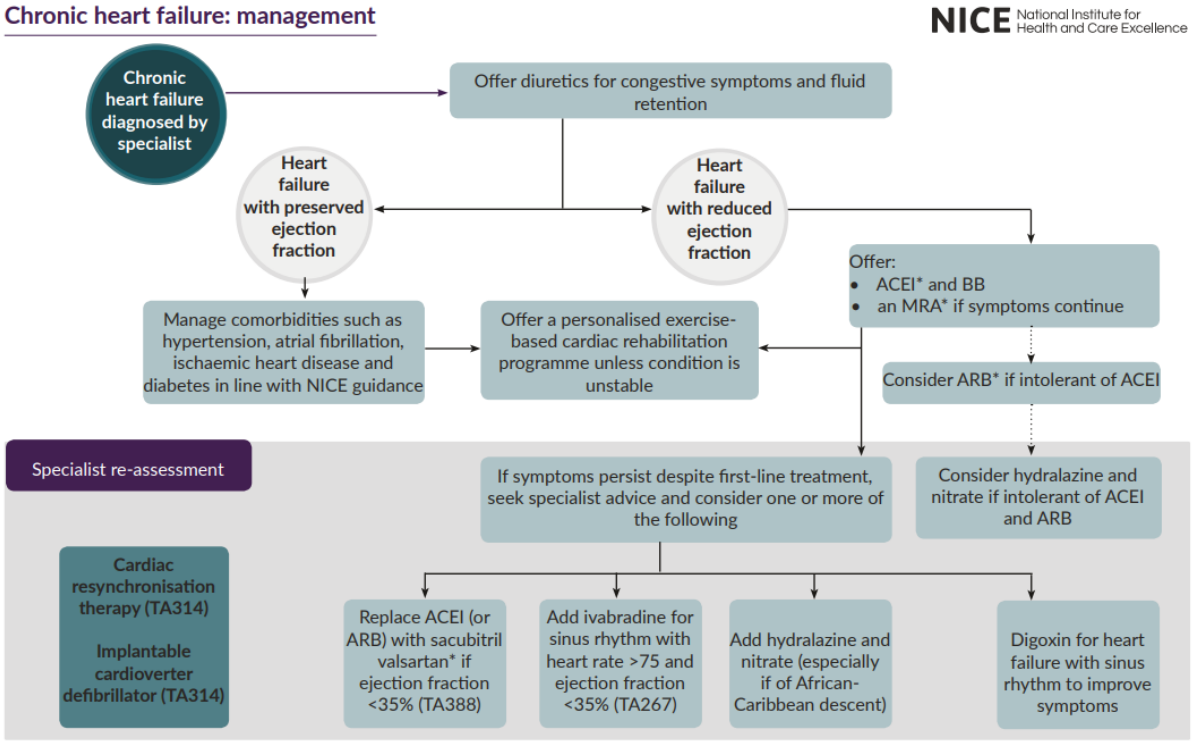
CAUTION: Breathlessness clinics are suitable if your area does not have access to urgent one stop HF clinics. If these are in place, then patients with suspected heart failure should be referred there rather than breathlessness clinics to avoid additional steps within the pathway.

Principles of heart failure management

Once a patient has been diagnosed, they should be referred to the heart failure specialist team
Commence initial therapy according to NICE guidance

The HF specialist team will then offer guidance and commence up titration of the medicines
Ensure a plan is received from the specialist team

Continue up titration if necessary, according to NICE guidance
Review the patient regularly



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Management of HFrEF – The 4 pillars

Within your review of HF patients, the ultimate aim should be uptitration of the evidence-based medications, commonly known as the 4 pillars.

NICE and ESC recommend:

- **ACE-I or ARB (examples being Ramipril or Losartan)**
- **Beta Blockers (examples being Bisoprolol, Carvedilol)**
- **Mineralocorticoid receptor antagonists (MRAs) (examples being Epleronone or Spironlolactone)**
- **SGLT2i (examples being Dapagliflozin or Empagliflozin)**
- **ARNI is also recommended as a replacement for ACE. (Sacubitril/Valsartan)**
- **Ask the HF specialist team for advice on up titration, and on switching ACE-I to ARNI**
- **Consider joining HF MDTs to discuss patients**
- **See your local drugs and therapeutics guidance (example for uptitration in resources section)**

European Society of Cardiology (ESC) (2021) recommendations

Recommendations	Class[a]	Level[b]
An ACE-I is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.[110–113]	I	A
A beta-blocker is recommended for patients with stable HFrEF to reduce the risk of HF hospitalization and death.[114–120]	I	A
An MRA is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.[121,122]	I	A
Dapagliflozin or empagliflozin are recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.[108,109]	I	A
Sacubitril/valsartan is recommended as a replacement for an ACE-I in patients with HFrEF to reduce the risk of HF hospitalization and death.[105]	I	B

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Management of HFrEF

Expected treatment pathway for HFrEF (EF ≤ 40%)

(taking into account frailty, palliative/end of life considerations and the patient's wishes)

Diuretics if fluid retention (dynamic dosing up or down).

ACEi or ARB * or ARNI &
BB licensed for heart failure (bisoprolol/carvedilol/nebivolol) &

MRA (spironolactone or eplerenone) &

SGLT2i : dapagliflozin or empagliflozin

There is no set order for introduction of these medicines however, aim to introduce all four classes early after diagnosis.

- ACEi/ARB/ARNI should be titrated to maximum tolerated dose.
- BB should be titrated to maximum tolerated dose.
- Optimisation of medicines may be managed by Primary Care with support from HF Specialist services for advice and guidance if required.
- Seek advice and guidance from HF Specialist services to make **urgent referral** if complex, unstable, or at risk of hospital admission.

*ARB only if ACEi intolerant **ARNI if recommended by HF team/cardiology
Remember to check U&Es 1-2 weeks after initiation or dose titration of ACEi, ARB, ARNI or MRA

↓

If patient still symptomatic despite **OPTIMISED** ACEi/ARB/ARNI, BB, MRA, SGLTi seek further advice from HF Specialist team as other specialist treatments may be indicated.

This may include additional/alternative medical therapy or to be considered for device (CRT-P, CRT-D or ICD)

↓

Primary Care

↓

Follow up in Primary Care
Undertake 6/12 review as per NICE guidance.
Adjust diuretics as per clinical status. Ensure medicines titrated to maximum tolerated doses
Involve palliative care as required

Cited from Kent, Surrey, Sussex HF Pathway

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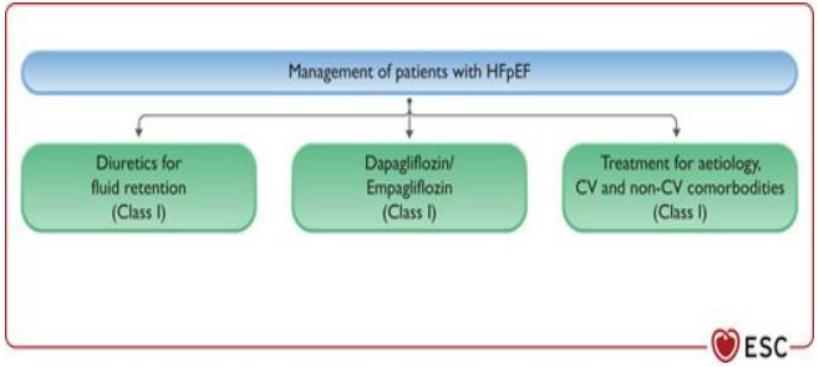
Principles of managing HF with preserved Ejection Fraction (HfpEF)

HFpEF is difficult to diagnose and is prone to over and under diagnosis. The main symptom is breathlessness, but this is non-specific .

Diagnosis is normally confirmed by :

- Clinical evidence of fluid overload.
- ECHO confirming structural changes
- Elevated NT-BNP level
- Response to treatment i.e., there should be at least a short-term improvement with diuretic treatment. If a patient doesn't respond to treatment, consider whether diuretic dose is sufficient or if diagnosis is correct .

The mainstay of treatment is holistic care of the patient, fluid management, rate control of arrhythmias and blood pressure control. Treat fluid overload with diuretics. New NICE guidance June 2023 and November 2023 as well as updated ESC 2023 guidelines



Recommendation Table 2 Recommendation for the treatment of patients with symptomatic heart failure with preserved ejection fraction

Recommendation	Class[a]	Level[b]
An SGLT2 inhibitor (dapagliflozin or empagliflozin) is recommended in patients with HFpEF to reduce the risk of HF hospitalization or CV death.[c] [6,8]	I	A

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CV, cardiovascular; HF, heart failure; HFpEF, heart failure with preserved ejection fraction; SGLT2, sodium–glucose co-transporter 2.
[a]Class of recommendation.
[b]Level of evidence.
[c]This recommendation is based on the reduction of the primary composite endpoint used in the EMPEROR-Preserved and DELIVER trials and in a meta-analysis. However, it should be noted that there was a significant reduction only in HF hospitalizations and no reduction in CV death.

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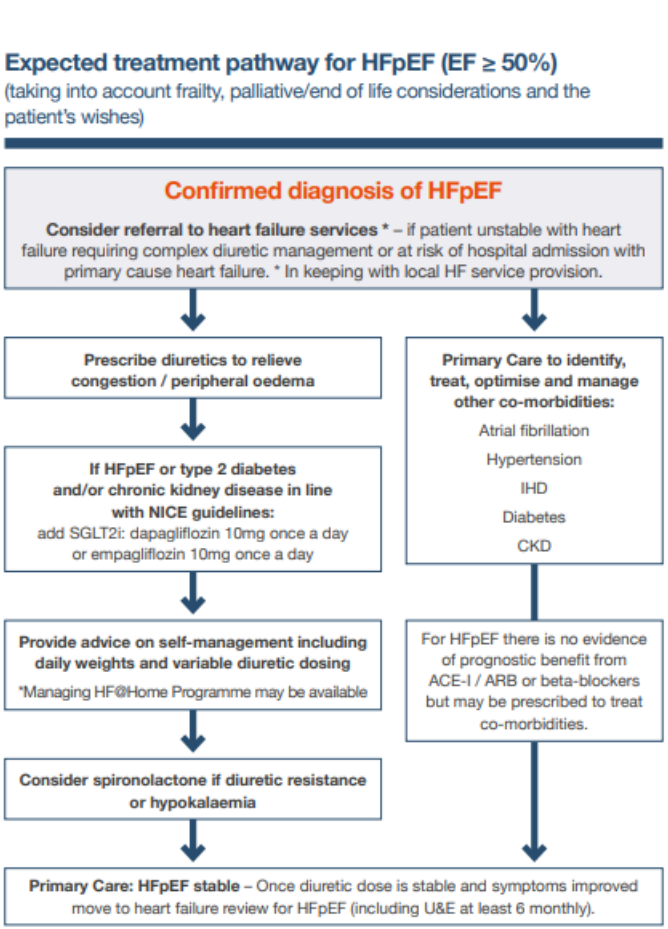
Management of HFpEF



Cited from Kent Surrey and Sussex HF Pathway

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ACUTE MANAGEMENT – decompensating

When patients are decompensating, some hospital admissions are unavoidable.
However, commissioners should consider the commissioning of:

- Ambulatory heart failure units
- Community IV diuretics services
- Virtual wards
- Advice and Guidance services

These services can potentially avoid hospital admissions and enable patients to be managed within the community.

The commissioning of community heart failure teams and long-term conditions care coordinators will enable these services to be embedded and will enable decompensating patients to be identified earlier.

Having a wide multi-disciplinary team and regular heart failure MDT meetings will ensure that the management of heart failure patients can be discussed and can potentially avoid hospital admissions.

Acutely Decompensated Heart Failure
(rapid worsening of symptoms and or signs of HF as a de novo presentation or in a known HF patient, that warrant immediate medical intervention)

Identification of Decompensation

Symptoms
- Worsening shortness of breath, fatigue or new shortness of breath at rest
- Increased numbers of pillows at night (orthopnoea) or frequent wakening due to cough or breathlessness (PND)
- Increased weight of ≥2kgs in 3 days
- Fluid accumulation in the form of ankle/leg swelling, sacral oedema or abdominal distension

Signs
- Low BP, increased HR, low oxygen saturations (compare with previous observations if available)
- Peripheral oedema, Increased JVP, sacral oedema
- Pulmonary Oedema

Further clinical assessment
- Blood Tests – FBC, UEs, NT proBNP,/ BNP, LFTs, TFTs,
- ECG
- Chest XRay
- Exclude other acute illnesses (pneumonia, COPD exacerbation, sepsis)
- Medication review
- Urine for ACR if worsening renal function

Haemodynamically stable?

SBP≥90 mmHg (compare usual BP)
Sats≥90%
HR-50-130)

**obtain a manual blood pressure reading for patients with atrial fibrillation*

Specialist advice/intervention

No

Refer to hospital or if in-patient (to HF Team) urgently if…
- Syncope or blackout
- New shortness of breat at rest
- Ongoing chest pain/suspicion of acute MI
- BP <90mm Hg
- Sats<90
- HR>130
- Pulmonary oedema
- Suspicion of sepsis

Yes

Refer urgently to HF Team
- Need for IV diuretics (Community/ Ambulatory HF Units/in-patient, HF virtual wards)
- Early access to Echo and other diagnostics – assess if HFrEF/HFpEF
- Evidence-based HF medications and optimisation
- Consider Advanced HF therapies
- Multi-disciplinary input including role of palliative input if appropriate
- Patient education
- Follow-up with HF team (hospital/community – irrespective of ejection fraction)
- Referral to cardiac rehab when stable

Do not stop HF treatment without discussing with HF team

Primary Care Management
- If diuretic naive start Frusemide 40 mg OD or bumetanide 1mg
- If already on diuretics increase dose x2 times to maximum of Furosemide 80 mg BD or equivalent
- Consider adding in a Thiazide (Bendroflumethiazide / Metolazone 2.5 to 5 mg) alternate days or twice a week with close monitoring of renal function
- Mineralocorticoid receptor antagonists (MRA): 25 mg daily

Phase of illness - have you considered?
- Medical review
- All reversible causes of deterioration explored
- Clear, sensitive communication with patient and those identified as important to them
- Person and agreed others are involved in decisions about treatment and care as they want
- Prioritised as appropriate Gold Standards Framework meeting

- Update EPaCCS Record as and when necessary
- Work closely with other services e.g. Specialist Palliative Care
- Review or offer Advanced Care Plan, share information with patients consent
- DNRCPR considered, outcome documented, information shared appropriately including ambulance service

- A holistic needs assessment and a keyworker identified including benefits (e.g. blue badge, prescription exemption etc.) and individual needs identified that are important are explored, respected and met as far as possible.
- Continuing Health Care funding
- DS1500
- Anticipatory medication prescribed and available
- Equipment assessment

- ICD discussion and deactivation
- An opportunity for an Advanced Care Planning discussion?
- Agree on-going monitoring and support to avert crisis
- OOH/NWAS updated including DNACPR status and Advanced Care Plan

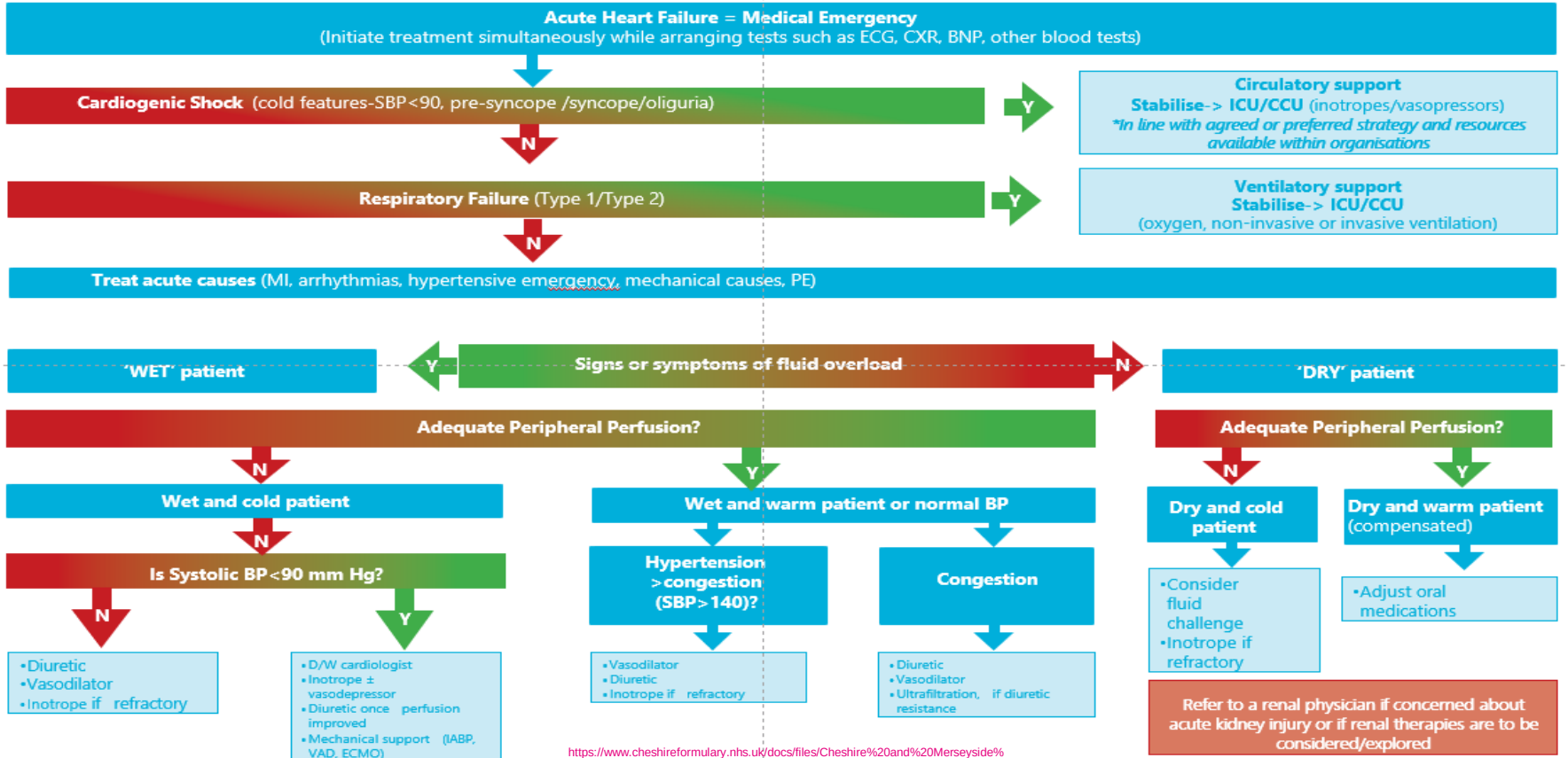
https://www.cheshireformulary.nhs.uk/docs/files/Cheshire%20and%20Merseyside%20Health%20Care%20Partners hip%20Heart%20Failure%20Pathway%20-%202021.pdf

ACUTE MANAGEMENT – hospital admission

When a patient does have to be admitted, it is important for policies to be in place that enables heart failure patients to be identified quickly and transferred to a cardiology ward. Evidence suggests that management of heart failure on a cardiology ward/heart failure unit is associated with lower in-hospital and out of hospital mortality.

- An identification system that alerts when heart failure patients are admitted will allow the specialist teams to provide timely advice and will enable treatments to be commenced that can potentially reduce length of stay.
- Commissioners should consider that acute trusts should have access to in and outreach heart failure specialists.
- Evidence suggests that all heart failure patients should be seen within 2 weeks following discharge (add NICE link), this promotes reduction in readmissions.
- Patient initiated follow up (PIFU) should be made available.

Management of acute hospitalised heart failure



https://www.cheshireformulary.nhs.uk/docs/files/Cheshire%20and%20Merseyside%20Health%20Care%20Partnership%20Heart%20Failure%20Pathway%20-%202021.pdf

ADVANCED HEART FAILURE CARE

Unfortunately, despite medical therapy, some patients will continue to decompensate and require multiple admissions. For some patients advanced management, such as device therapy or heart transplantation may be an option to improve quality of life. To recognise when this is required, it is advised to use the I NEED HELP criteria and make contact with your local heart failure service if at least one marker is present

- Inotropes

- NYHA 3/4 or high NT Pro BNP
- End organ damage
- Ejection Fraction (<20%)
- Defibrillator shocks

- Hospitalisation >1 in 12 months
- Edema persisting / higher diuretic dose need
- Low blood pressure
- Prognostic medication (unable to start or reducing)

Jay Baumwol, MBBS (Hons), FRACP The Journal of Heart and Lung Transplantation, Vol 36, No 5, May 2017

Advice and guidance should be sought from your local heart failure service and if necessary, the regions heart transplant centres

- Queen Elizabeth Hospital Birmingham
- Papworth Hospital, Cambridge

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How can we support heart failure patients to self-manage their condition?

According to the European Society of Cardiology Guidelines for the diagnosis and treatment of acute and chronic heart failure, self-management is integral to achieving best patient outcomes: to reduce mortality and improve quality of life.

With heart failure patients, self-management can be challenging due to the unpredictable nature of the disease, but the key recommendations that aid in reducing burden on the health care system and improving patients' quality of life are self-management strategies such as:

Chronic heart failure patients should:
• Monitor and identify changes in symptoms (e.g. daily weighing)
• Manage symptom changes (e.g. > 2 kg over 3 days) by adapting behaviour (e.g. see their primary care physician)
• Adhere to medication, diet and exercise regimens
• Avoid excess sodium, fat, cholesterol and alcohol
• Abstain from cigarette smoking
• Report mental health disturbance (e.g. depression, anxiety) to their healthcare professional
• Take medications as prescribed, be aware of key medicines to be prescribed, seek support from local healthcare professionals (GP, pharmacist, HF nurse)

Self-care enables reduced bad days, improved good days, reduced hospital admissions, improved symptoms, improved prognosis.

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Interventions and tools that aid self-management

- **Cardiac Rehabilitation is** recommended by NICE as an intervention that can aid heart failure patients with self-management for lifestyle advice as well as improving symptom control. Discuss with your local cardiac rehabilitation team to discuss how you can refer patients into their service

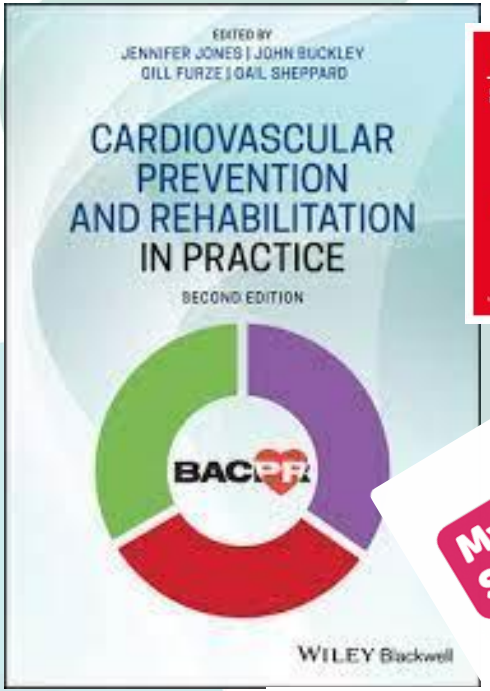
- There are now a number of home-based rehab programmes specifically for heart failure that can be commissioned or accessed for free.

REACH HF
Cardiac Rehab | Pumping Marvellous
BHF Cardiac Rehab

To find local cardiac rehabilitation centre and contact details: Cardiac Rehabilitation (cardiac-rehabilitation.net)

- There are many charities that provide excellent **patient information** and booklets that can aid patient in self- management

✓ Pumping Marvellous Home - Pumping Marvellous
✓ British Heart Foundation Information for those affected by heart and circulatory diseases - BHF
✓ Heart Failure Matters What Can You Do to Manage Heart Conditions? (heartfailurematters.org)



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Innovative ways of working to promote self-management – Virtual Monitoring

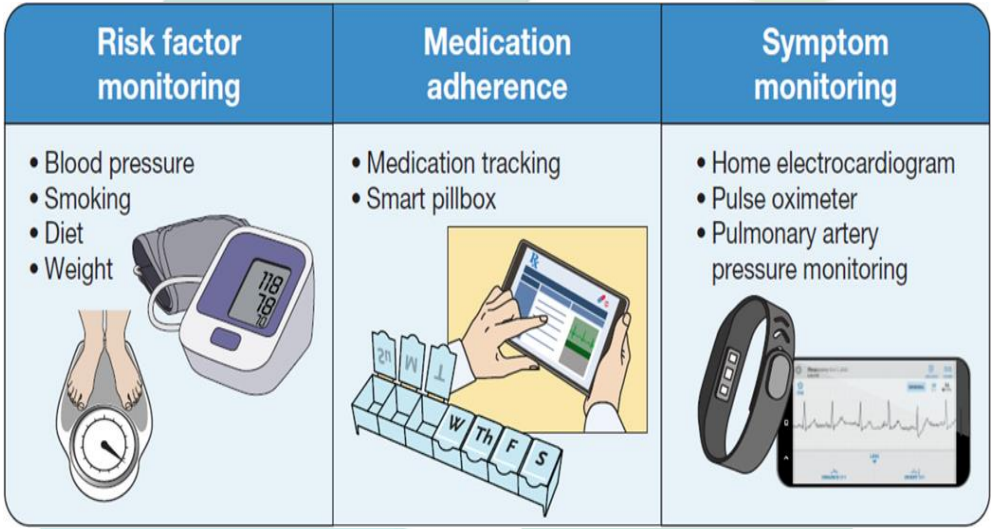
Virtual Monitoring can reduce face to face contacts. Some patients have actively demonstrated effective self-management via virtual/ digital use of clinical assessment devices.

The devices enable patients to highlight when they may be deteriorating or provide them with confidence during evidence-based medication therapy titration.

The **HF@Home** project has been implemented to develop and test approaches using remote monitoring and education, to better support people with heart failure in the community. Several heart failure services, including primary care, are testing this approach to aid in up titration of medications as well as to support patients to self-manage. NHS England » Managing heart failure @home.

Haemodynamic-guided monitoring with pulmonary artery pressure sensors, such as **CardioMEMS** is also being recognised as a method for patient-initiated readings to be submitted to clinicians. This can identify deterioration early, so that interventions can be put in place to prevent symptoms worsening. Nice guidance can be found here.

Equally, heart failure remote alert systems for patients with implanted heart devices can enable clinicians to be alerted when a person's condition becomes 'high risk' of them being hospitalised.



Clinicians should work with commissioners and digital leads to inform them of how these new innovations can promote self-management, avoid hospital admissions or reduce length of stay.

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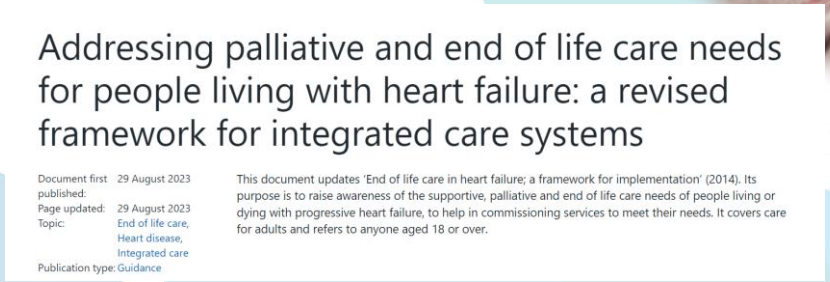
Despite recent advancements in evidence-based disease modifying therapies, heart failure remains a condition with poor survival outcomes, with 50% of all patients diagnosed with HF expected to die within 5 years, with older patients at increased risk of death.

In primary care, it is important to recognise the signs that patients may be approaching the end of their life. The most common symptoms being:

- pain
- breathlessness on minimal exertion or at rest
- persistent cough
- fatigue
- limited physical activity
- depression and anxiety
- constipation
- loss of appetite and nausea
- oedema
- insomnia
- cognitive impairment

NICE guidance is available on how to address patient needs



Addressing palliative and end of life care needs for people living with heart failure: a revised framework for integrated care systems

Document first published: 29 August 2023
Page updated: 29 August 2023
Topic: End of life care, Heart disease, Integrated care
Publication type: Guidance

This document updates 'End of life care in heart failure; a framework for implementation' (2014). Its purpose is to raise awareness of the supportive, palliative and end of life care needs of people living or dying with progressive heart failure, to help in commissioning services to meet their needs. It covers care for adults and refers to anyone aged 18 or over.

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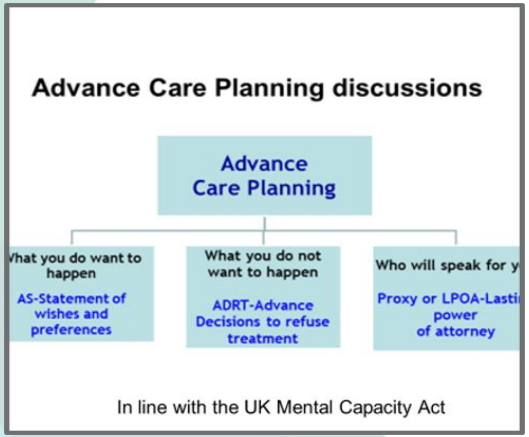
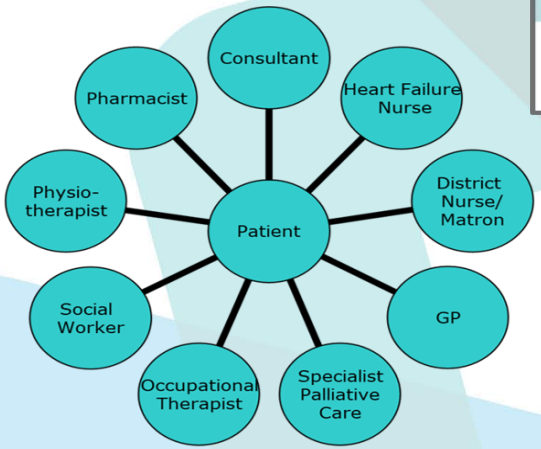
Where can you get further support to aid palliative care

If it is now thought your patient is reaching end of life, it is important to involve as many multi- disciplinary members as possible.
Palliative care teams, community nursing teams, occupational therapists and physios can all aid patients to improve the quality of the last few years, months or days of their life.

- Contact your local hospice to see if they provide support for heart failure patients
- Implement advanced care planning Gold Standard Framework - Advance Care Planning (goldstandardsframework.org.uk)
- Discuss RESPECT form completionReSPECT for healthcare professionals | Resuscitation Council UK
- If the patient has a automatic implantable cardioverter defibrillator (AICD), this may need deactivating, so contact local centre to arrange this. ICD deactivation at the end life: Principles and practice - BHF
- Symptom control should be the key priority. Discuss with heart failure specialist team, palliative care teams and pharmacy colleagues to ensure symptom relief is managed effectively.





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Further Resources

Where can I read more to aid improvement in heart failure

DATA

Understanding what the current status of heart failure is in your area is important.
The HIWM are happy to help you with this so please do contact us, however you can access data via fingertips. Public health profiles - OHID (phe.org.uk)

HIWM and NHSE Midlands team collaborated to survey heart failure services to produce a State of the Region report on heart failure within the Midlands.

POLICY

- BHF Report - Heart Failure report - BHF
- BSH pathway British Society for Heart Failure (bshpathway.org.uk)
- OAHSN toolkit Excellence-in-HF-toolkit.pdf (oxfordahsn.org)
- GIRFT report - Cardiology - Getting It Right First Time – GIRFT
- NICOR report - https://www.nicor.org.uk/interactive-reports/national-heart-failure-audit-nhfa
- Cheshire and Merseyside HF Pathway- Cheshire and Merseyside Health Care Partnership Heart Failure Pathway - 2021.pdf (cheshireformulary.nhs.uk)
- Health Innovation Kent Surrey and Sussex HF pathway - Heart-Failure-Pathway.-Sussex-ICB.-Final-version.pdf (healthinnovation-kss.com)

EDUCATION

- HIWM education sessions are available on request.

- HEE HF education modules Heart Failure and Heart Valve Disease – elearning for healthcare (e-lfh.org.uk

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Further Resources

ACE-I – Angiotensin converting enzyme inhibitor
AF – Atrial Fibrillation
AICD – Automatic Implantable cardioverter defibrillator
ARB –Angiotensin II receptor blockers
ARNI Angiotesin receptor/neprilysin inhibitor
BHF – British Heart Foundation
BSH – British Society of Heart Failure
CVD – Cardiovascular Disease
ECG - Electrocardiogram
ECHO – Echocardiography
ESC – European Society of Cardiology
HIWM – Health Innovation West Midlands
HF – Heart Failure
HFrEF – Heart Failure with Reduced Ejection Fraction
HFpEF – Heart Failure with Preserved Ejection Fraction
ICS – Integrated Care System
LVEF – Left Ventricular Ejection Fraction
LVSD – Left Ventricular Systolic Dysfunction
MDT – Multi Disciplinary Team
MRA -Mineralocorticoid receptor antagonists
NICE – National Institute of Clinical Excellence
NICOR- National Institute for Cardiovascular Outcomes Research
NTproBNP - N-terminal pro b-type natriuretic peptide
NYHA – New York Heart Association
OAHSN – Oxford Academic Health Science Network
PCN – Primary Care Network
QOF – Quality Outcomes Framework
RN – Registered Nurse

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CASE STUDIES

The following section shows some case studies of where innovative evidence-based practice has been utilised to improve the diagnosis or management of heart failure patients. We are eager to add to this, so please do contact us to share your work

CASE STUDY NAME:

AREA:

LEAD CONTACT AND CONTACT DETAILS:

Challenge

Problem trying to resolve/Baseline data etc.

Images summarising impact

Intervention description

How did you do it? Which stakeholders did you convene. What population did you cover?

Impact to date

We have engaged XXX people/undertaken xxx reviews/increased meds by xxxxx

Learning

We learnt that……. Consider key points that will aid people to replicate

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This has been created by Health Innovation West Midlands and NHS England Midlands Team

For further information, please contact Pip Richards
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