

### Housekeeping:



- Please remain on mute and with camera off unless speaking
- Questions? Enter into the chat, or, during our Q&A section at 12:45 use 'raise hand' function
- Please note we will be recording this meeting

# Heart Failure in Primary Care

Tuesday 19<sup>th</sup> November 2024  
12:00 – 13:00



# Agenda: Heart Failure in Primary Care

Agenda Item	Speaker	Time
<b>Welcome &amp; Introductions</b>	<b>Dr Carla Plymen</b> , Heart Failure Lead, Imperial College Healthcare NHS Trust	5 mins
<b>Heart Failure Overview and Why It Matters</b>	<b>Dr Carla Plymen</b>	5 mins
<b>Referral to HF services and pathway</b>	<b>Dr Harman Singh</b> , Consultant, Cardiology, Clinical Lead, Ealing Community Heart Failure Service, Imperial College Healthcare NHS Trust <b>Judith Chilcott</b> , Heart Failure Specialist Nurse, Imperial College Healthcare NHS Trust	10 mins
<b>Medication</b>	<b>Dr Dominique Auger</b> , Consultant Cardiologist, Imperial College Healthcare NHS Trust <b>Faye Windsor</b> , Heart failure Specialist Pharmacist, Imperial College Healthcare NHS Trust	20 mins
<b>Heart Failure Pages on the MyHealth LDN Site</b>	<b>Sarah Mumeni</b> , Project Delivery Manager – Long Term Conditions, North West London ICB	5 mins
<b>Q&amp;A</b>	With all panel members	15 mins
<b>Feedback and Close</b>	<b>Cat Caldwell</b> , Senior Innovation Manager – Medicines Optimisation, Imperial College Health Partners	

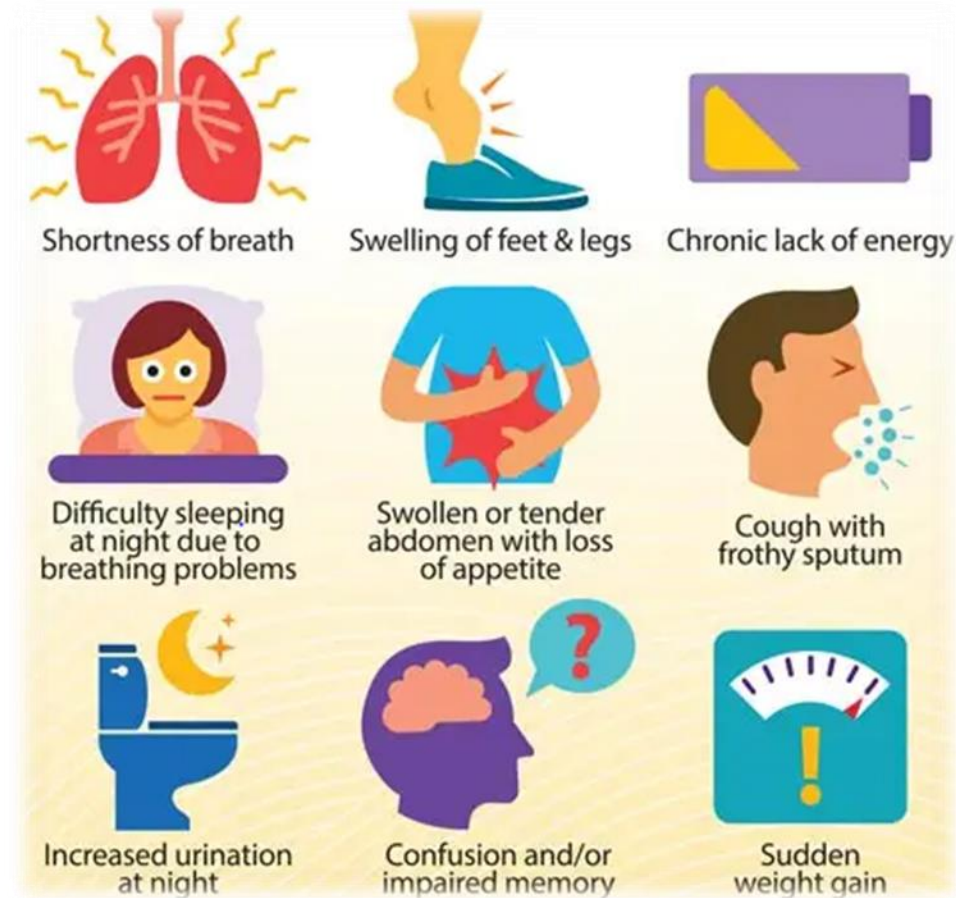
# Heart Failure Overview and Why It Matters



# What is heart failure?

*A clinical syndrome* caused by a reduction in the heart's ability to pump blood around the body

Symptoms and/or signs  
AND  
Structural cardiac abnormality



# Why it matters

Overall predicted prevalence approximately 2%

- Much higher in the elderly: 15% of over 85 years
- Significant detection gap in NWL: there should be 32% more people diagnosed with HF

~ 63,000 new cases of HF in the UK each year; 1 million known cases

- As frequent as the four commonest cancers combined (lung, breast, bowel & prostate)

Expensive: 2% of total NHS budget (£2 billion)

- Hospitalisation drives cost

HF accounts for 5% of all emergency hospital admissions in over 65's

- Admissions predicted to rise by 50% next 20 years

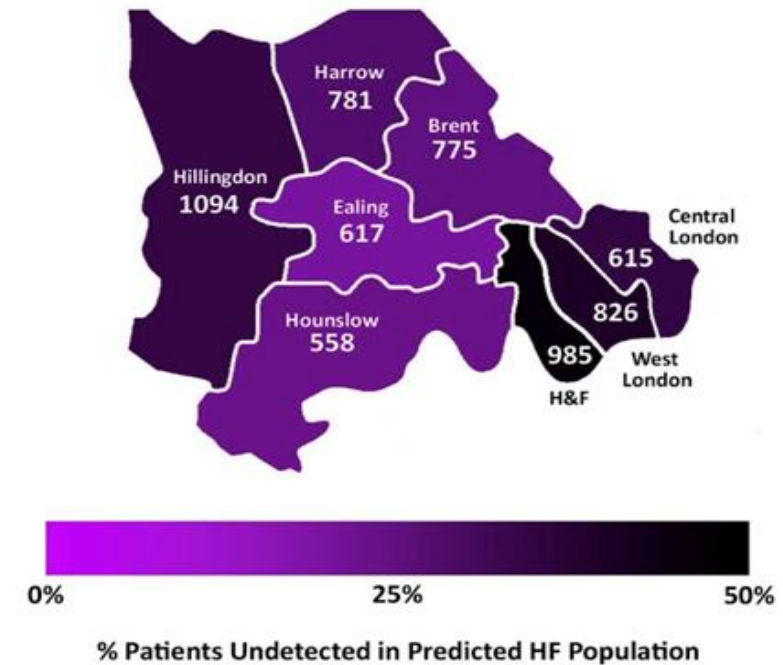
**Imperial College Health Partners dashboard shows that 43 lives could be saved with adequate detection and therapy with a cost saving to the ICS of £1.8 million.**

# Disease Burden

- 80% of patients are diagnosed with HF in hospital despite 50% of these patients having symptoms in the preceding years
  - Heart failure patients experience significantly delayed diagnoses
  - QOF prevalence in London low
  - In hospital mortality ~10%
  - 1 year post discharge mortality ~ 30%
  - 5 year post diagnosis mortality ~ 45%
  - Worse than many cancers!

There is light at the end of the tunnel:  
FOUR medications significantly reduce mortality in HF<sub>r</sub>EF

Early diagnosis is key to early intervention



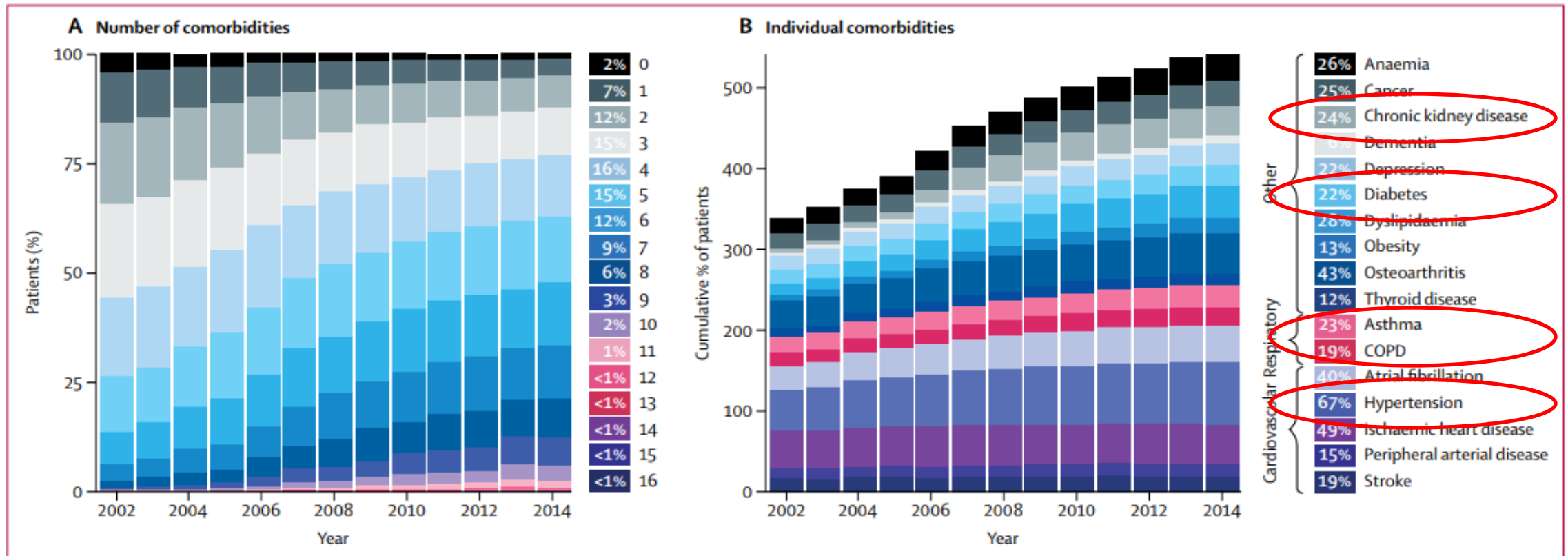
# Causes of heart failure

Cause	Examples of presentations
CAD	Myocardial infarction Angina or “angina-equivalent” Arrhythmias
Hypertension	Heart failure with preserved systolic function Malignant hypertension/acute pulmonary oedema
Valve disease	Primary valve disease e.g., aortic stenosis Secondary valve disease, e.g. functional regurgitation Congenital valve disease
Arrhythmias	Atrial tachyarrhythmias Ventricular arrhythmias
CMPs	All Dilated Hypertrophic Restrictive ARVC Peripartum Takotsubo syndrome Toxins: alcohol, cocaine, iron, copper
Congenital heart disease	Congenitally corrected/repared transposition of great arteries Shunt lesions Repaired tetralogy of Fallot Ebstein’s anomaly

Cause	Examples of presentations
Infective	Viral myocarditis Chagas disease HIV Lyme disease
Drug-induced	Anthracyclines Trastuzumab VEGF inhibitors Immune checkpoint inhibitors Proteasome inhibitors RAF+MEK inhibitors
Infiltrative	Amyloid  Sarcoidosis Neoplastic
Storage disorders	Haemochromatosis Fabry disease Glycogen storage diseases
Endomyocardial disease	Radiotherapy Endomyocardial fibrosis/eosinophilia Carcinoid
Pericardial disease	Calcification Infiltrative
Metabolic	Endocrine disease Nutritional disease (thiamine, vitamin B1 and selenium deficiencies) Autoimmune disease
Neuromuscular disease	Friedreich’s ataxia Muscular dystrophy



# Causes & comorbidities in Heart Failure



**Figure 2: Temporal trends in comorbidities among patients diagnosed with incident heart failure, from 2002 to 2014**

(A) Number of comorbidities, out of 17 major conditions, affecting patients with incident heart failure, over time. (B) Cumulative percentage of patients affected by individual comorbidities, over time. COPD=chronic obstructive pulmonary disease.

# Referral to HF services and pathway



# Accessing specialist services .....



# Heart failure services NWL

- Community
- Acute
- Integrated
- HFrEF only
- All HF
- Differing offerings across ICB but common themes – future aspiration equity !



# Heart failure specialist team at Imperial

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Dr Carla Plymen- Consultant Cardiologist and HF lead

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Prof Jamil Mayet- Consultant Cardiologist

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Dr Shuli Levy- Consultant Cardiogeriatrician

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Dr Graham Cole – Consultant Cardiologist

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Dr Punam Pabari- Consultant Cardiologist

---

Dr Dominique Auger- Consultant Cardiologist

---

Carys Barton – Nurse Consultant

---

Clare Screeche-Powell – Lead nurse

---

Faye Windsor – Specialist Pharmacist

---

Judith Chilcott HFSN

---

New HFSN- starting in January 25

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Victoria Mitchener HFSN

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Clare Pengelly HFSN

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Suki Chahal HFSN

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Lorraine Lackey HFSN

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Audrey Oseiwusu HFSN

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Ghiselle Green -Psychologist





# Recorded prevalence

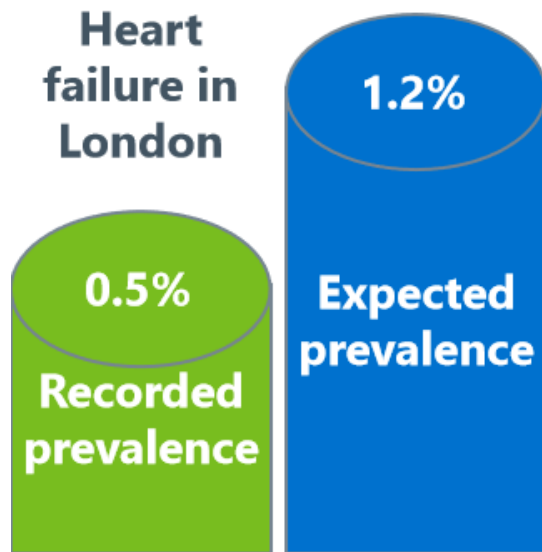
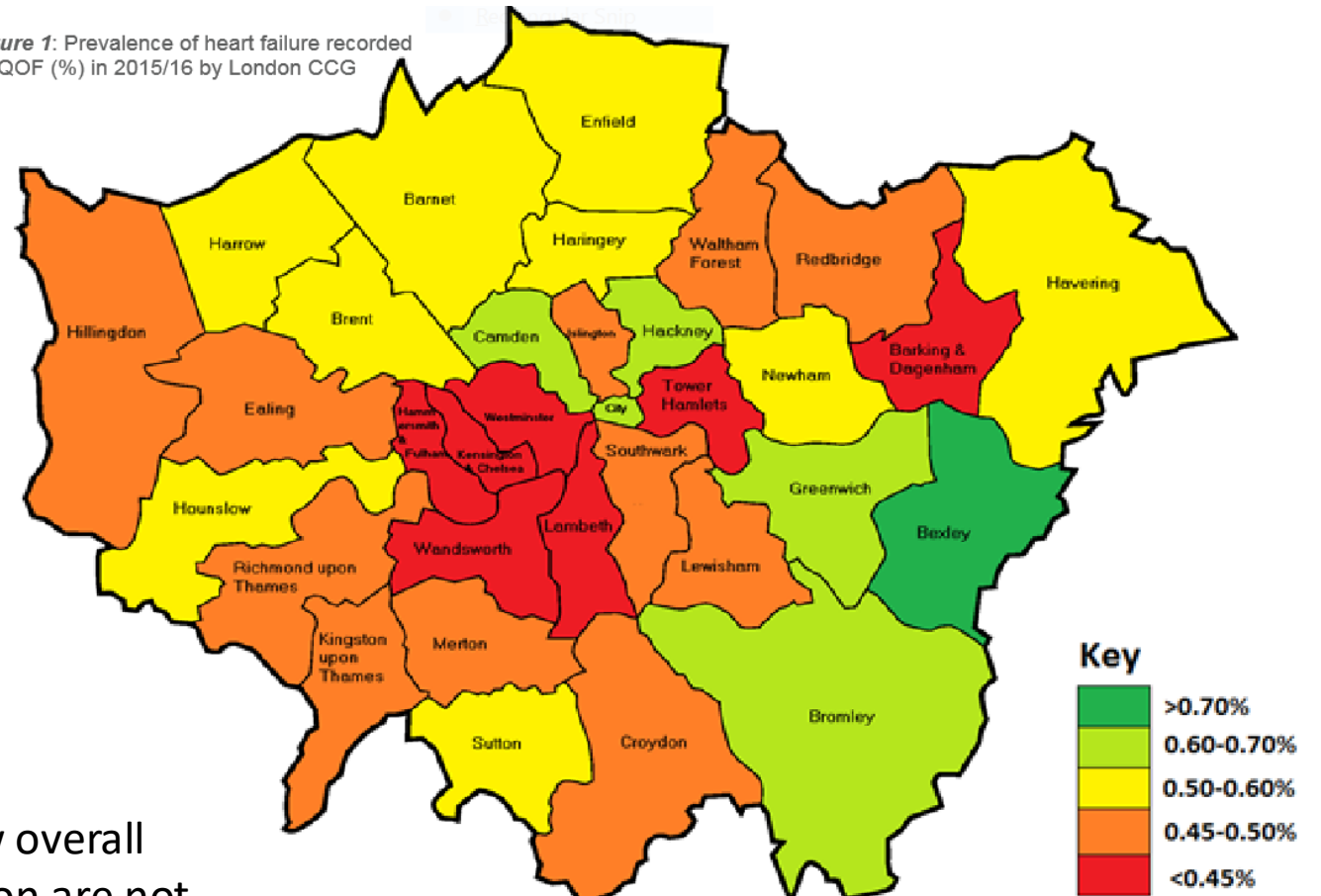


Figure 1: Prevalence of heart failure recorded on QOF (%) in 2015/16 by London CCG



“Variability in recorded prevalence alongside the low overall prevalence suggests that many people living in London are not being diagnosed with heart failure.”

Between 60 - 80% of heart failure patients are identified via acute care / A&E

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# What does this mean ?

- People with HF are not being identified
- People with HF are not being referred
- Missing out on therapy that may prolong their life, improve quality of life and minimise inappropriate admissions to secondary care
- Patients may have presented elsewhere and expect that data about their diagnosis and treatment is shared between providers but this is not always the case- poor IT interoperability – move out of area

# Signs and symptoms

## Typical/Specific

- Breathlessness
- Orthopnoea
- PND
- Fluid retention: feet, ankles, legs
- Elevated JVP, 3<sup>rd</sup> heart sounds
- Rapid weight gain

## Less typical/specific

- Nocturia
- Weight loss
- Syncope/pre syncope
- Confusion
- Abdominal distension

Patients are often multiply comorbid and although differential should be sought **NTproBNP can rule out**

# Comorbidities complicate holistic care

- **Interfere with diagnosis**
- **Aggravate HF symptoms** and further affect quality of life
- Contribute to the burden of **hospitalisations** and **mortality**
- May **affect** the use of **treatments for HF**
- Evidence base for HF treatment in patients with multiple **comorbidities** is limited as **many were exclusion criteria** in trials
- **Drugs used to treat comorbidities** may cause **worsening of HF**
- **Interaction between drugs** to treat HF and those used to treat comorbidities, resulting in **lower efficacy, poorer safety** and the occurrence of **side effects**
- **Collaborative care across care settings is vital**

# NICE 2018 -Undiagnosed but suspected HF

- Measure NT-proBNP in people with suspected heart failure.
- Because very high levels of NT-proBNP carry a poor prognosis, refer people with suspected heart failure and an **NT-proBNP level above 2,000 ng/litre urgently**, to have specialist assessment and transthoracic echocardiography within 2 weeks.
- Refer people with suspected heart failure and an NT-proBNP level between **400 and 2,000 ng/litre** to have specialist assessment and echocardiography within **6 weeks**.
- **Adults with suspected chronic heart failure who have been referred for diagnosis have an echocardiogram and specialist assessment**

# To support referral .....

- U and E's, FBC, LFT, TFT, HbA1c, Chol, **ECG**
- Consider loop diuretics if signs of fluid overload and adequate renal function

# Diagnosed but worsening heart failure

- Repeat NTproBNP
- Repeat U and E's, FBC, LFT, TFT, HbA1c, Chol, **ECG**
- Consider increasing loop diuretics
- Refer back to HF team with clear indications for referral – Echo/CMR report must be available

# NT Pro-BNP (not BNP anymore)

**RULE OUT NOT RULE IN !**

Failure

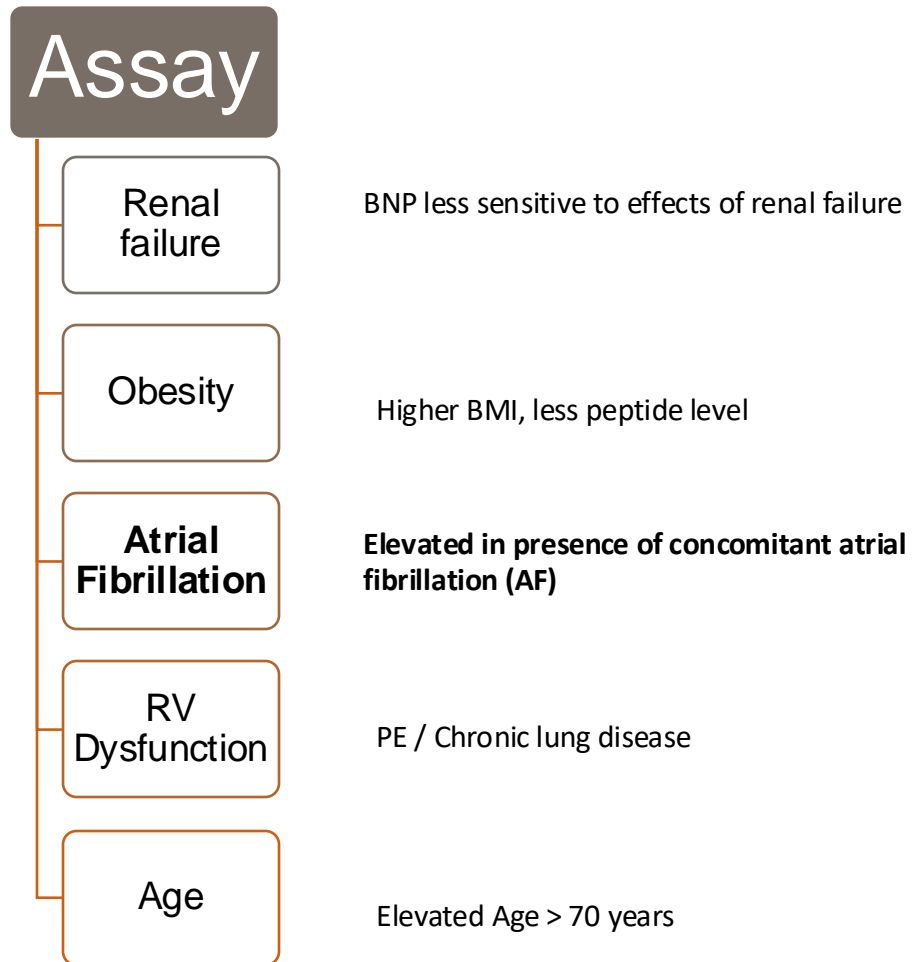
4-6 hours)

ENTRESTO  
BNP  
metabolised by  
neprilysin –  
Neprilysin  
inhibition  
increases BNP

not differentiate  
between HFrEF and  
HFpEF

# What affects NT Pro-BNP / BNP

The level of serum natriuretic peptide does not differentiate between heart failure with reduced ejection fraction (HFrEF) and heart failure with preserved ejection fraction (HFpEF)





# Referring to HF services

- **Different offerings in each borough**
- If previously known to HF nursing service patients can usually self re-refer or GP can contact nursing team to reactivate referral
- Referrals are accepted from Hospital medical staff, Registered Nurse's, GPs' and other Allied Health Professionals for all patients with a confirmed diagnosis of heart failure and LVEF < 40% (HFrEF)
- Preserved LV systolic function Heart Failure patients (HFpEF) will be managed in the Consultant Clinics. **Some nursing services** will see these patients at home on specific request of HF consultant or if HFpEF confirmed by HF Cardiologist (avoid hospital admissions) if this is the commissioned service
- Clinics are available at several sites as well as secondary care sites – care closer to home
- Home visits for patients who are **housebound only**

# SORRY



- Unable to review patients without Echo or CMR evidencing structural/functional abnormality to confirm HF
- If housebound and unable to attend or declines attendance for test we can provide advice and guidance only

# Treatment options

- Treat/manage cause
- **Medical therapy**
- Device therapy
- Cardiac rehabilitation classes
- Transplant

# Treatment aims

- ✓ Relieve signs and symptoms
- ✓ Prevent hospital admission
- ✓ Improve survival
- ✓ Improve quality of life
- ✓ Prevent disease progression



# Remote monitoring as part of usual care –



# How can we help?

- Named PCN nurse
- Education – teaching for Practice nurses, GP's and pharmacists
- Advice and guidance from Cardiology weekly, HF specific monthly (Hold)
- Email and telephone support
- Let us know what you need – we are here to help

# Signs and symptoms of heart failure .....

# NTproBNP

# Medications

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# Classification of Heart Failure

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Heart Failure with a reduced ejection fraction (HFrEF) ( $\leq 40\%$ )

Heart Failure with Mildly reduced ejection fraction (HFmrEF) (41-49%)

Heart Failure with a preserved ejection fraction (HFpEF) ( $\geq 50\%$ )

# Heart Failure with a Reduced Ejection Fraction (HFrEF)

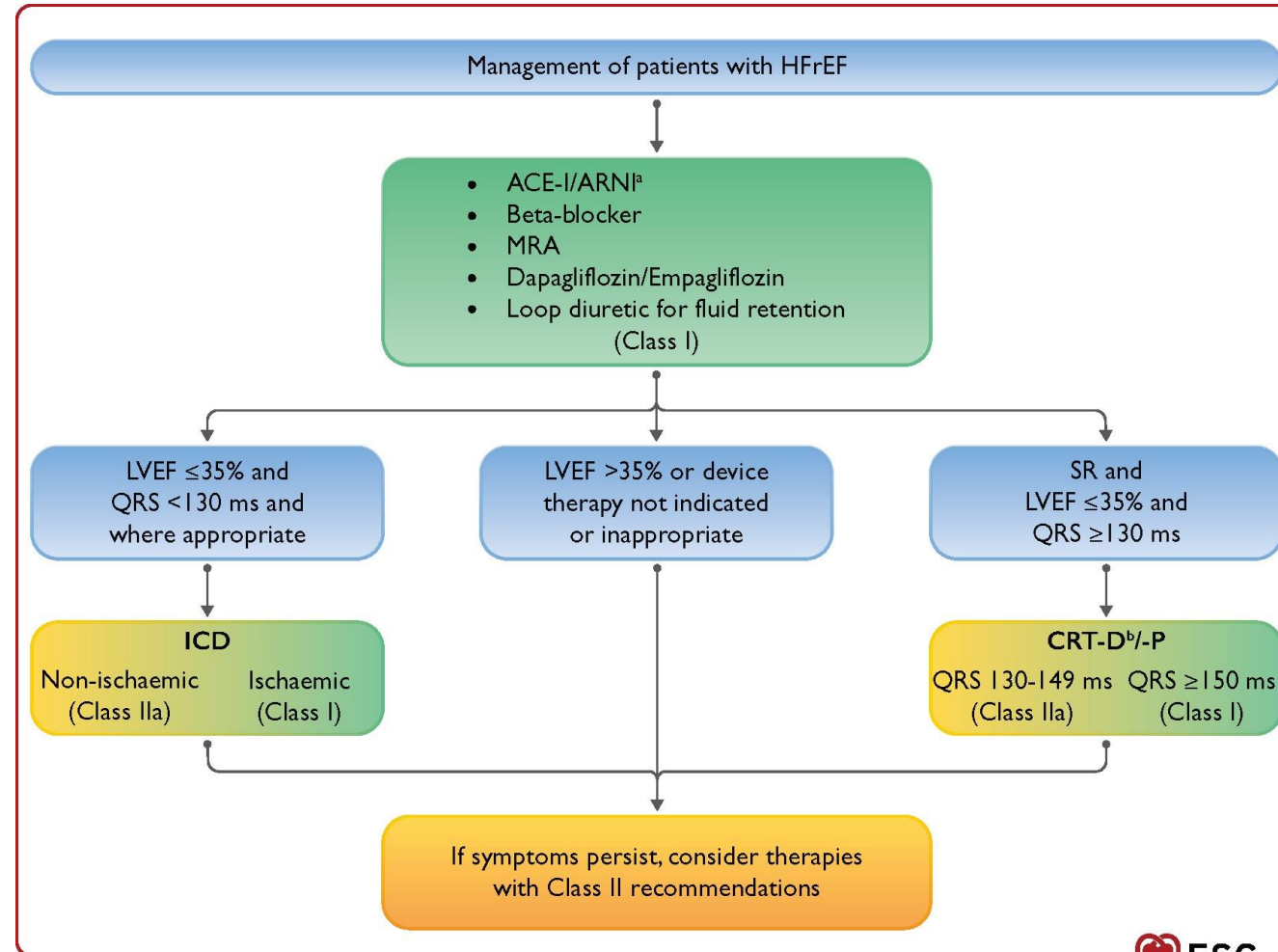
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EF  $\leq$ 40%

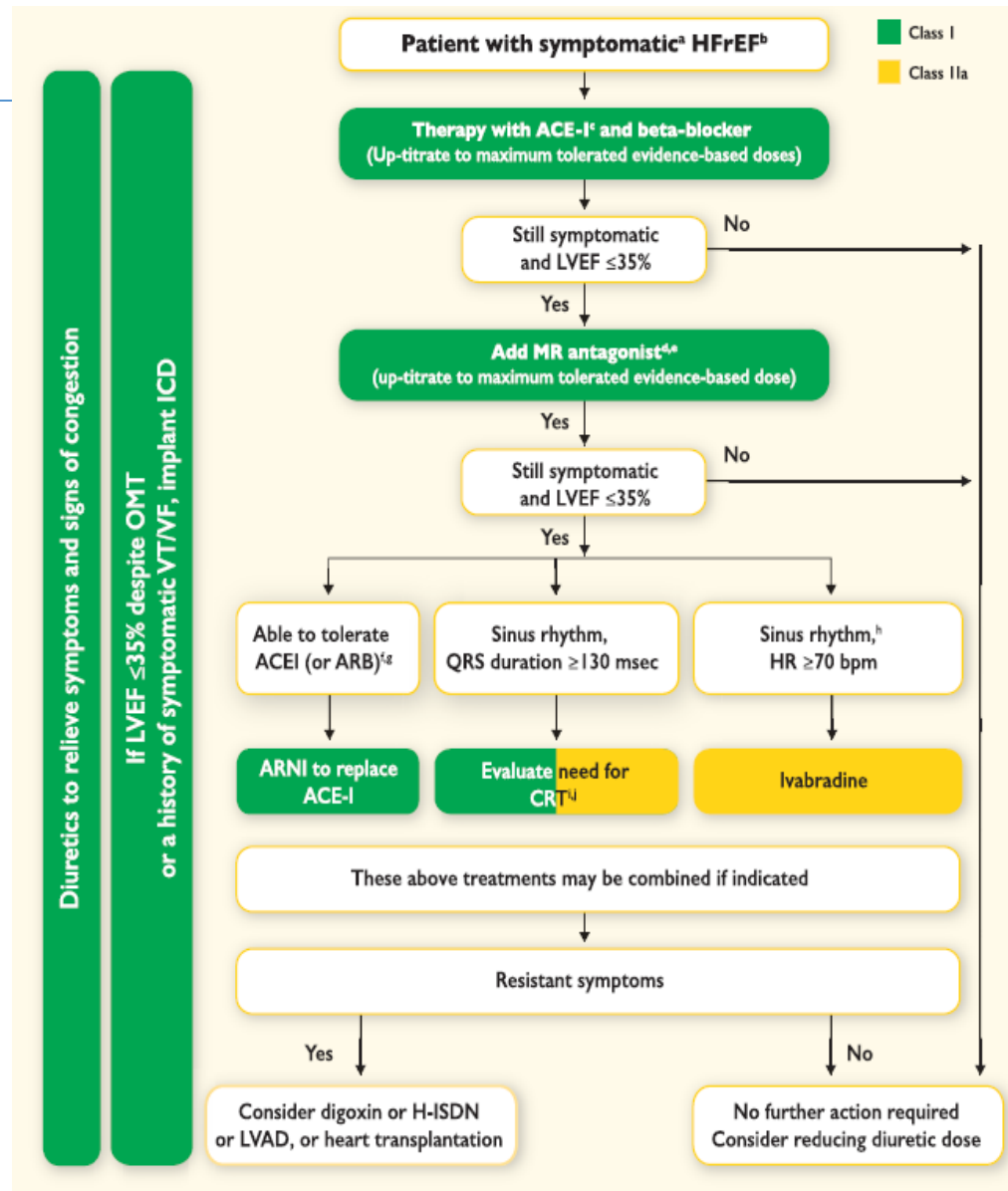
Weakened ventricles, usually enlarged. Reduced force of contraction

Major causes are ischaemic heart disease, genetic, exposure to cardiotoxic agents, infection (generally reversible).

# Heart Failure with a Reduced Ejection Fraction (HFrEF)

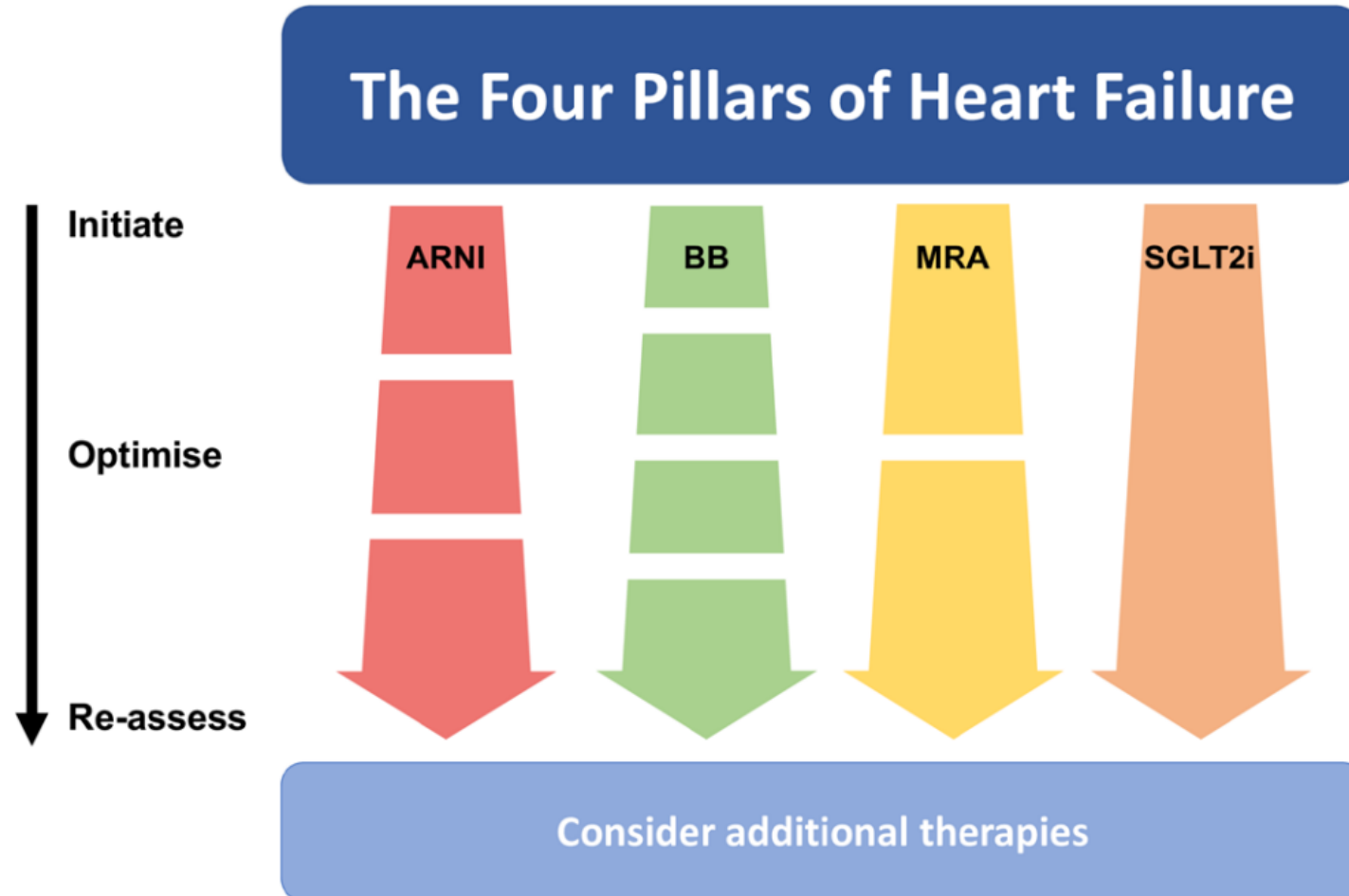


# Old 'step-wise' guidance



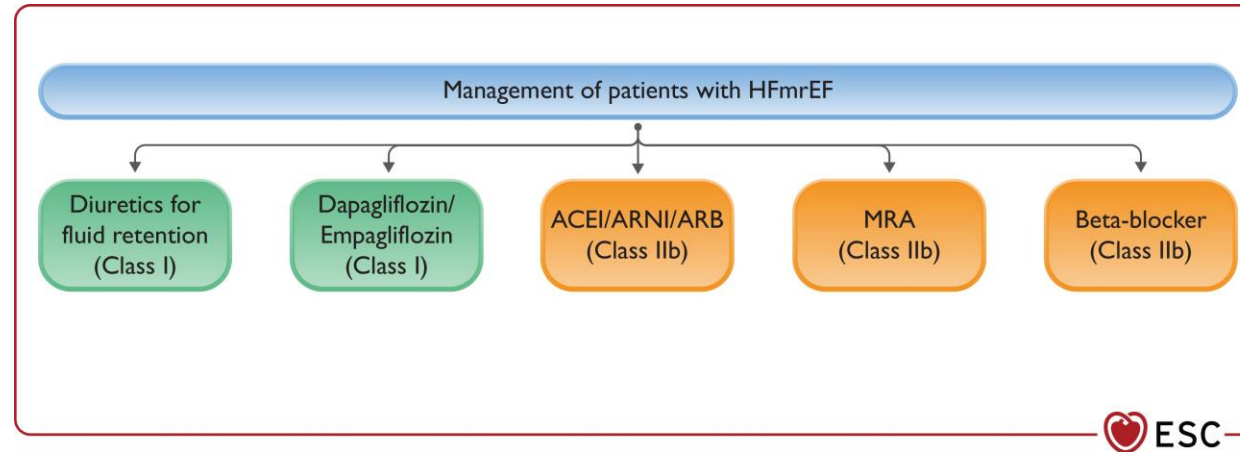
- Linear approach following chronology of development of therapies
- Resource and time-intensive
- Need for repeat echocardiography

# Current approach



# Heart Failure with a Mildly Reduced Ejection Fraction (HFmrEF)

- EF 41-49%



# Heart Failure with a Preserved Ejection Fraction (HFpEF)

EF  $\geq$ 50%

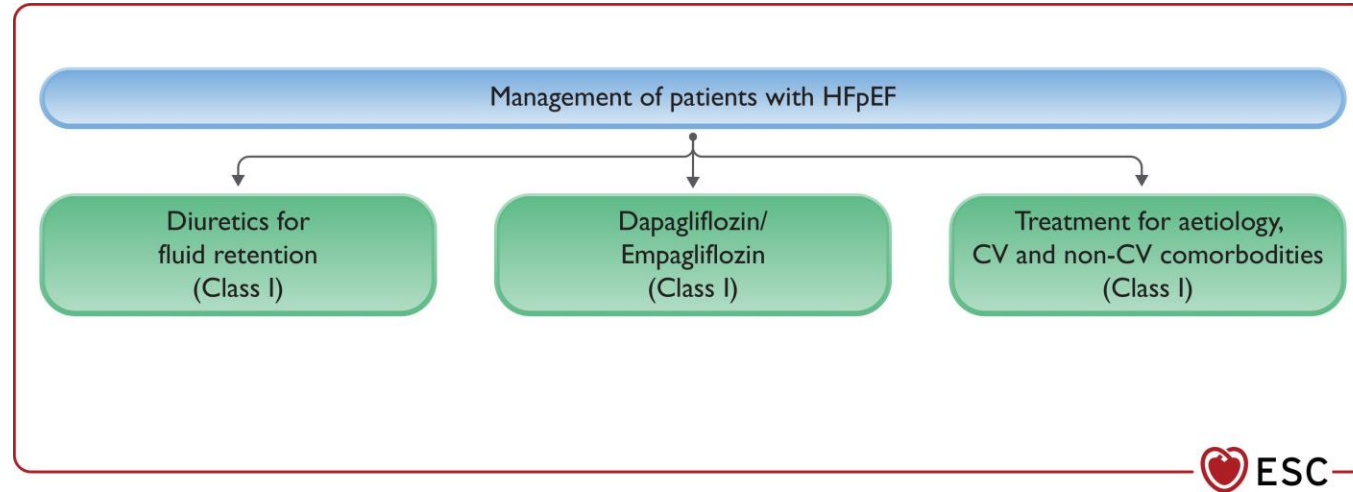
Must have raised natriuretic peptides, symptoms and a structural abnormality on cardiac imaging.

Stiff ventricles, reduced filling, usually increased LV wall thickness and enlarged LA. 'Diastolic dysfunction'

Risk factors:

Hypertension	Atrial fibrillation
Female sex	Age >70
Obesity	Coronary artery disease
Diabetes	CKD

# Heart Failure with a Preserved Ejection Fraction (HFpEF)





# Medication optimisation

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## 4 pillars

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- ACEi/ARB/ARNI
- Beta blocker
  - Bisoprolol, carvedilol and nebivolol
- MRA
  - Eplerenone and spironolactone
- SGLT2i
  - Dapagliflozin and empagliflozin licensed and NICE approved across HF spectrum
  - Specialist initiation for HFrEF (may be 'on the advice of'), no restrictions for HFpEF/CKD/diabetes
  - Counselling for non-diabetic patients- sick day rules and UTIs. Generally very well tolerated

## 'a la carte'

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- Diuretics

- Loop diuretics- furosemide and bumetanide
- Thiazides- metolazone and bendroflumethiazide- potent when used in combination with high dose loop. Be careful if patients taking these for BP management prior to starting loop
- Amiloride- potassium sparing

- Potassium binders

- Sodium zirconium cyclosilicate (Lokelma) and patiromer (Veltassa)
- Used to facilitate uptitration of RAASi for HF and CKD
- Specialist initiation but primary care can take over

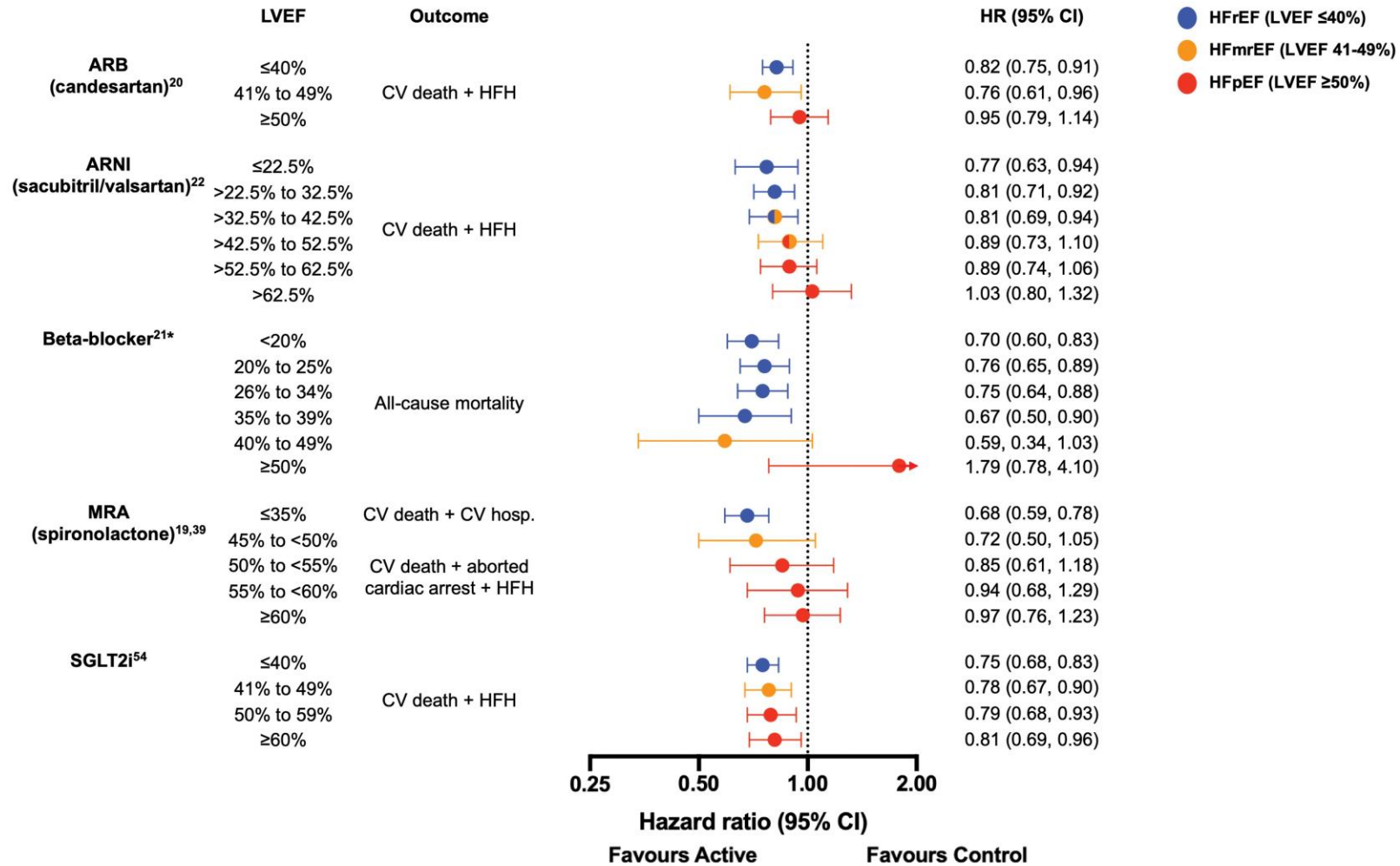
- IV iron

- Hydralazine and nitrates

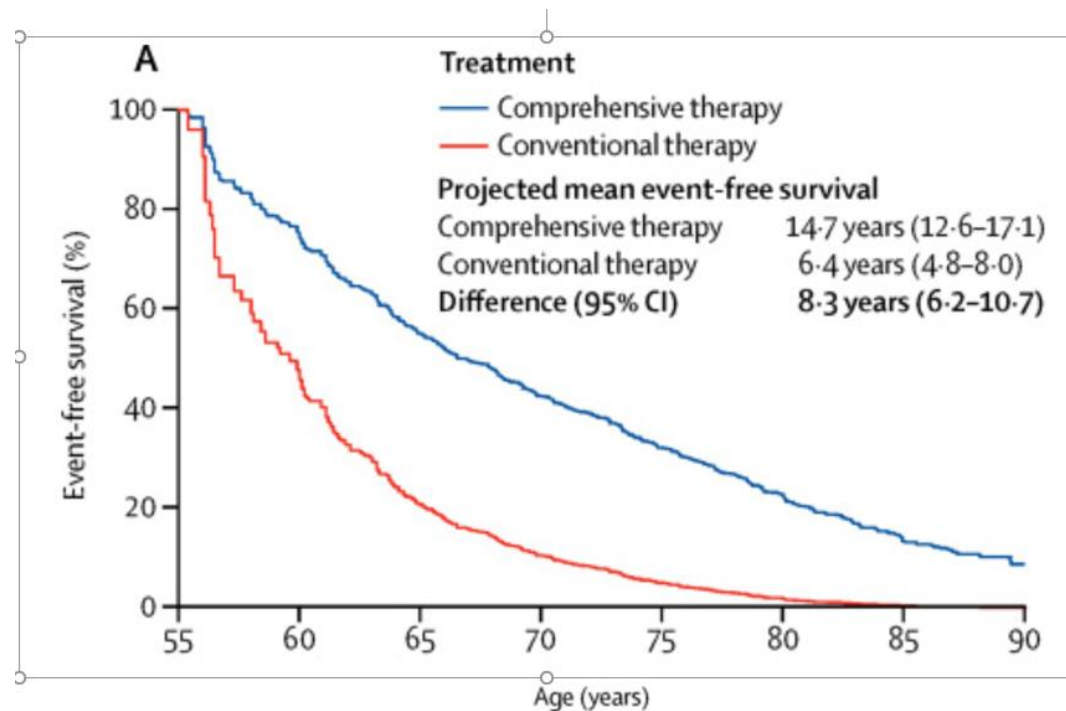
- Digoxin

- Ivabradine

# Effects of therapy across the EF spectrum

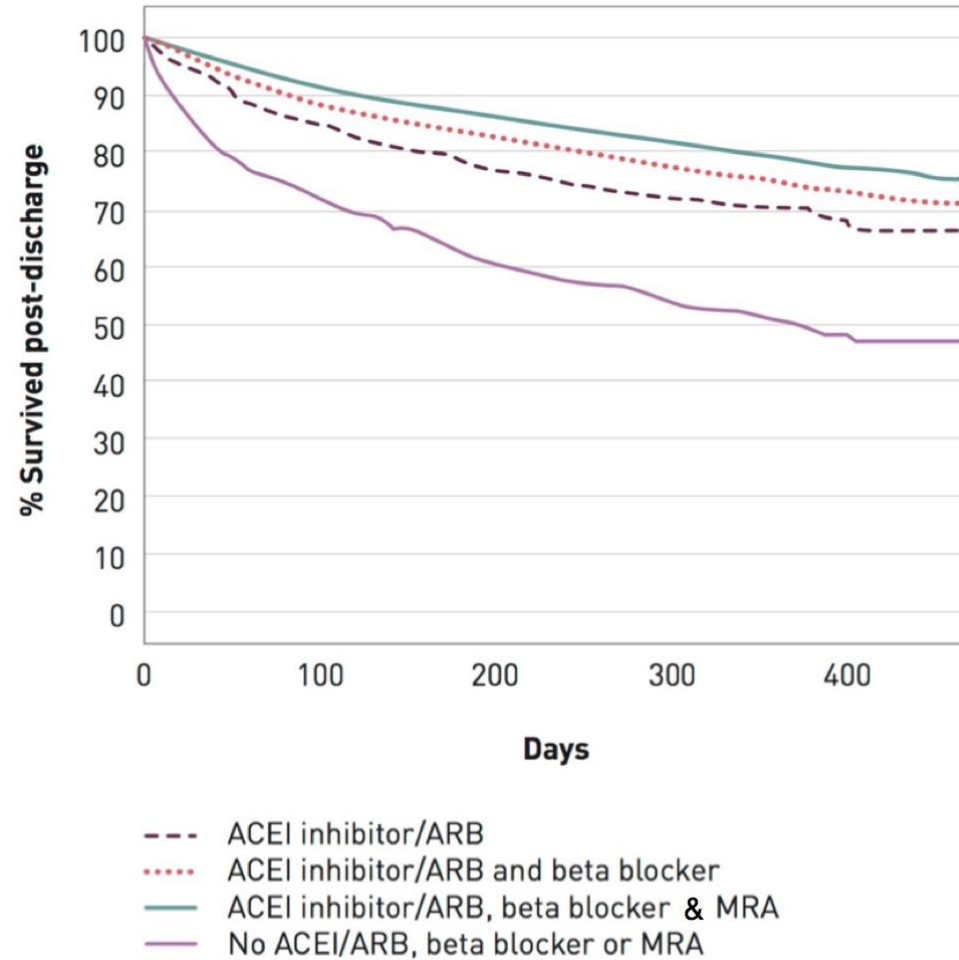


# Aggregate benefit



Conventional = ACE/ARB + BB  
Comprehensive = ARNI + BB + MRA + SGLT2i

# Aggregate benefit

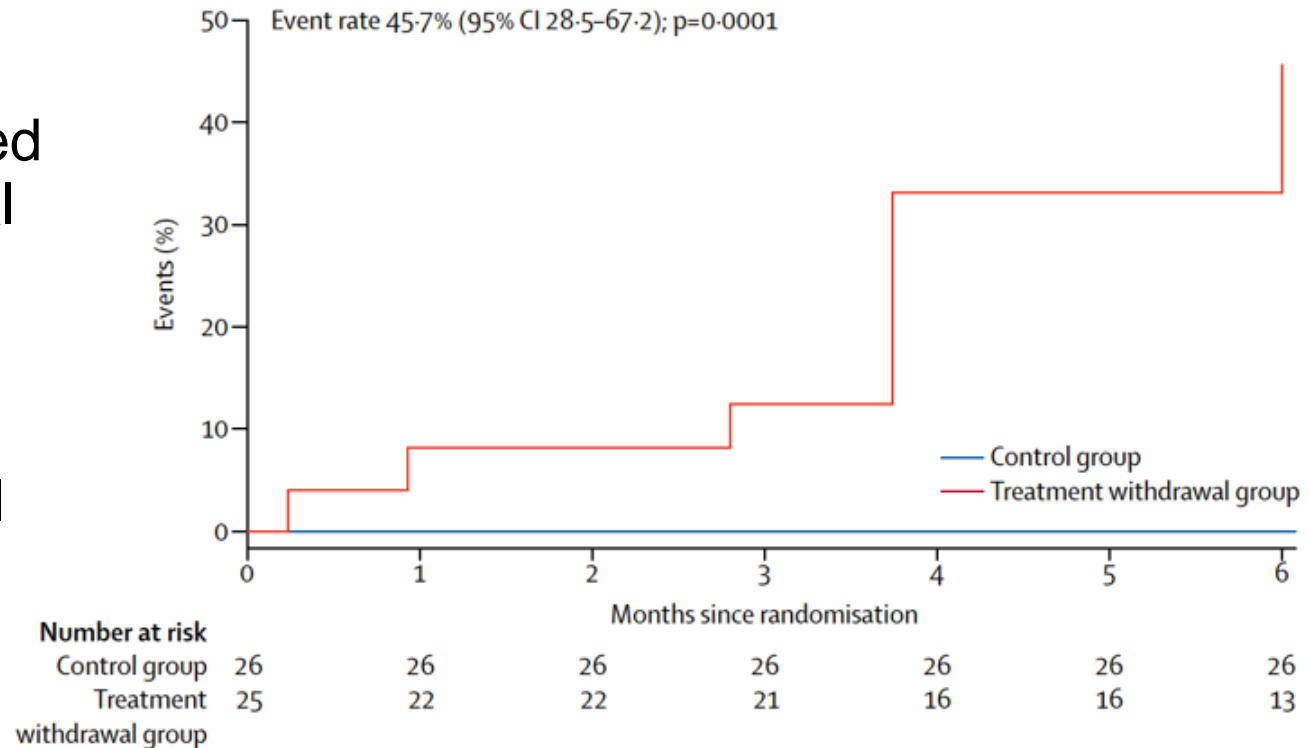


Data from national audit (NICOR)

# Don't stop the medicines!

TRED-HF trialled withdrawing therapy from patients with DCM with a recovered EF >50% and normal NTproBNP

45% with phased treatment withdrawal experienced worsening LVEF, increased LVEVDi and two-fold rise in NT-proBNP



# Overheard in clinic/on the wards

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Grossly overloaded  
but creatinine 160;  
we can't treat with  
diuretics!!!

What shall we do?

K<sup>+</sup> is 5.6;  
Stop the  
ACEi/ MRA!

We stopped the  
Ramipril as the  
creatinine went  
from 108 to  
143...

BP 96 systolic;  
we've withheld all  
the anti-  
hypertensives...

Creatinine was  
140; it's an AKI,  
so we stopped  
ACEi, MRA &  
diuretics

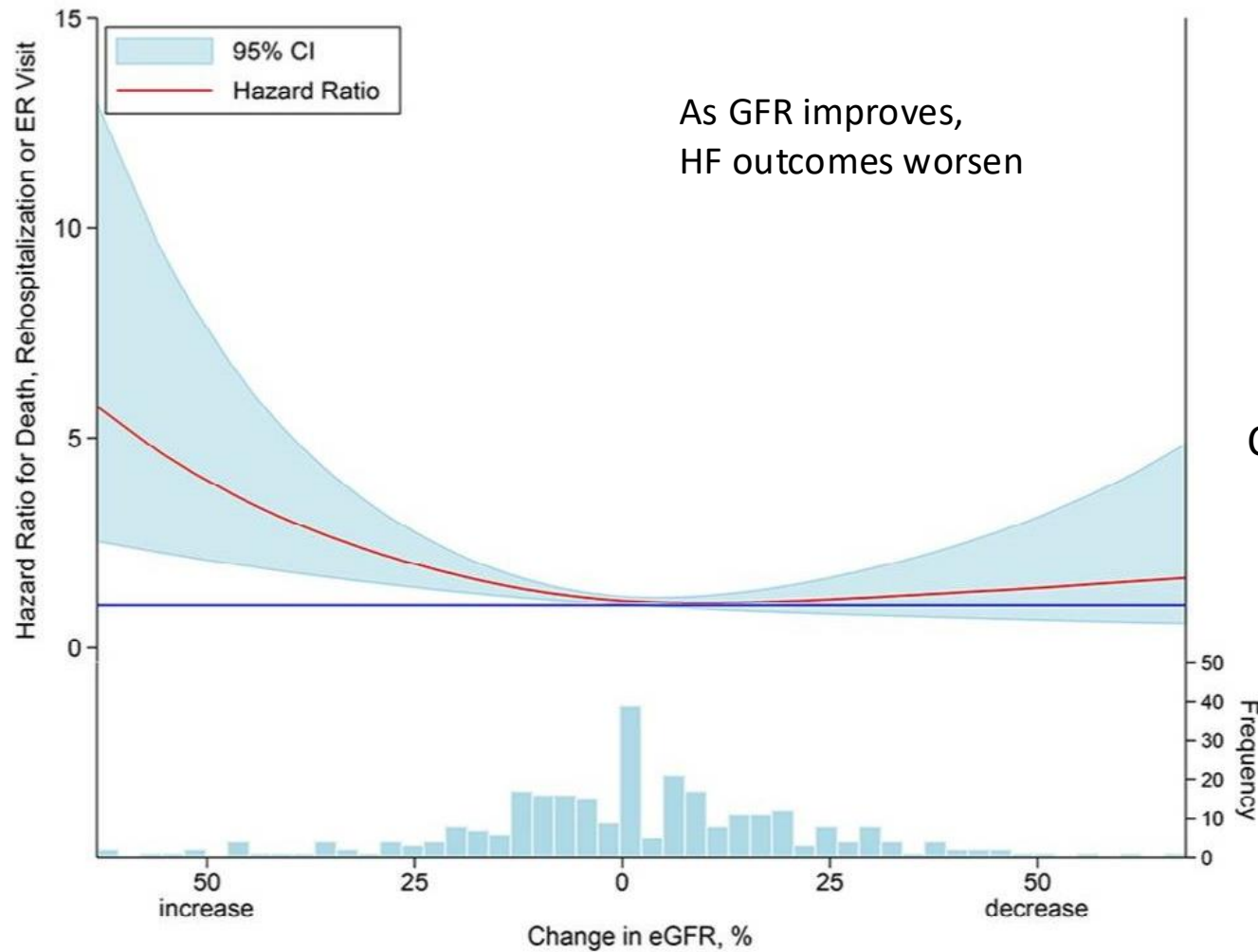


## Worsening renal function in HF

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- Outside of very specific criteria (potential heart transplant candidate) normal renal function is not essential
- Only reason to stop ACEi / ARNI / MRA is sudden significant decline in renal function
- Can tolerate a K<sup>+</sup> up to 5.7 (if not an acute change) in order to facilitate medications. Many normalize on repeat testing (haemolysed samples)

# Worsening renal function in HF



- 
- Calcium channel blockers
    - Amlodipine may be considered in the absence of oedema, but should be used with caution
  - Alpha blockers
  - Pioglitazone
  - NSAIDs
  - Fybogel
  - Flecainide
  - Lithium (increased monitoring needed)

## Case study

- 61 years old man
- DCM diagnosed 2015
- Ramipril/spironolactone/bisoprolol titrated by HFNS
- 2018- Ramipril and spironolactone stopped due to K<sup>+</sup>7.0. Later successfully reintroduced at lower doses and subsequently discharged

Pathology View	06/Nov/23 09:55 GMT	01/Nov/23 10:53 GMT	26/Oct/23 13:22 BST
<b>General Biochemistry</b>			
<input type="checkbox"/> Sodium level, blood	138	142	140
<input type="checkbox"/> Potassium level, blood	* H 5.6	* H 5.8	* H 5.6
<input type="checkbox"/> Creatinine level, blood	102	103	106
<input type="checkbox"/> Chloride level, blood			
<input type="checkbox"/> Urea level, blood			
<input type="checkbox"/> Estimated GFR CKD EPI	L 64	L 63	L 61

## Case study

- Brought into HF pharmacist clinic 18/1/24- Lokelma 5g OD started

Pathology View	07/Mar/24 10:34 GMT	26/Feb/24 14:21 GMT	22/Jan/24 20:37 GMT	19/Dec/23 14:50 GMT	01/Dec/23 08:16 GMT	22/Nov/23 08:06 GMT	06/Nov/23 09:55 GMT
<b>General Biochemistry</b>							
<input type="checkbox"/> Sodium level, blood	144	142	144	143	140	140	138
<input type="checkbox"/> Potassium level, blood	4.6	H 5.4	4.1	5.2	4.6	4.9	* H 5.6
<input type="checkbox"/> Creatinine level, blood	86	82	83	85	81	94	102
<input type="checkbox"/> Chloride level, blood			105				
<input type="checkbox"/> Urea level, blood			7.4				
<input type="checkbox"/> Estimated GFR CKD EPI	* L 79	* L 83	L 82	L 80	L 84	L 71	L 64

- Spironolactone subsequently restarted

## Case study

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- Subsequently increased ramipril dose to 10mg OD, spironolactone 50mg OD, current K 4.
- Lokelma well tolerated, patient mixes with lemon squash to improve palatability
- Good collaboration and communication between primary and secondary care

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[Imperial.hfu@nhs.net](mailto:Imperial.hfu@nhs.net)

Or via Task on SystemOne

# Heart Failure on the MyHealth LDN Site





# MyHealth London: A platform to support your patients



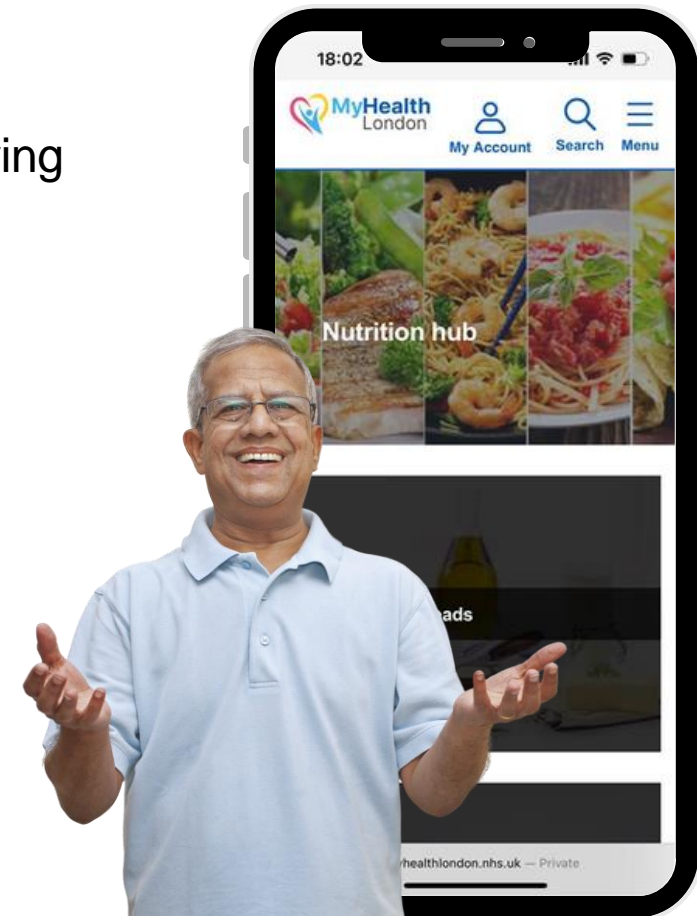
The MyHealth London platform officially launched earlier this year. Designed to support individuals living with or at risk of Cardiovascular Disease (CVD) through self-management.

- The platform has the potential to reach up to 170,000 patients)
- Intended to replicate for CVD what Know Diabetes delivers for diabetes:
  - ✓ 20% reduction in primary care consultations
  - ✓ Improved patient outcomes
  - ✓ Account holders reflecting demographics of NWL, specifically ethnicity and deprivation in Q1,Q2,Q3.

# MyHealth London: A culturally tailored, person-centred platform

The comprehensive platform provides:

- ✓ Access to **curated information and structured education** covering hypertension, CVD, and related conditions.
- ✓ Guidance and tools for implementing lifestyle changes, including **culturally-tailored** meal plans and exercise support.
- ✓ Information on local programmes and support offers.
- ✓ **Person-centred communication** via email, delivering timely and relevant info aligned with **individual needs and preferences**.
- ✓ Access to latest readings via a personalised health dashboard (coming soon).



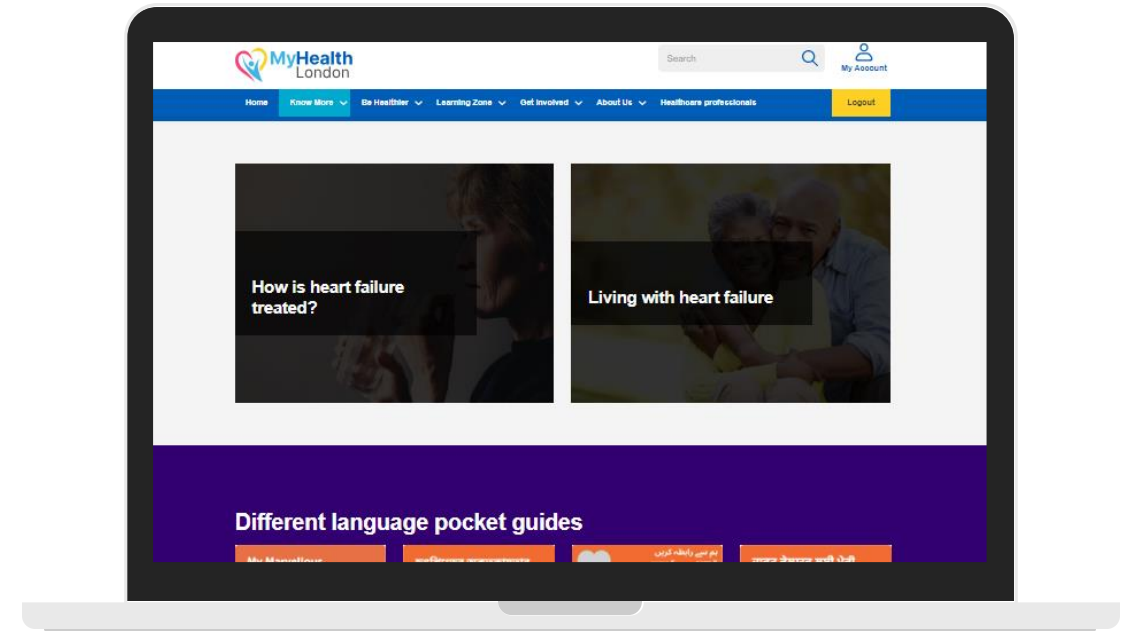
# A dedicated section on Heart Failure

Working alongside heart failure specialists in NWL, we have developed a comprehensive Heart Failure section on our website.

This section includes pages on:

- [Understanding Heart Failure](#)
- [What causes Heart Failure?](#)
- [How is Heart Failure Treated?](#)
- [Living with Heart Failure](#)

Additionally, we provide valuable resources such as: patient story videos, multilingual pocket guides, diet and lifestyle advice, info on accessing psychological support, tools for quitting smoking and more.

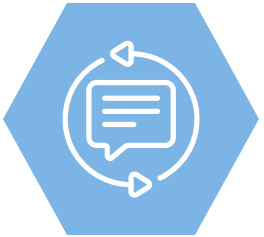


# Help us to spread the word



## Explore the platform

Explore our platform to get to know the valuable tools, resources, and information designed to support you and your patients.



## Give us feedback

Please do give feedback on the site - we really want to ensure that it is fit for purpose and meets the needs of your patients. Feedback to [s.mumeni1@nhs.net](mailto:s.mumeni1@nhs.net).



## Spread the word

Signpost your patients and colleagues to the site and share assets from our comms pack with your networks - [MyHealth London - comms pack.zip](#).

# Q&A



# To get involved in ICHP's CVD education series



Give us feedback on what topics you think we should cover in this format by answering our survey.

For further information and/or to get involved with the ICHP CVD education series please contact:

[amar.singh@imperialcollegehealthpartners.com](mailto:amar.singh@imperialcollegehealthpartners.com) or  
[catherine.caldwell@imperialcollegehealthpartners.com](mailto:catherine.caldwell@imperialcollegehealthpartners.com)

Heart Failure in Primary Care





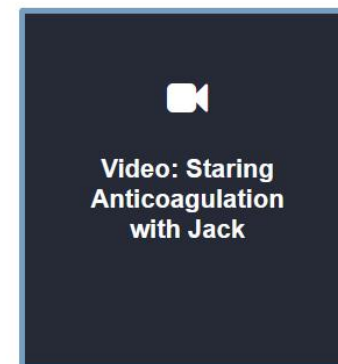
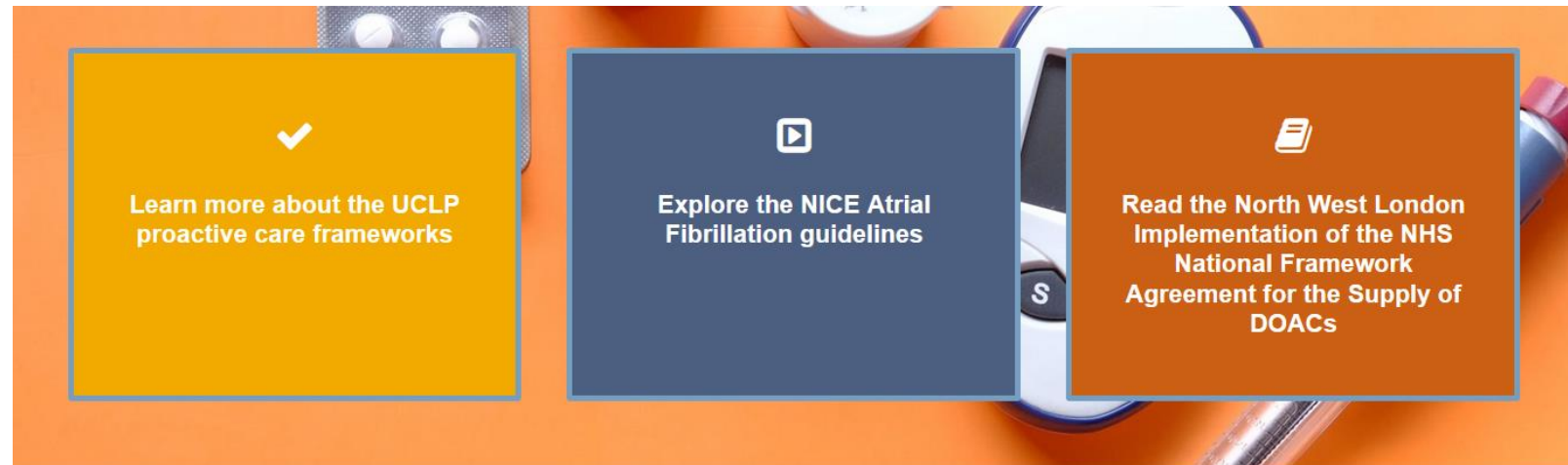
# Resources

Please [click here](#) or visit

[imperialcollegehealthpartners.com/resource/cardiovascular\\_disease/](https://imperialcollegehealthpartners.com/resource/cardiovascular_disease/)

where we have collated clinical and patient resources for staff to access across NWL

We have also linked the ICB Cardiology webpage, where future resources will be updated.



# ... Next Time – February 2025

- CVD in Primary Care February 2025
- Lunchtime Session
- Advertised via
  - CVD Mailing List
  - NWL Training Hubs
  - NWL Primary Care Bulletin

Please ensure you have completed the feedback questionnaire