
Ulster
University
GP
SUB DEANERY

Improving SGLT2 Inhibitor Use in Heart Failure in Donard Family Practice

Primary care QI Project

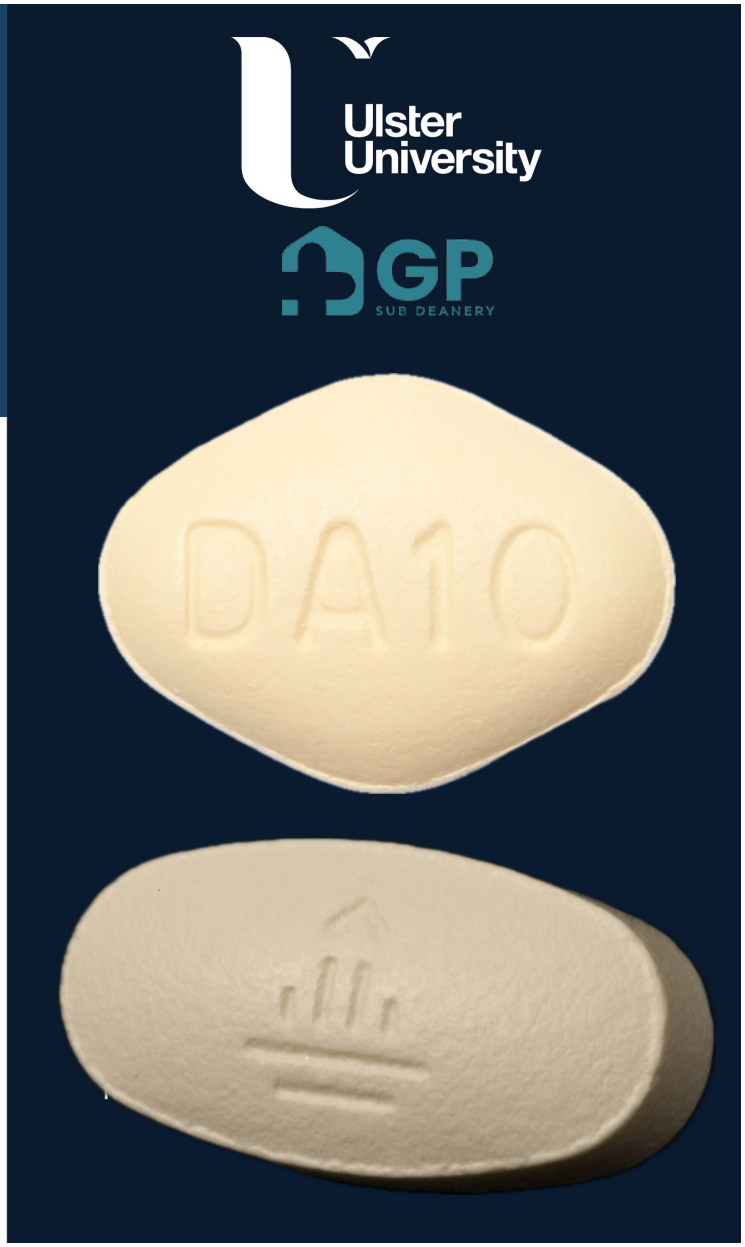
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Donard Family Practice, Newcastle

Supervisors: Dr. Keown & Dr. Leggett

Dr. Alison Vaughan (GP Placement Lead)

Dr. Laura Devine (P year GP Module Lead)



Background & Why It Matters

Heart Failure in Primary Care

- Common → 1–2% of adults
- High burden → Admissions & Mortality

SGLT2 inhibitors

- ↓ HF hospitalisation + CV death
- Benefits seen within weeks
- Already familiar to GPs

Areas for Improvement

Patients

- Eligible patients not identified or reviewed
- Stable patients do not perceive need for change

Clinicians

- Uncertainty around initiation despite familiarity

Systems

- Legacy specialist-led initiation
- No systematic re-review after guideline updates

Rationale for Change

Guideline Change – NICE NG106

- GP initiation now supported
- SGLT2i used alongside first-line HF therapy
- Treatment order now based on clinical context + patient preference

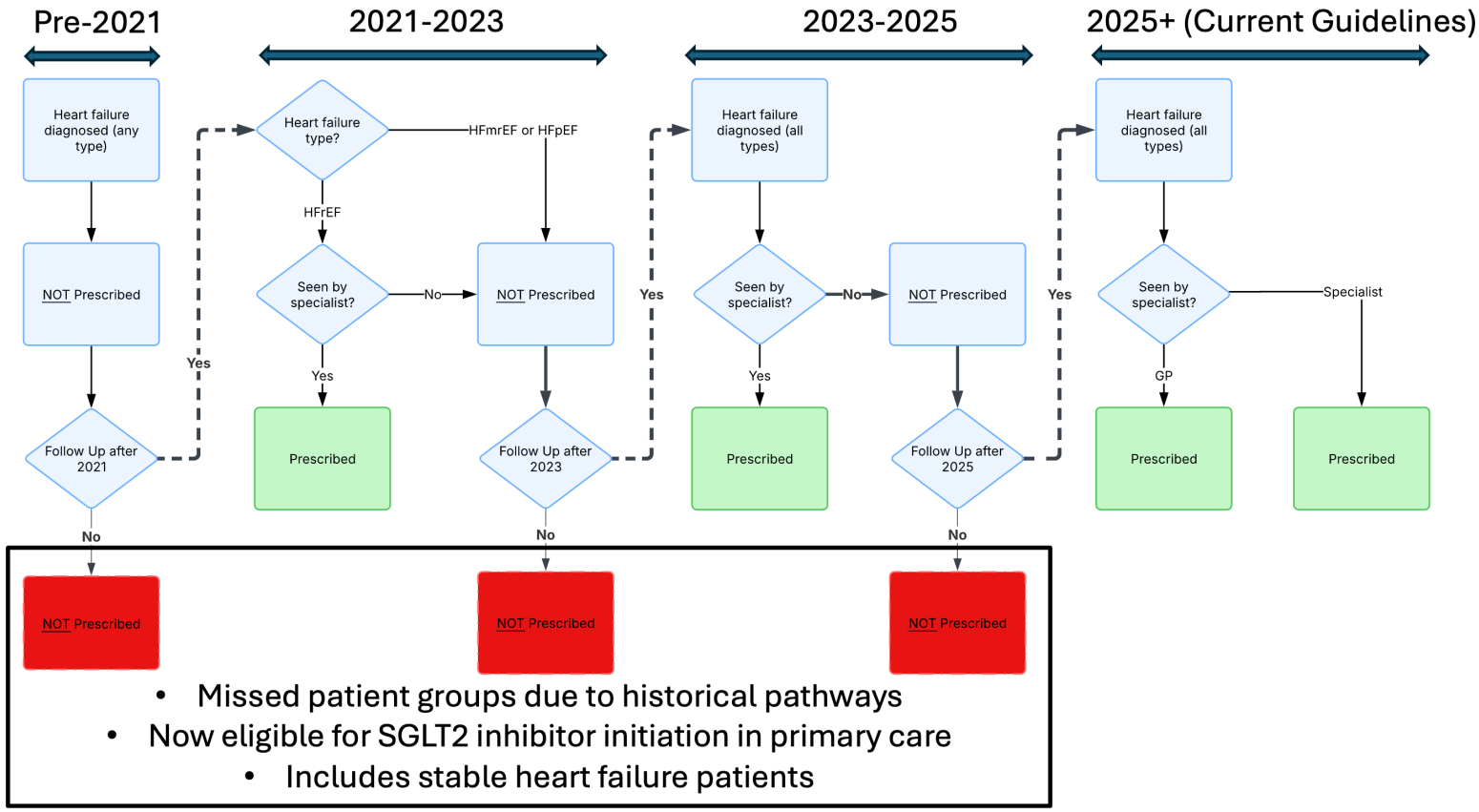
Why this matters in primary care

- HF patients largely managed in GP
- Simple to prescribe: Once daily & No titration

Evidence

- ↓ CV death / HF hospitalisations (~20–25%)
- Benefit in HFrEF + HFpEF

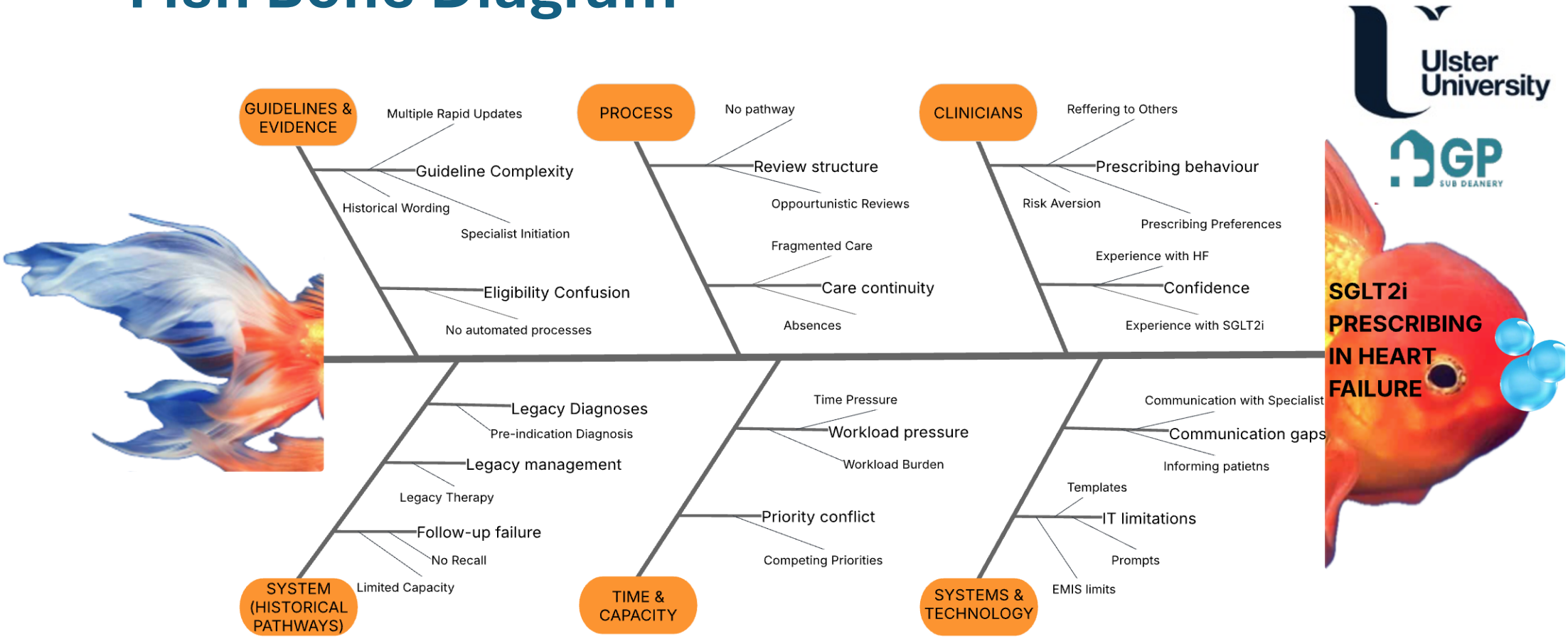
Process Map



- Missed patient groups due to historical pathways
- Now eligible for SGLT2 inhibitor initiation in primary care
- Includes stable heart failure patients

Understanding the Old and New System

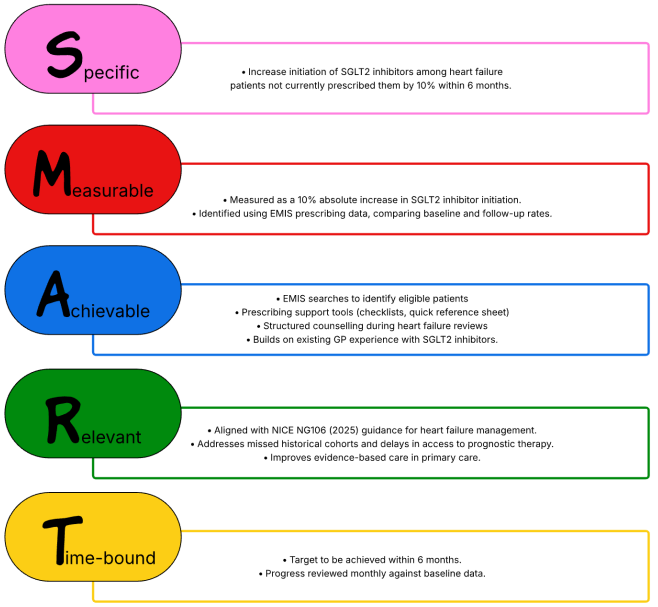
Fish Bone Diagram



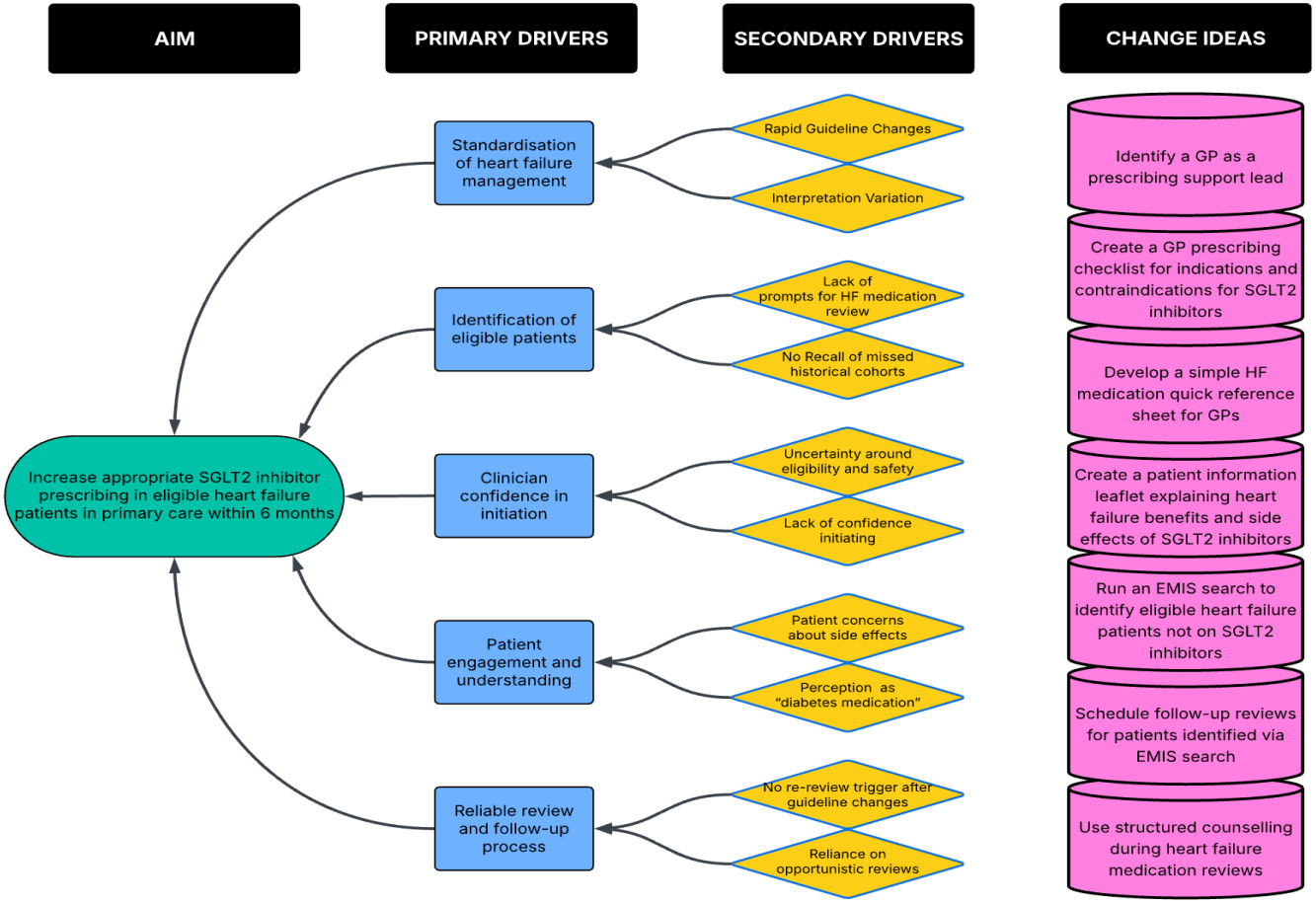
Barriers to SGLT2 Inhibitor Prescribing in Primary Care

Project Aim

Increase SGLT2 inhibitor initiation in eligible heart failure patients in Donard Family Practice by 10% within 6 months



Driver Diagram



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Strategy and Change Ideas

Measurements

Outcome Measure

- SGLT2 initiation rate in eligible HF patients (weekly)

Process Measures

- Number of Staff trained
- Number of patients contacted
- HF reviews completed (10) + Opportunistic reviews

Balancing Measures

- GP workload
- Holistic care
- Other issues addressed

Stakeholders & Engagement

General Practitioners

- Prescribing responsibility
- Time constraints

Patients

- Risks versus Benefits
- Shared decision making

Nurses

- Blood monitoring
- Potential role in ongoing HF reviews

Admin staff

- Identify patients
- Contact patients

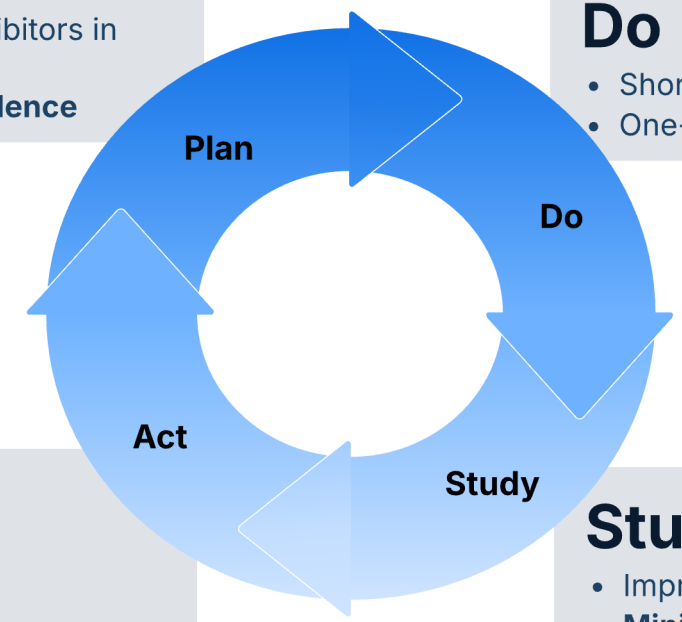
PDSA Cycle 1

Plan

- Deliver GP **teaching** on SGLT2 inhibitors in HF
- Aim → Improve **prescribing confidence**

Do

- Short Teaching session delivered
- One-page **Cheat Sheet** provided



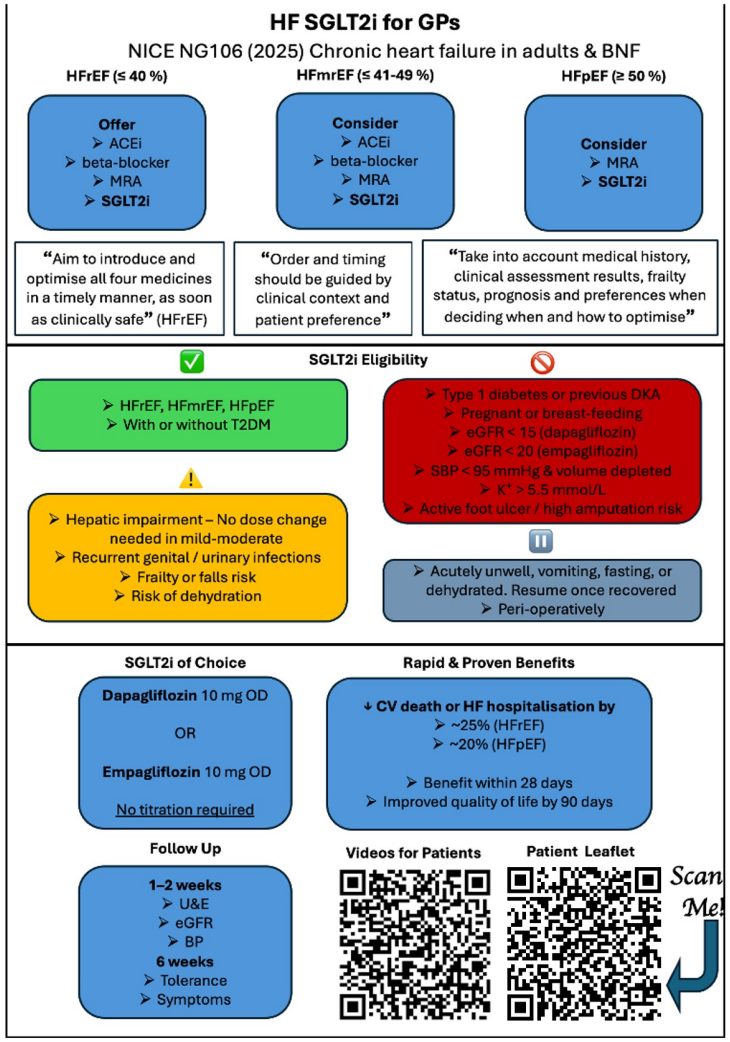
Act

- **Knowledge alone not sufficnet**
- Need **direct patient review + practical application**
  → Led to **student led HF review clinics** (PDSA 2)

Study

- Improved knowledge and awareness
- **Minimal change in prescribing behaviour**
- **Hesitation** without specialist input

GP Cheat Sheet



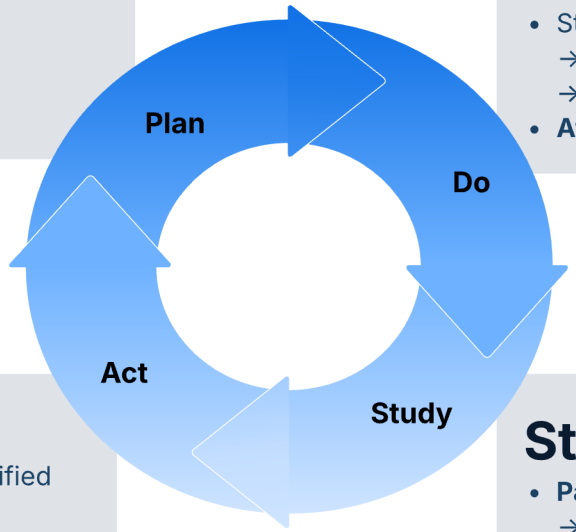
PDSA Cycle 2

Plan

- Identify HF patietns **not on SGLT2 inhibitors** (EMIS search)
- Conduct **student led HF medication reviews**

Do

- Patients contacted and invited for review (AccuRx)
- **HF review template** created to standardise assessment
- Student HF reviews completed
  → **Eligibility assessed**
  → **SGLT2i therapy discussed**
- **Attendence & outcome data recorded** (Excel)



Act

- **Patient understanding + engagement** identified as main barrier
- Need for **clear, patient centred information** to increase **shared decision making**
  → Led to **patient information leaflet** (PDSA 3)

Study

- **Patient engagement** identified as main barrier
  → reluctant to attend additional appointments
- **Patient perception** → Clinically stable = no perceived need for change
- **Time constraint** → Risks vs benefits explanation
- **Drop off** obersrved from contact to attendence to initiation

HF Review Template

HF Review Clinic

NYHA Class	Level of Clinical Impairment
I	No limitation of physical activity. Ordinary physical activity does not cause undue breathlessness, fatigue, or palpitations.
II	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in undue breathlessness, fatigue, or palpitations.
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Symptoms – NYHA Functional Classification

Use this to judge trajectory **not vibes**.

NYHA I

- No limitation of physical activity
- Ordinary activity → **no breathlessness, fatigue, palpitations**

NYHA II

- **Slight limitation**
- Comfortable at rest
- Ordinary activity → **SOB, fatigue, palpitations**

NYHA III

- **Marked limitation**
- Comfortable at rest
- **Less-than-ordinary activity** → symptoms
- Often: slow walking, dressing, stairs

NYHA IV

- **Symptoms at rest**
- Any physical activity worsens symptoms
- Red flag → consider escalation

Also ask every time:

- Orthopnoea / PND
- Exercise tolerance change
- Weight gain
- Ankle swelling
- Dizziness / presyncope

Medication Review & Adherence

- Current HF meds + actual doses
- Missed doses? Why?
- Current side effects?

Observations / Ix

- BP (sitting ± standing if dizzy)
- HR & rhythm
- Weight (compare to baseline)
- O2 sats only if symptomatic
- Volume status
- Check recent U&Es, LFTs, Hx of UTI/Thrush

Lifestyle / Risk

- Smoking status
- Alcohol
- Vaccination status (flu / COVID)

Specialist Input

- When last seen by HF specialist / HF nurse

Explaining the NEW Guidance – SGLT2 inhibitors

"The heart failure guidelines have changed.
GPs can now start SGLT2 inhibitors, not just specialists.
This means we don't need to wait — we can start today if you're suitable."

Even if you are stable, this medication is beneficial

Benefits

This medication **reduces hospital admissions for heart failure by about 25%** and **reduces the risk of death by ~15–20%**.
Patients also often feel **less breathless and more energetic**.

This medication mainly helps with **breathlessness, exercise tolerance, and fluid-related symptoms** such as leg swelling
People often notice they can **walk further**, feel **less out of breath on exertion**, and have **less ankle swelling**."

Some patients feel a difference **within 2–4 weeks**, especially with breathlessness and energy levels.
For others it's more gradual, over **1–3 months**.

Key points:

- Works **even if diabetes absent**
- Works **even if HF is stable**
- Benefit seen **early (weeks)**

How it works

This drug was originally developed for diabetes, however it was observed that it had benefits for the heart and kidneys as well, even in someone without diabetes

It helps the kidneys get rid of excess glucose and salt.
That reduces fluid load, lowers heart strain, and improves heart efficiency.
It also has protective effects on the heart and kidneys.

Eligibility & Contraindicat

Do NOT start if:

- Type 1 diabetes
- Current DKA
- Pregnancy / breastfeeding
- Severe acute illness / dehydration

Caution:

- Very low eGFR (check current threshold)
- Recurrent UTIs or genital infections
- Frailty with dehydration risk
- Check K

Side Effects

Common & manageable

- Genital thrush → hygiene, early treatment
- Mild dehydration → drink fluids
- Increased urination early on

Rare but serious

- DKA (even with normal glucose)
  → sick-day rules, stop if unwell, seek help

"Overall, the side-effect profile is small compared to other heart failure drugs, and most people tolerate it very well."

Counselling

- Sick-day rules (stop if vomiting, not eating, dehydrated)
- Not a replacement for other HF meds
- When to seek help:
  - Rapid weight gain
  - Worsening breathlessness
  - Dizziness or collapse
- Arrange follow-up bloods if required

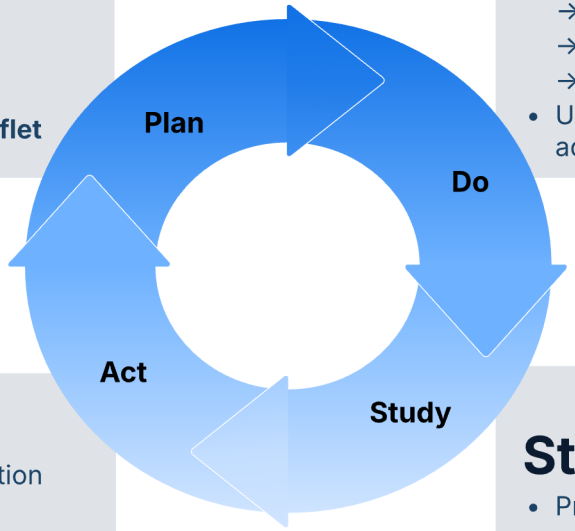
PDSA Cycle 3

Plan

- Adress **patient communication barriers**
- Develop patient facing **SGLT2 inhibitor leaflet**

Do

- Leaflet created covering
  → **Benefits in HF**
  → **Risks and side effects**
  → **When to seek medical advice**
- Used in conjunction with HF clinics to support SDM and adress time constraints



Act

- Identified as l**ow-burned and scalable** intervention
- Can be
  → **Used by any clinician**
  → **Sent prior to review appointments**
- Support SDM outside consulation

Study

- Provided **structured, consistent explanation** of therapy
- Reduced pressure to "Sell" treatment
- Reduced pressure on patients to decide in the moment

Patient Information Leaflet

SGLT2 Inhibitors for Heart Failure

Information to help you understand your treatment options

This leaflet has been given to you to help explain a treatment that may be offered for heart failure.
It is intended to support discussion with your GP.

What is heart failure?

Heart failure is a condition where the heart is not able to pump blood around the body as effectively as it should. This can lead to symptoms such as breathlessness, tiredness, and swelling of the ankles or legs.

Some people with heart failure feel stable day to day and may not notice many symptoms. Even when symptoms are mild or stable, treatment is still important to protect the heart and reduce the risk of future problems.

What are SGLT2 inhibitors?

SGLT2 inhibitors are a group of medicines that are now used to treat heart failure. Common examples include dapagliflozin and empagliflozin.

These medicines were first used to treat diabetes. However, large studies have shown that they also help people with heart failure, even if they do not have diabetes.

Why might this medicine be offered to me?

Research has shown that SGLT2 inhibitors can reduce the chance of being admitted to hospital with heart failure and can help people live longer. Some people also notice an improvement in symptoms such as breathlessness or fatigue.

Importantly, these benefits apply even if your heart failure feels stable and even if you do not have diabetes. This is why the medicine may be offered as part of your routine heart failure treatment.

Why can my GP prescribe this medicine now?

National heart failure guidelines have recently changed based on new evidence. SGLT2 inhibitors are now recommended for all types of heart failure and are considered safe and effective to start in primary care.

GPs are experienced in prescribing these medicines and in monitoring patients who take them. Your GP can check whether the medicine is suitable for you, arrange any necessary blood tests, and work with heart failure specialists if needed.

Because of these changes, treatment does not need to be delayed while waiting for a hospital appointment.

How is the medicine taken?

SGLT2 inhibitors are taken once a day. The dose does not usually need to be increased over time, and the medicine can be taken alongside other heart failure treatments.

Who should not take this medicine?

SGLT2 inhibitors are not suitable for everyone.

You may not be advised to take an SGLT2 inhibitor if you:

- Have type 1 diabetes
- Have had a serious allergic reaction to this type of medicine in the past
- Have severe kidney disease where this medicine is not recommended
- Are pregnant or breastfeeding
- Have had repeated serious infections related to this type of medication

In some situations, the medicine may need to be delayed or temporarily stopped, for example if you are acutely unwell, dehydrated, or unable to eat or drink normally. Your clinician will explain this if it applies to you.

Why What are the possible side effects?

Most people tolerate this medicine well. Some people may experience mild side effects such as passing urine more often or developing thrush or a genital infection.

Less commonly, people can feel dizzy if they become dehydrated, particularly during illness. Your clinician will explain what to look out for and how to reduce these risks.

SGLT2i Explainer Videos

Scan Me!

When should I seek medical advice?

You should contact your GP or nurse if you:

- Feel unwell or dehydrated
- Develop a painful or unusual genital infection
- Are unsure whether to continue the medicine during an illness

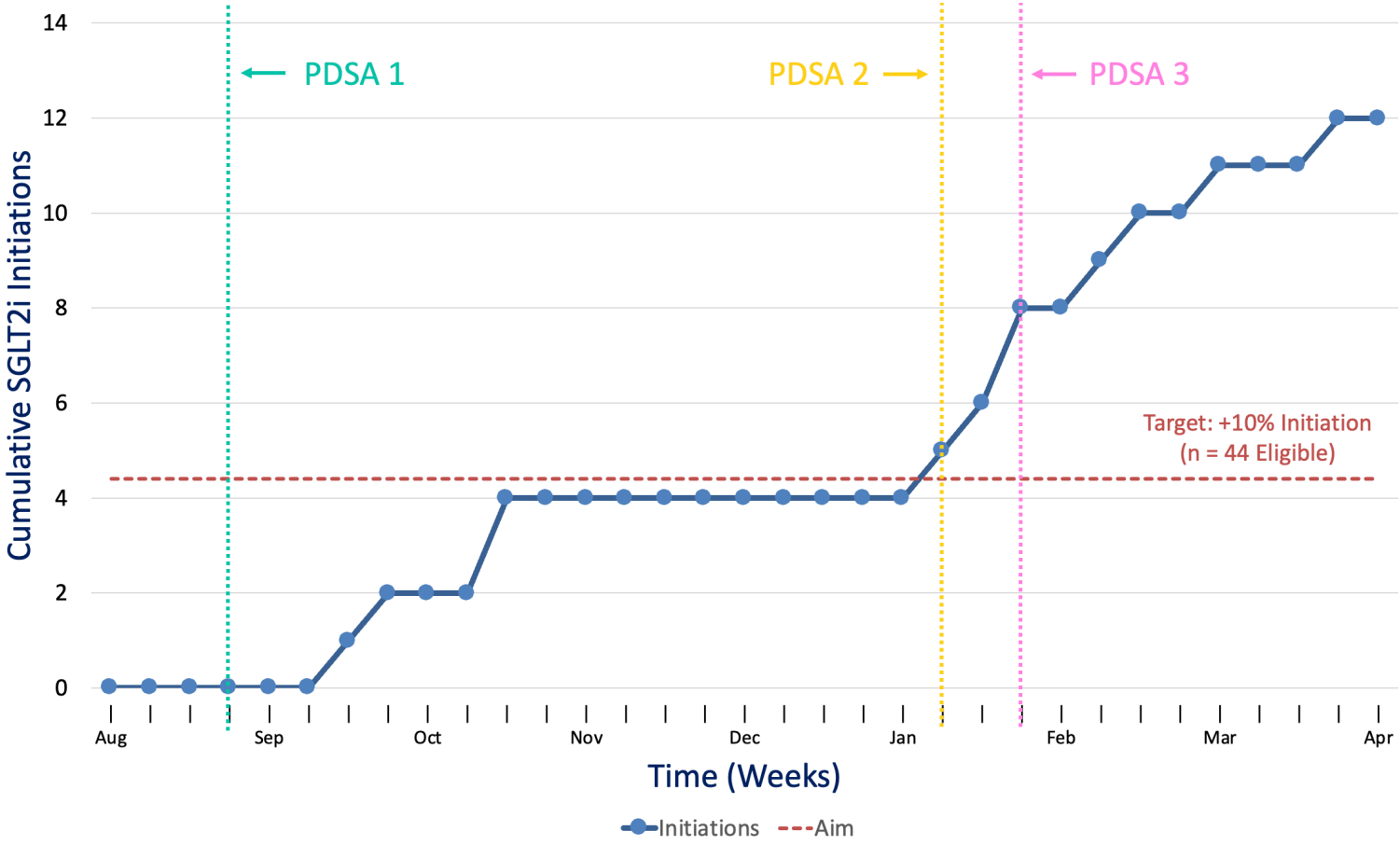
You may be advised to temporarily stop the medicine if you are acutely unwell.

Do I have to decide straight away?

No. Starting this medicine is your choice. You can take time to read this information, discuss it with family, and ask questions at your next appointment.

If you decide not to start the medicine now, your current care will continue and the option can be revisited in the future.

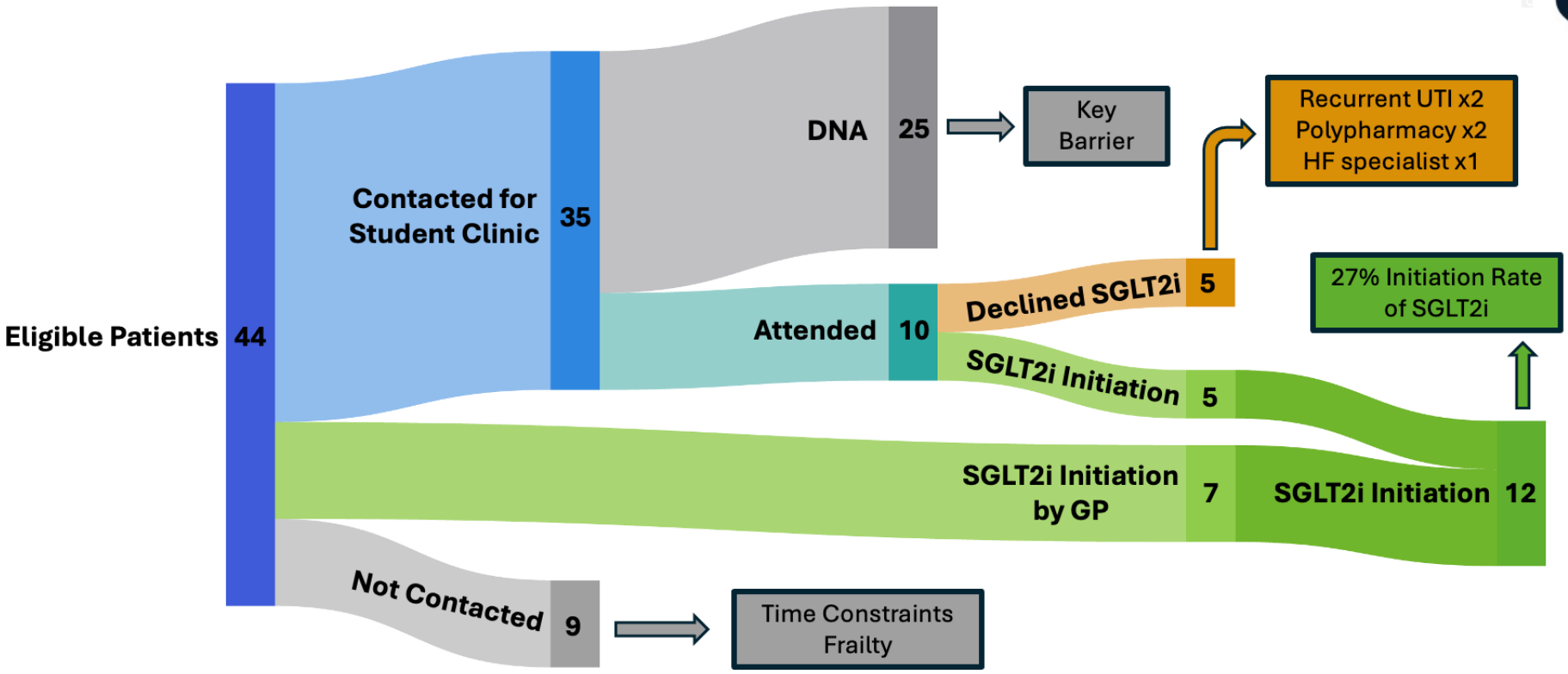
Outcomes: Run Chart



Clear increase in initiation following PDSA 2 & 3 interventions

SGLT2 Inhibitor Initiation in Heart Failure

Patient Pathway and Outcomes



From Identification to Initiation

Implementation & Embedding

- Resources created accessible across Practice computers
- Leaflet can be sent via AccuRx prior to review

  → Patients attend informed, with questions
- Leaflet can be sent to non-attenders

  → Understanding of benefits despite HF stability → may prompt re-engagement

Sustain & Spread

- Integrated into routine consultations
- Materials to be shared across Primary Care Networks

  → Can be delivered by students within practices to support implementation
- QI outline can be applied to other projects

  → New diabetes guidelines (SGLT2i + Metformin 1st line)

Reflection and Key Learning

Challenges

- Patient understanding and engagement
- Education alone did not significantly change prescribing behavior
- Non-attendance
- Student led reviews may have reduced engagement

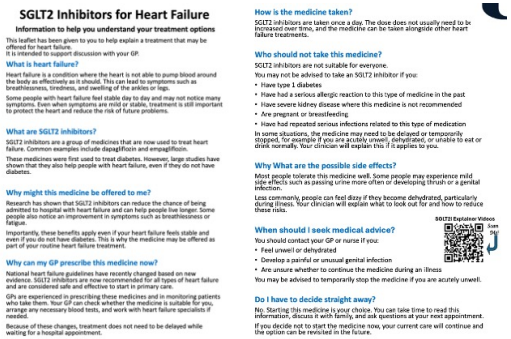
  → GP-led invitations likely to improve uptake

  → Attenders valued longer “full MOT” consultations

Key Learning

- Direct patient reviews
- Simple, practical tools improved prescribing confidence and consistency
- GP supervisors prescribing following student reviews increased GP confidence to initiate independently

Resources



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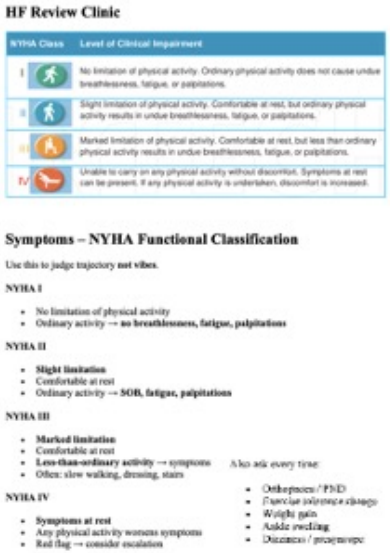
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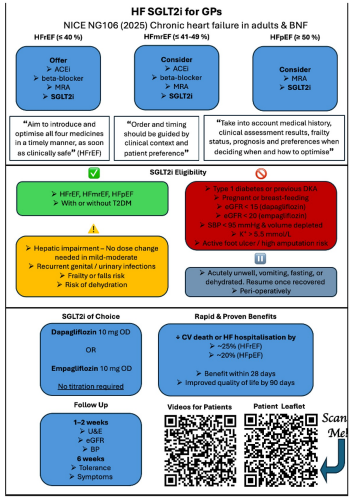
NYHA IV

- **Symptoms at rest**
- Any physical activity worsens symptoms
- Red flag → consider escalation

Contact:

Courtney-J6@ulster.ac.uk

Scan Me!



HF SGLT2i for GPs

NICE NG106 (2025) Chronic heart failure in adults & BNF

HFrEF (≤ 40 %) | HFmrEF (≥ 41-49 %) | HFpEF (≥ 50 %)

Offer: ACEi, beta-blocker, MRA, SGLT2i

Consider: ACEi, beta-blocker, MRA, SGLT2i

Consider: MRA, SGLT2i

"Aim to introduce and optimise all four medicines in a timely manner, as soon as clinically safe" (HFrEF)

"Order and timing should be guided by clinical context and patient preference"

"Take into account medical history, clinical assessment results, frailty status, prognosis and preferences when deciding when and how to optimise"

SGLT2i Eligibility

✅ HFrEF, HFmrEF, HFpEF; With or without T2DM

⚠️ Hepatic impairment – No dose change needed in mild-moderate; Recurrent genital / urinary infections; Frailty or falls risk; Risk of dehydration

🚫 Type 1 diabetes or previous DKA; Pregnant or breast-feeding; eGFR < 15 (dapagliflozin); eGFR < 20 (empagliflozin); SBP < 85 mmHg & volume depleted; K+ > 6.5 mmol/L; Active foot ulcer / high amputation risk

⏸ Acutely unwell, vomiting, fasting, or dehydrated. Resume once recovered; Peri-operatively

SGLT2i of Choice

Dapagliflozin 10 mg OD

OR

Empagliflozin 10 mg OD

No titration required

Rapid & Proven Benefits

↓ CV death or HF hospitalisation by
↓ ~25% (HFrEF)
↓ ~20% (HFpEF)

Benefit within 28 days

Improved quality of life by 90 days

Follow Up

1–2 weeks: U&E, eGFR, BP

6 weeks: Tolerance, Symptoms

Videos for Patients

Patient Leaflet

Scan Me!

Thank You

Contact:

Courtney-J6@ulster.ac.uk

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