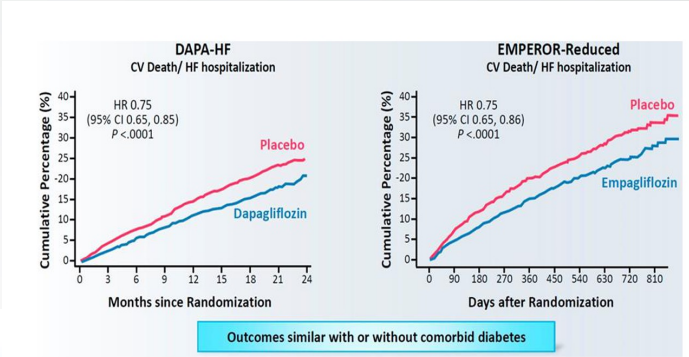
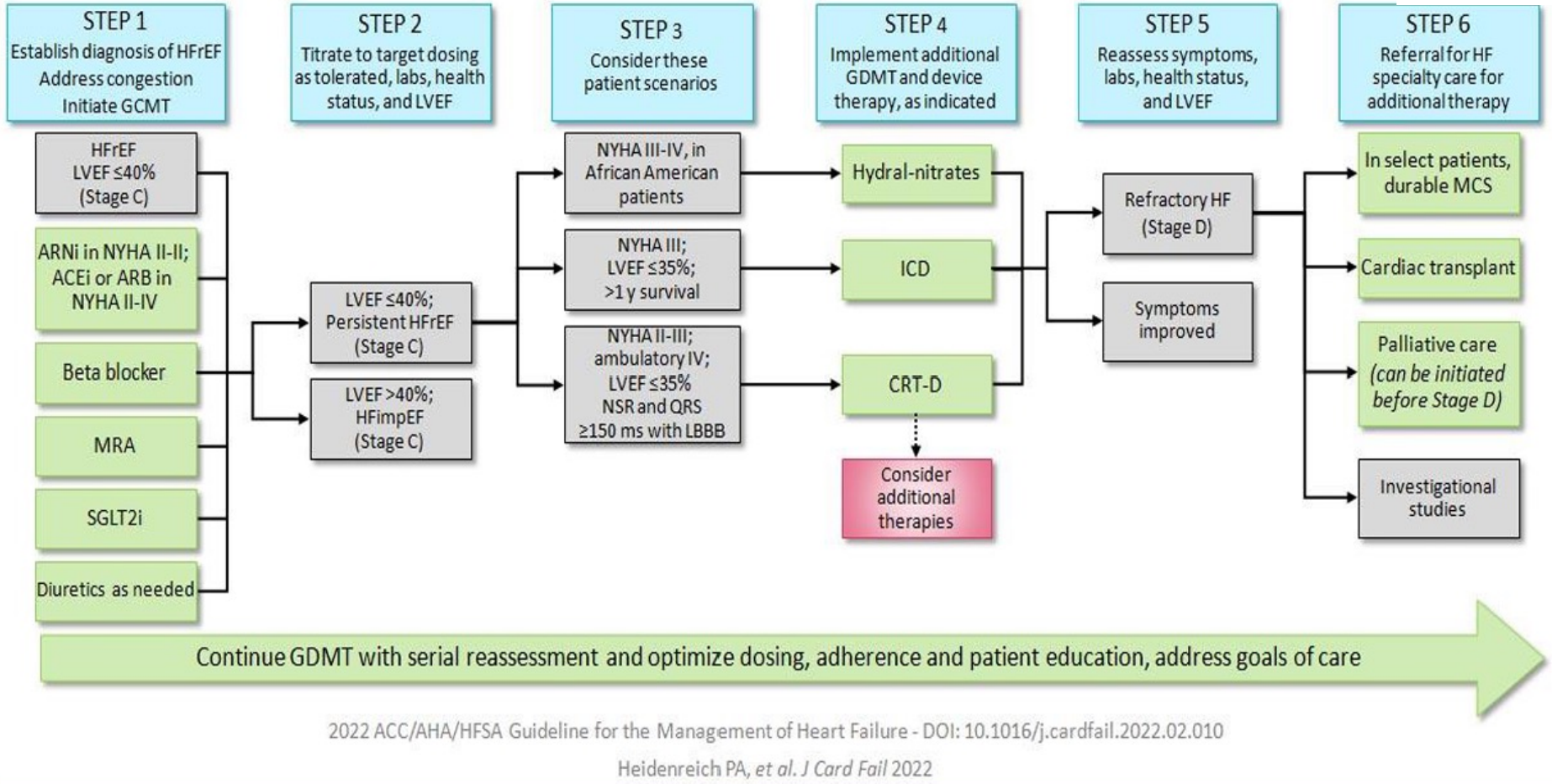
SGLT2 inhibitors





2022 ACC/AHA/HFSA Guideline for the Management of Heart Failure - DOI: 10.1016/j.cardfail.2022.02.010

Heidenreich PA, *et al. J Card Fail* 2022

Dapagliflozin is approved for adults with NYHA class II-IV HFrEF, with or without type 2 diabetes mellitus (T2DM), to decrease the risk of hospitalization for HF and cardiovascular death. **Empagliflozin** was recently approved to reduce the risk of cardiovascular death and HF hospitalization in adults with HF

Primary care: Step 1 and 2 only. Referral might be needed at step one, depending on the provider but definitely at step 4

GDMT: Guideline-Directed Medical Therapy

STEP 1: Management of HFrEF

- medications may be started simultaneously at initial (low) doses recommended for HFrEF even for elderly.
- Or these medications may be started sequentially for frailed patient, with sequence guided by clinical or other factors, without need to achieve target dosing before initiating next medication.
  - Might be preferred for the elderly. Start with ARNI low dose, then add Beta blocker ASAP, MRA, then SGLT2 inhibitors. Titrate up as tolerated and depending on the clinical presentations and comorbidities.
- Medication doses should be increased to target as tolerated.

Other new treatment for management of HFrEF

- **Vericiguat**
- The 2022 AHA/ACC/HSFA guideline recommends that in selected high-risk patients with HFrEF and recent worsening of HF already on GDMT, an oral sGC stimulator (vericiguat) may be considered to reduce HF hospitalization and cardiovascular death
- This is beyond step 2 management: Cardiologist should be starting this medication

Management for HFmEF

Recommendations
In patients with HFmrEF, **SGLT2i** can be beneficial in decreasing HF hospitalizations and cardiovascular mortality
Among patients with current or previous symptomatic HFmrEF, use of evidence-based beta blockers for HFrEF, **ARNi, ACEi, or ARB, and MRAs** may be considered, to reduce the risk of HF hospitalization and cardiovascular mortality, particularly among patients with LVEF on the lower end of this spectrum

HFpEF/Diastolic Heart failure Preserved EF more than 50%.

- In diastolic HF: SGLT2, ACEIs or ARBs (ARBs > ACE1s) ARNI and MRA(spironolactone) can be used to potentially reduce hospitalizations and mortality
- Best approach: Continue to be the management of associated symptoms (HTN…)
- Treatment of HFpEF is largely governed by management of associated conditions and symptoms: hypertension, lung disease, coronary artery disease, atrial fibrillation (AF), obesity, anemia, diabetes mellitus, kidney disease, and sleep disordered breathing
- Goal: Improved ventricular relaxation, decrease heart rate, maintain sinus rhythm and treat HTN to avoid LV remodeling and exacerbation.

Management of HFpEF

HF with preserved EF (HFpEF)

HF with LVEF ≥50%

Recommendations
In patients with HFpEF, **SGLT2i** can be beneficial in decreasing HF hospitalizations and cardiovascular mortality
In selected patients with HFpEF, **MRAs** may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum
In selected patients with HFpEF, **ARNi** may be considered to decrease hospitalizations, particularly among patients with LVEF on the lower end of this spectrum

Summary

- medical therapies for the treatment of HFrEF and HFpEF is rapidly evolving
- The four pillars – ARNI + beta-blocker + MRA + SGLT2 inhibitor – are considered the new "standard of care" for HFrEF
- ARNIs and SGLT2 inhibitors have benefits in HF across the spectrum of EF, including in those with HFmrEF and select patients with HFpEF
- Morbidity, mortality, and hospitalizations can be reduced by attention to a multidisciplinary, comprehensive disease management program.

Coronary Artery disease (Taped)

- Prevalence:
  - 6% of American older than 75 years of age and account for 60% CAD-
  - Leading cause of death in elderly
- Age, gender, ethnicity factors
  - Markedly increased prevalence with age
  - Greater incidence in men

Coronary Artery Disease

- Description
  - Imbalance between the supply and demand for blood flow to the myocardium
- Etiology
  - Most often cause by atherosclerosis
  - Imbalance between myocardial demand and coronary perfusion

CAD Manifestation

- Early: asymptomatic
- Stable angina: Predictable discomfort related to exertion (physical or emotional)
- Acute Coronary syndrome
  - Unstable angina: Unpredictable symptomatology, often at night. EKG changes but no enzymes abnormality (Troponin, CPK)
  - NSTEMI
  - STEMI
    - Both NSTEMI and STEMI with EKG changes and enzymes elevations.