L'APPROCCIO TERAPEUTICO ALL'INSUFFICIENZA CARDIACA NELL'ANZIANO

Il parere del geriatra

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DI GERONTOLOGIA
E GERIATRIA

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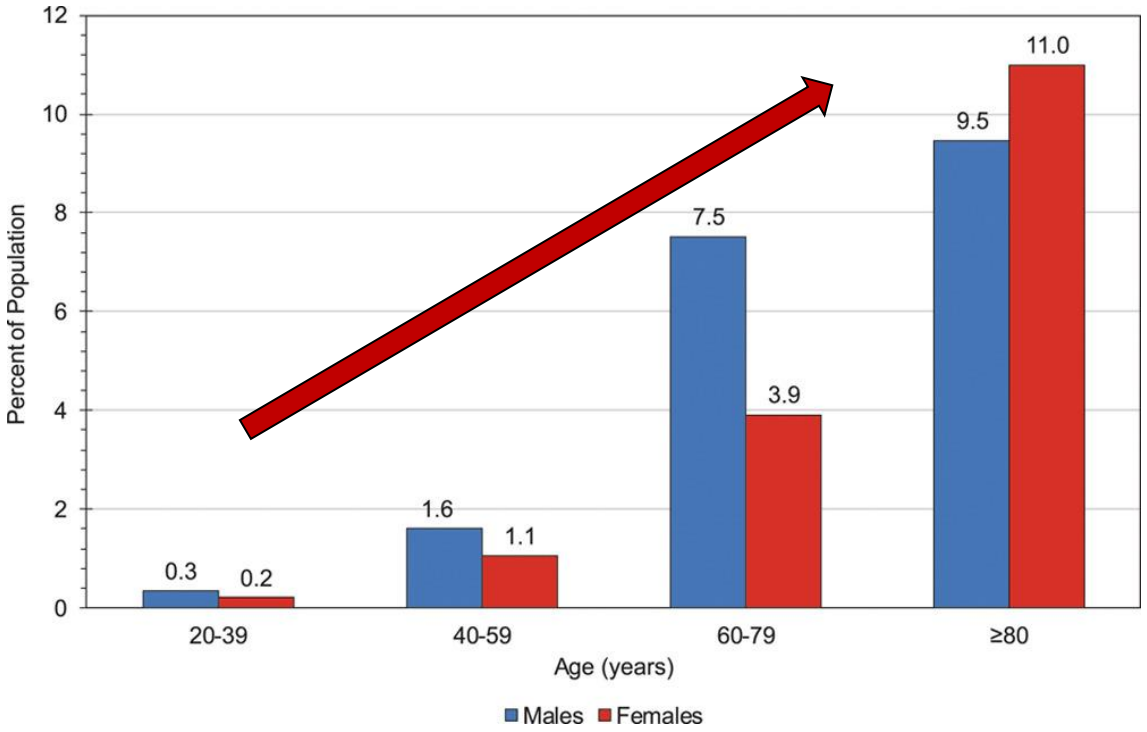
UNIVERSITÀ CATTOLICA DEL SACRO CUORE

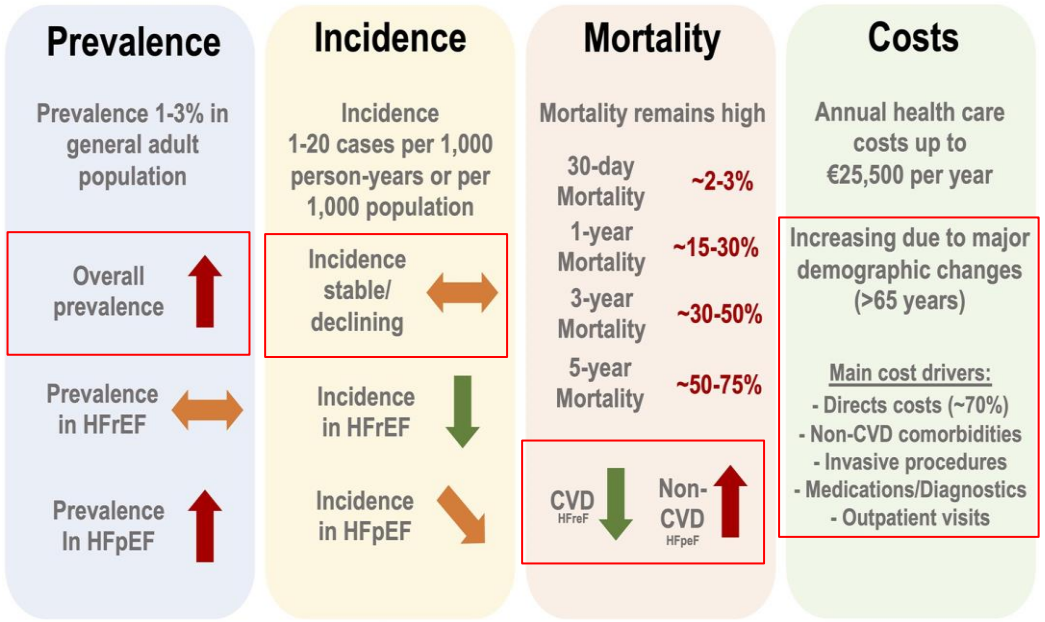
Prevalence and socio-economic burden of heart failure

Prevalence of heart failure among US adults ≥20 years of age by sex and age (NHANES, 2015–2018).



Viriani SS et al. Circulation 2021

Global burden of heart failure



Savarese G et al. Cardiovasc Res 2022

HF categories based on LVEF

Type of HF		HFrEF	HFmrEF	HFpEF
CRITERIA	1	Symptoms ± Signs[a]	Symptoms ± Signs[a]	Symptoms ± Signs[a]
	2	LVEF ≤40%	LVEF 41–49%[b]	LVEF ≥50%
	3	–	–	Objective evidence of cardiac structural and/or functional abnormalities consistent with the presence of LV diastolic dysfunction/raised LV filling pressures, including raised natriuretic peptides[c]

McDonagh TA et al. HF ESC guidelines 2021

ACEi/ARB

Beta-blocker

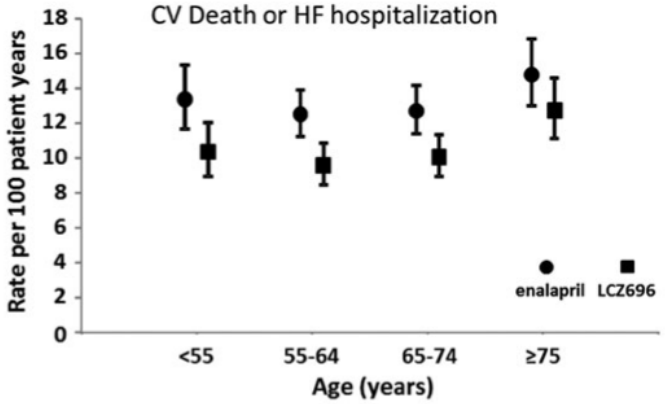
MRA

ARNI

SGLT2i

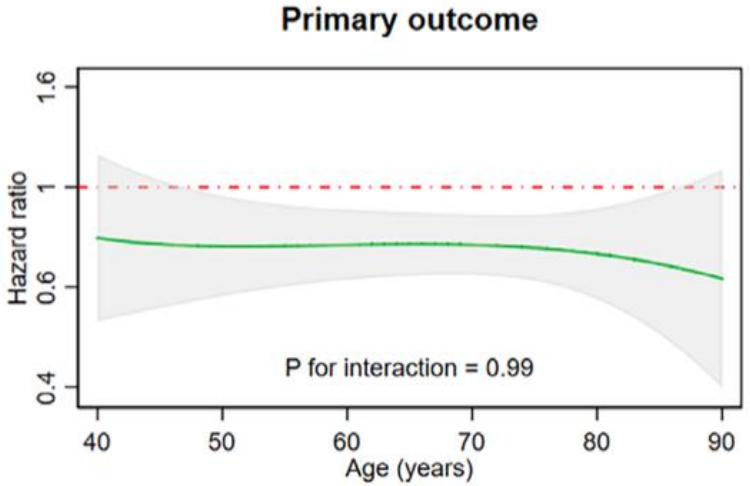
Efficacy and safety of sacubitril-valsartan, dapaglifozin and empaglifozin according to age

PARADIGM-HF



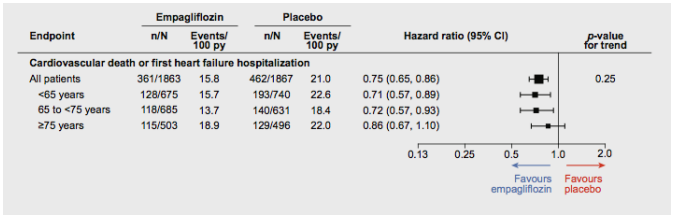
Jhund PS et al. Eur Heart J. 2015

DAPA-HF



Martinez FA et al. Circulation 2020

EMPEROR-Reduced



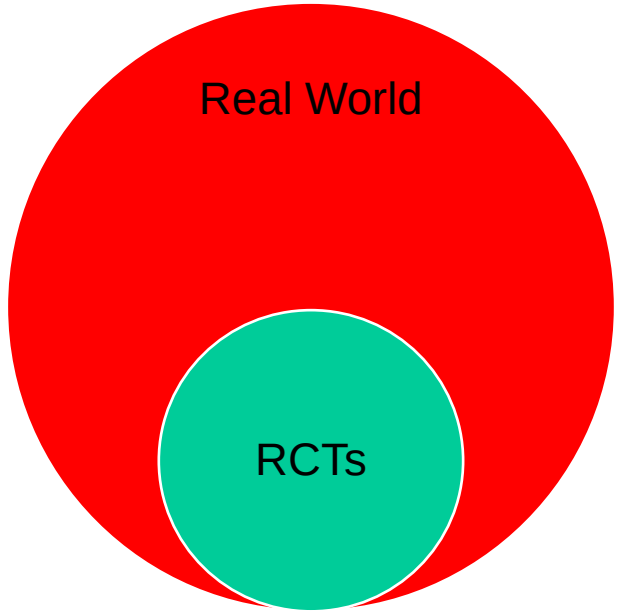
Filippatos G et al. Eur J Heart Fail. 2022

Management of patients with HFrEF

To reduce mortality - for all patients			
ACE-I/ARNI	BB	MRA	SGLT2i

McDonagh TA et al. HF ESC guidelines 2021

IRRESPECTIVE OF AGE



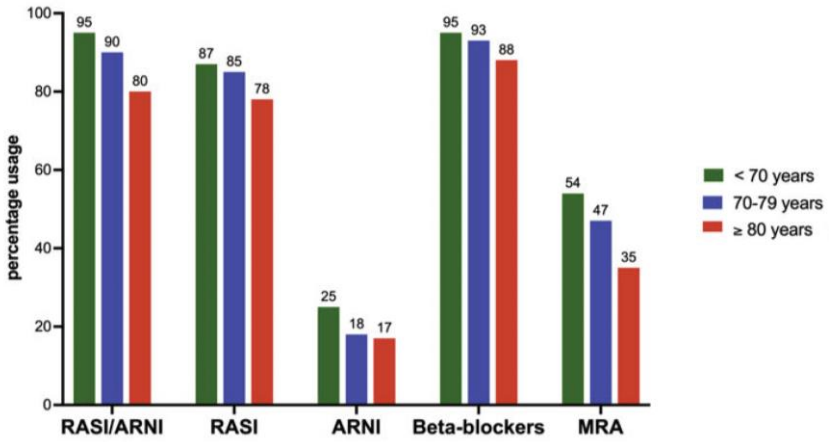
Data do not demonstrate a lack of benefit of EBM in older adults

Evidence-based therapy in HFrEF fraction across age strata: Swedish HF Registry

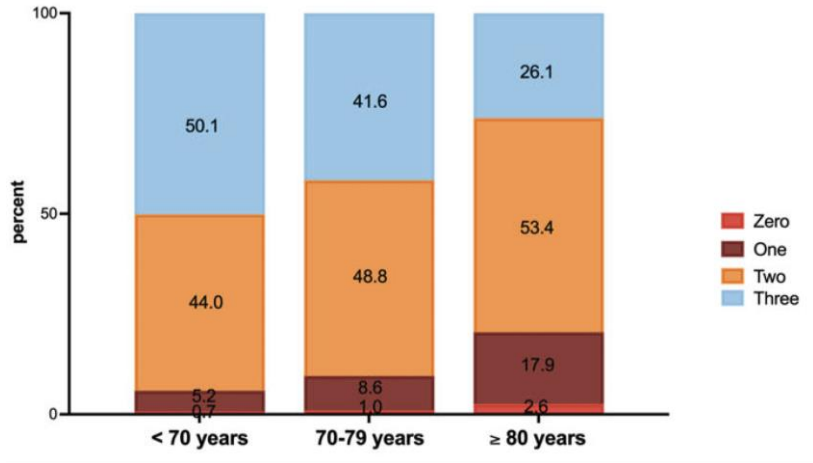
Total population 27,430 pts

<70 years	70-79 years	≥80years
8,515 (31%) pts	9,392 (34%) pts	9,523 (35%) pts

Guideline-directed medical therapy use across age strata

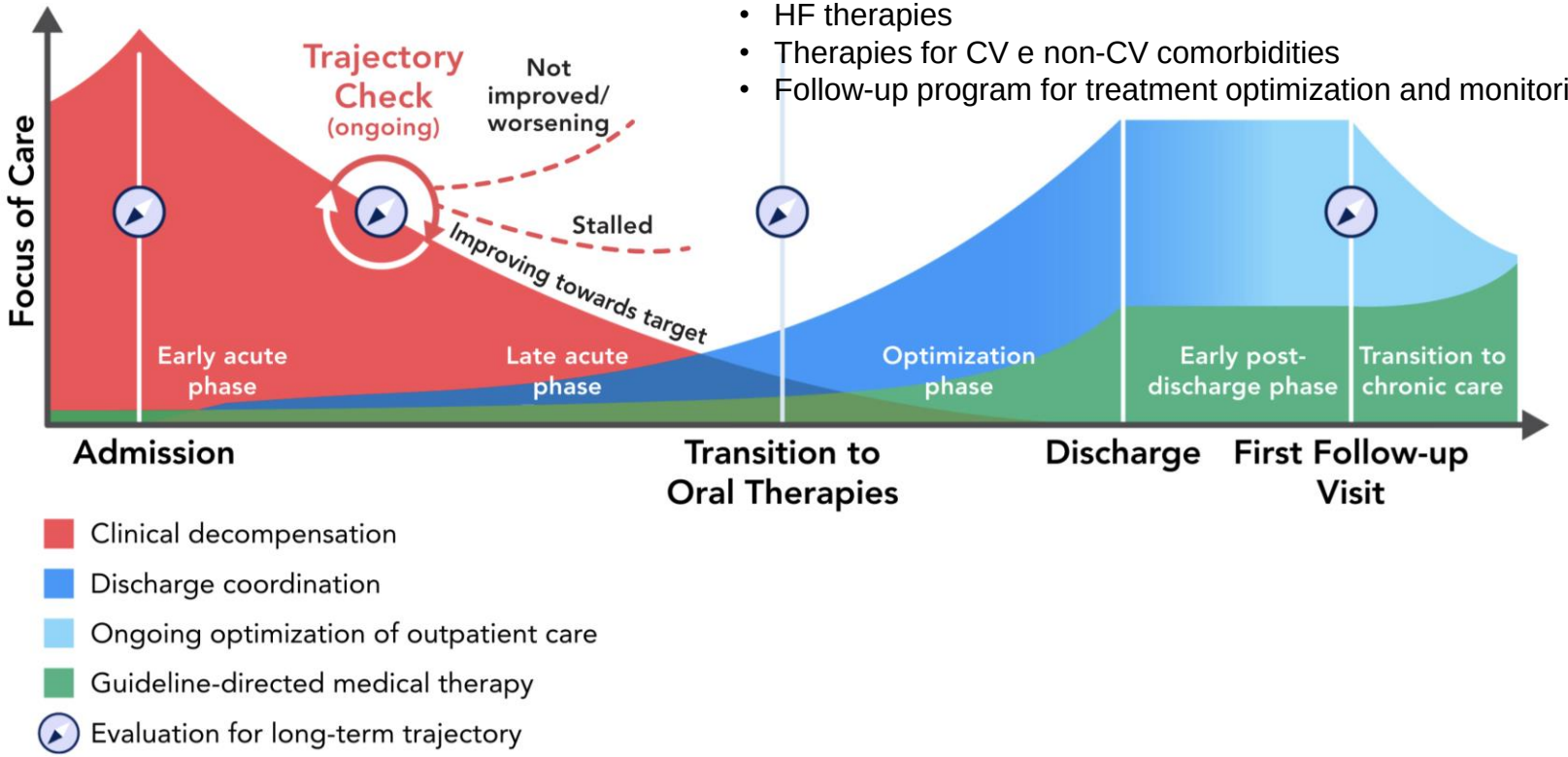


Combined use of HF drugs across age strata



Stolfo D et al. Eur J Heart Fail 2022

Hospitalization is a key moment to optimize medical therapy pre- and- post-discharge phases



- HF therapies
- Therapies for CV e non-CV comorbidities
- Follow-up program for treatment optimization and monitoring

Hollemberg SM et al. JACC 2019

Recommendations for pre-discharge and early post-discharge follow-up of patients hospitalized for acute HF

Recommendations	Class[a]	Level[b]
It is recommended that patients hospitalized for HF be carefully evaluated to exclude persistent signs of congestion before discharge and to optimize oral treatment.[427,472]	I	C
It is recommended that evidence-based oral medical treatment be administered before discharge.[103,513]	I	C
An early follow-up visit is recommended at 1–2 weeks after discharge to assess signs of congestion, drug tolerance and start and/or uptitrate evidence-based therapy.[517,518]	I	C

McDonagh TA et al. HF ESC guidelines 2021

Multidisciplinary interventions recommended for the management of chronic heart failure

Recommendations	Class[a]	Level[b]
It is recommended that HF patients are enrolled in a multidisciplinary HF management programme to reduce the risk of HF hospitalization and mortality.[309,314,315,316]	I	A
Self-management strategies are recommended to reduce the risk of HF hospitalization and mortality.[309]	I	A
Either home-based and/or clinic-based programmes improve outcomes and are recommended to reduce the risk of HF hospitalization and mortality.[310,317]	I	A

A cardiologist/HF specialist working alone is not an HF team and/or a multidisciplinary HF management programme

McDonagh TA et al. HF ESC guidelines 2021

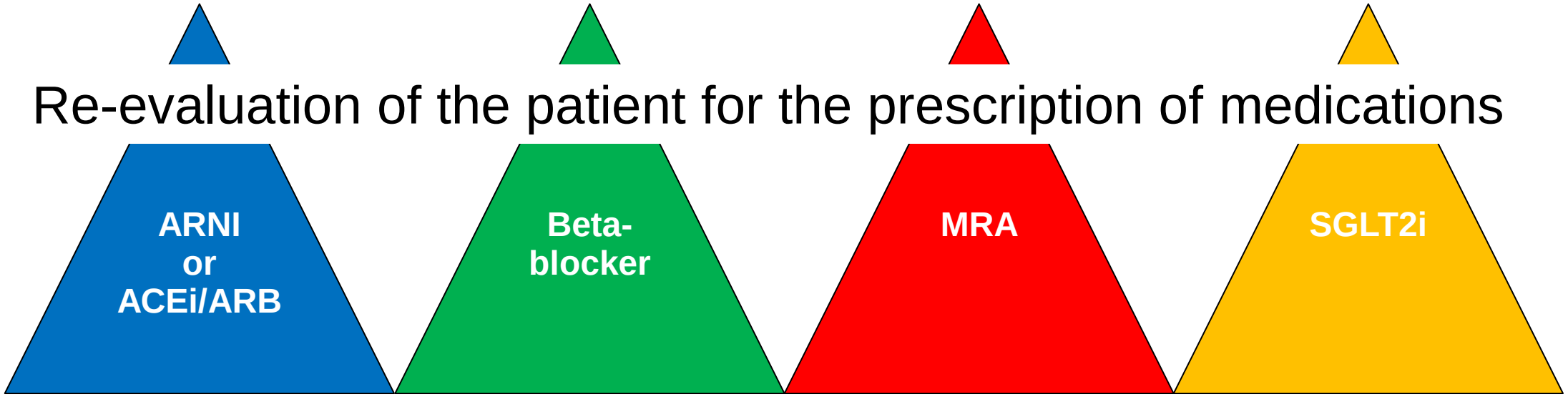
Heart Failure team

- The optimal implementation of a HF multidisciplinary programme requires a **multidisciplinary team** that is active along the whole HF trajectory
- HF multidisciplinary programme should be **patient-centred** and take **a holistic approach** to the patient rather than focussing solely on HF (management of CV and non CV comorbid conditions, improve patient well-being and self-management, leading to better outcomes).

Cardiologists
HF pharmacists
HF nurses
Advanced HF team
Geriatricians
Palliative care specialists
Electrophysiologists

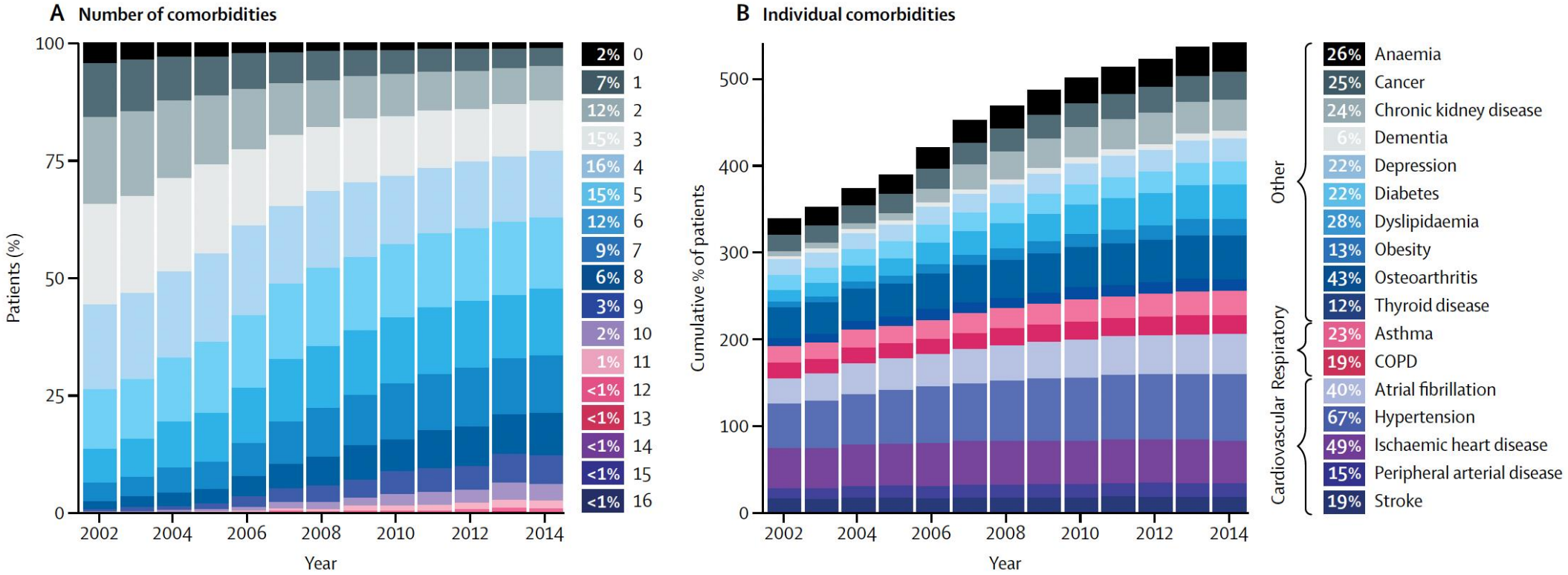
Evidence-based pharmacological therapy for all HFrEF patients

Re-evaluation of the patient for the prescription of medications



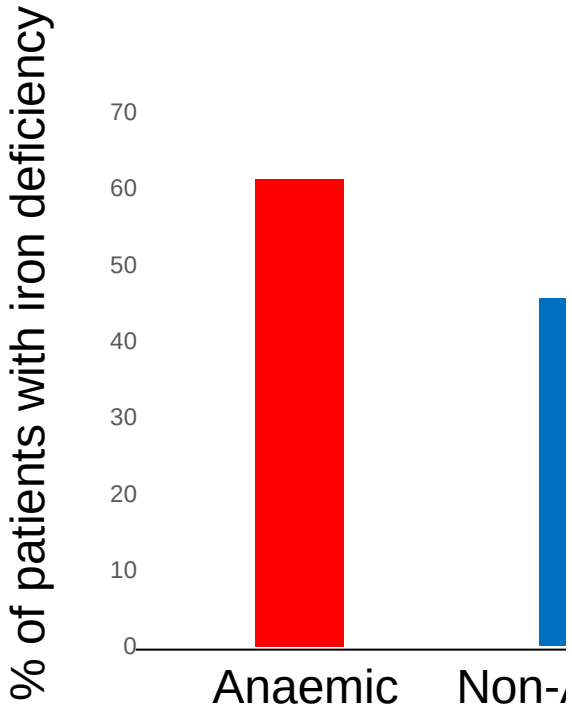
SBP	≥100 mmHg	≥90 mmHg	≥85 mmHg	≥95 mmHg
eGFR	≥30 ml/min/1.73m^2		≥30 ml/min/1.73m^2	≥20 ml/min/1.73m^2
K^+	≤5.2 mmol/L		≤5 mmol/L	

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



Conrad N et al. Lancet 2018

Iron deficiency is pr h non-anaemics and



ients, iron deficiency
dently from anaemia) is
d with:
sed hospitalization and
ty
ymptoms
ed QoL
ed exercise capacity

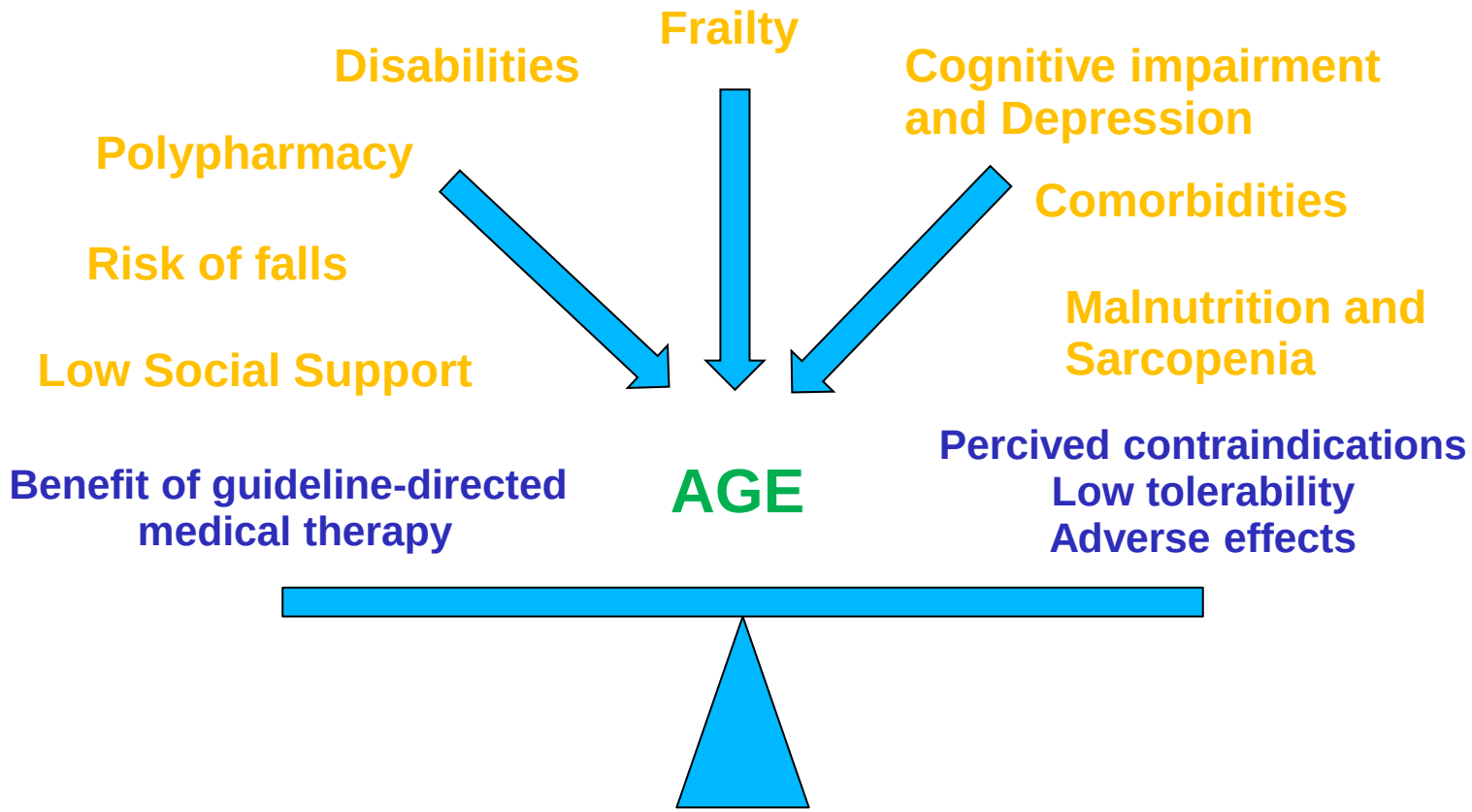
Recommendations for the management of anaemia and iron deficiency in patients with heart failure

Recommendations	Class[a]	Level[b]
It is recommended that all patients with HF be periodically screened for anaemia and iron deficiency with a full blood count, serum ferritin concentration, and TSAT.	I	C
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic patients with LVEF <45% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to alleviate HF symptoms, improve exercise capacity and QOL.[720,722,724]	IIa	A
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic HF patients recently hospitalized for HF and with LVEF <50% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to reduce the risk of HF hospitalization.[512]	IIa	B

In patients with HF, iron deficie entration <100 ng/mL or 100-299 ng/mL with transferrin

Klip IT et al. Am Heart J 2013

Management of elderly patients with HF: importance of CGA



- Age is not a barrier for GDMT
- Need of personalized approach
- Importance of CGA for GDMT

Multidimentional Prognostic Index Based on a Comprehensive Geriatric Assessment Predicts Short-Terrm Mortality in Older Patients With HF

Circulation
Heart Failure
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association
Learn and Live

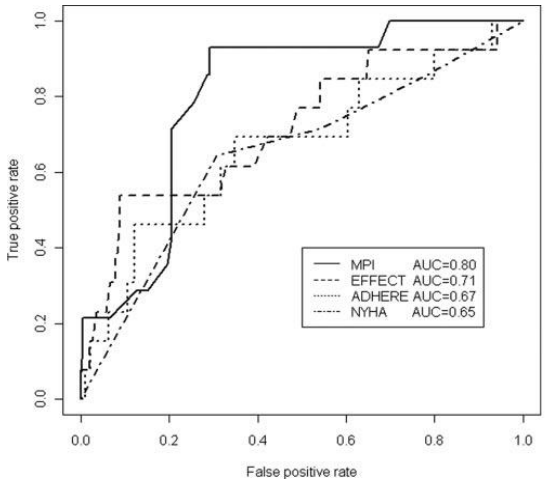
Circulation: Heart Failure
Volume 3, Issue 1, 1 January 2010; Pages 14-20
https://doi.org/10.1161/CIRCHEARTFAILURE.109.865022

American Heart Association.

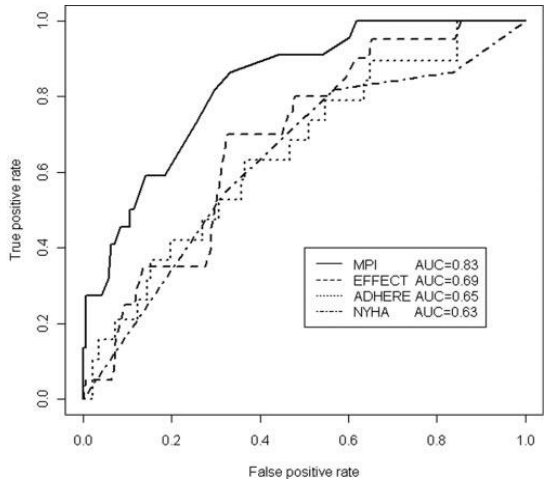
ORIGINAL ARTICLE

Alberto Pilotto, MD, Filomena Addante, MD, Marilisa Franceschi, MD, Gioacchino Leandro, MD, Giuseppe Rengo, MD, Piero D'Ambrosio, MD, Maria Grazia Longo, MD, Franco Rengo, MD, Fabio Pellegrini, MSc, Bruno Dallapiccola, MD, and Luigi Ferrucci, MD

Men



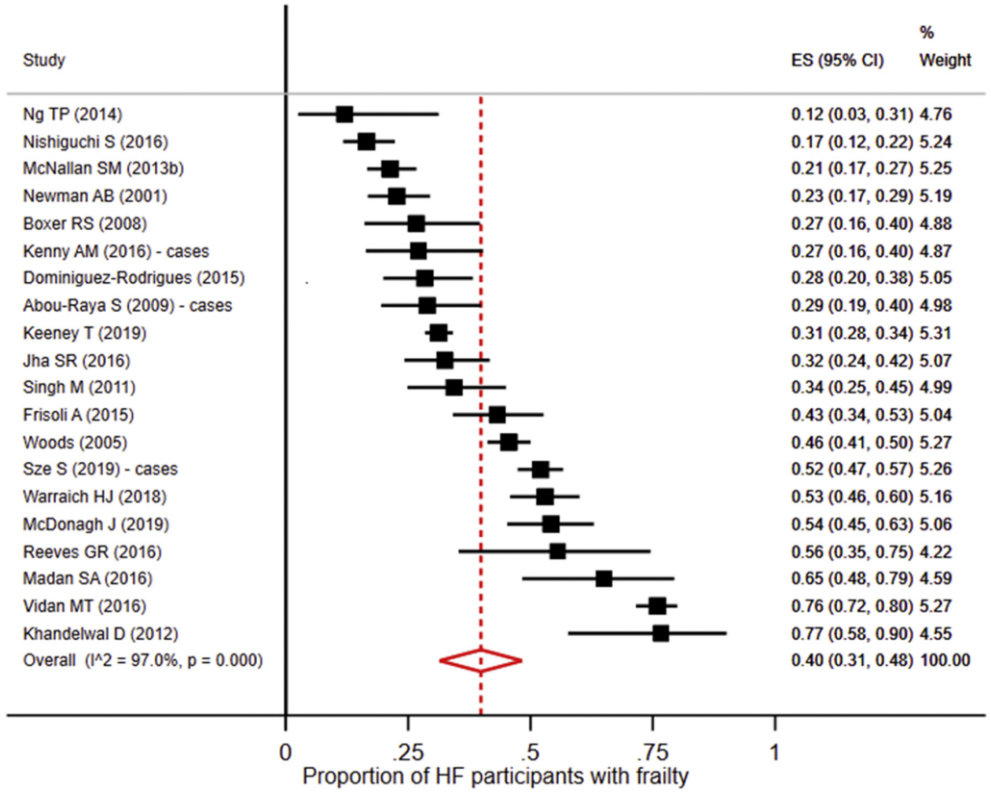
Woman



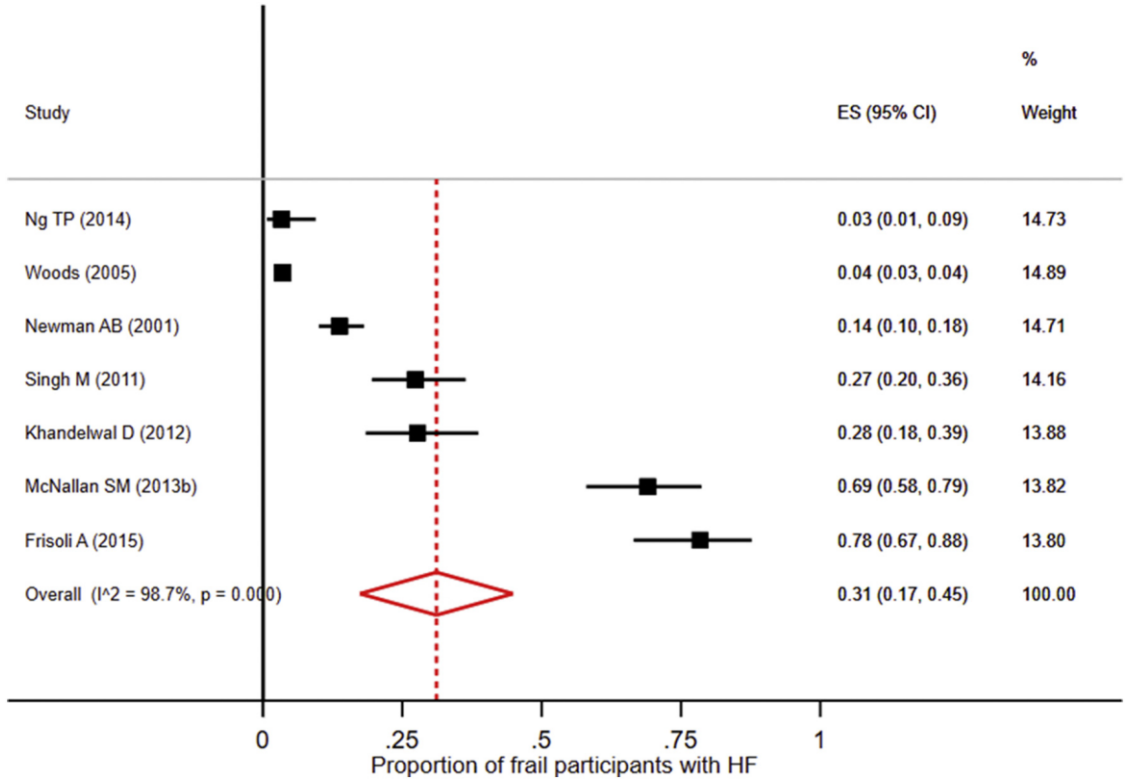
Pilotto A et al. Circ Heart Fail 2010

Heart Failure and Frailty

Proportion of HF patients with frailty



Proportion of frail patients with HF



Marengoni A et al. Int J Cardiol. 2020

Efficacy and Safety of Dapagliflozin According to Frailty in HFrEF: A Post Hoc Analysis of the DAPA-HF Trial

A frailty index (FI) was calculable in 4742 HF patients (32-item Frailty Index). 50.4% was FI class 1 (FI ≤0.210, not frail), 33.9% in FI class 2 (FI 0.211 to 0.310; more frail), and 15.7% in FI class 3 (FI ≥0.311; most frail).

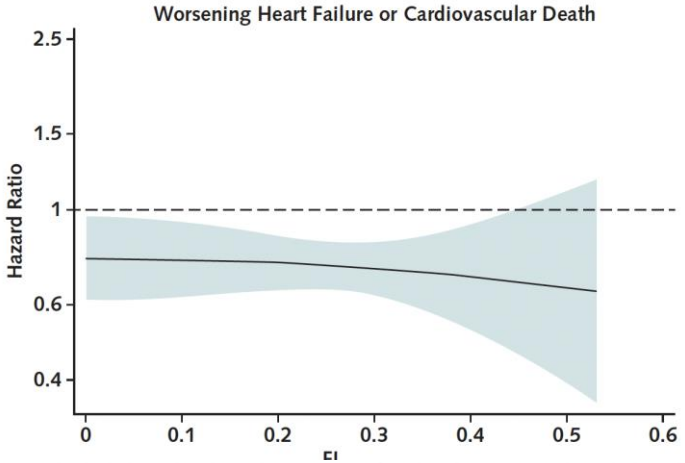
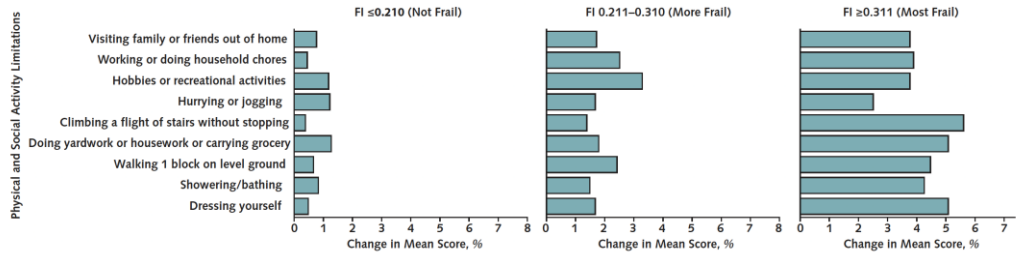


Figure 2. Mean change in individual physical and social activity items from baseline to 8 months with dapagliflozin versus placebo according to FI.

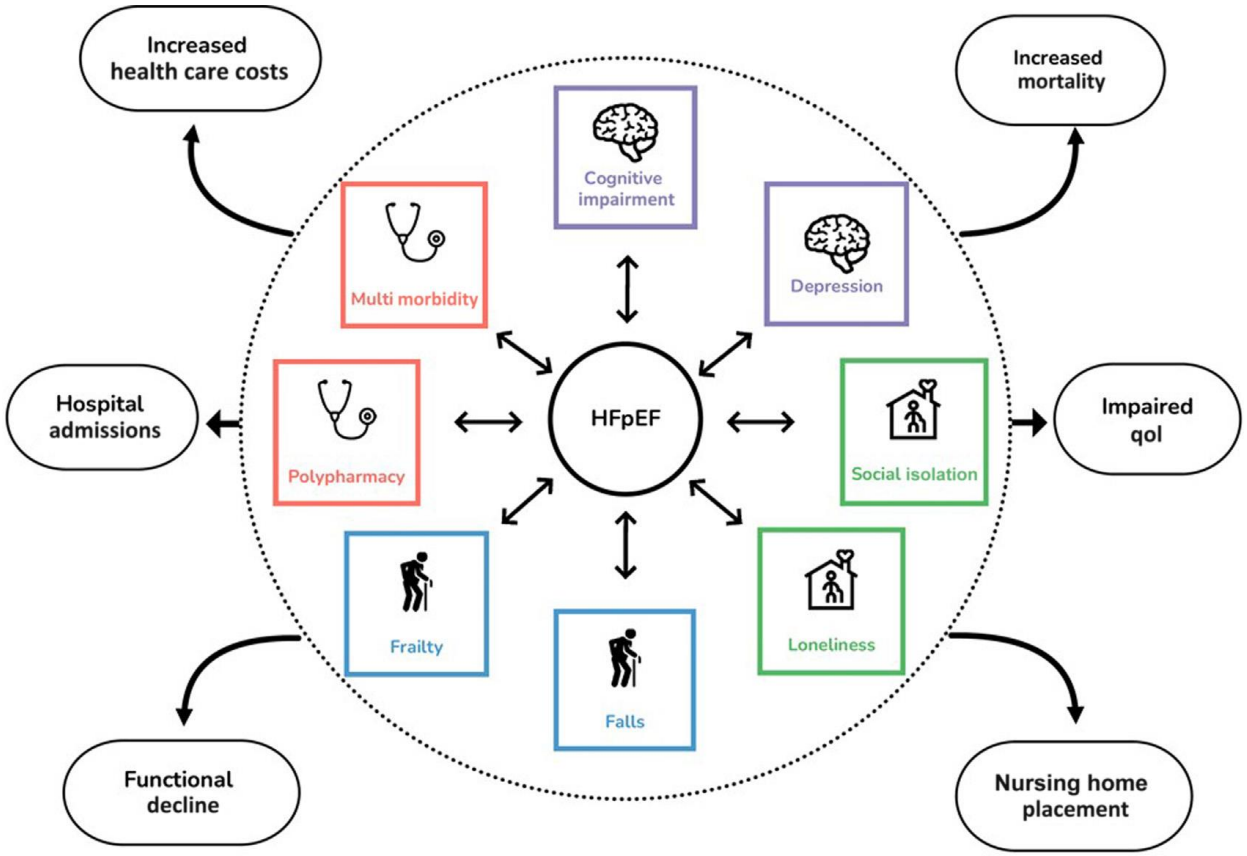


- Dapagliflozin improved all outcomes examined (reduced the risk for worsening HF, CV death, all cause death, and improved physical function, exercised capacity and QoL) regardless of frailty status. However, the absolute reductions were larger in more frail patients.

- Study drug discontinuation and serious adverse events were not more frequent with dapagliflozin than placebo, regardless of FI class.

Butt H et al. Ann Internal Med 2022

HFpEF: a geriatric syndrome



Goyal P et al. Cardiol Clin 2022

RESEARCH SUMMARY

Empagliflozin in Heart Failure with a Preserved Ejection Fraction

Anker SD et al. DOI: 10.1056/NEJMoa2107038

CLINICAL PROBLEM

Treatment options for patients with heart failure and a preserved ejection fraction are limited. Sodium–glucose cotransporter 2 (SGLT2) inhibitors have been shown to reduce heart failure progression in patients with a reduced ejection fraction, but whether they improve outcomes in patients with a preserved ejection fraction is unclear.

CLINICAL TRIAL

Design: A multicenter, double-blind, randomized, placebo-controlled trial examined the effects of the SGLT2 inhibitor empagliflozin in patients with heart failure and a preserved ejection fraction.

Intervention: 5988 adults with New York Heart Association functional class II–IV chronic heart failure and a left ventricular ejection fraction >40% were randomly assigned to receive empagliflozin (10 mg once daily) or placebo, in addition to their usual treatment. The primary outcome was a composite of cardiovascular death or hospitalization for heart failure.

RESULTS

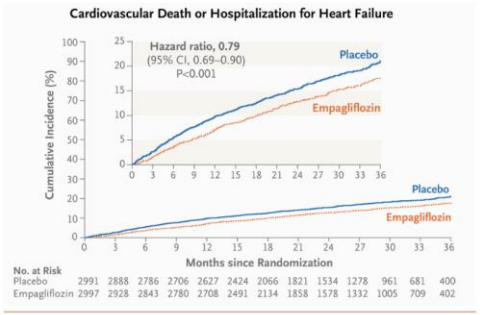
Efficacy: During a median follow-up of 26.2 months, a primary composite outcome event occurred significantly less often in the empagliflozin group than in the placebo group, largely owing to a decrease in hospitalizations for heart failure with empagliflozin. The benefit of empagliflozin appeared similar in patients with or without diabetes.

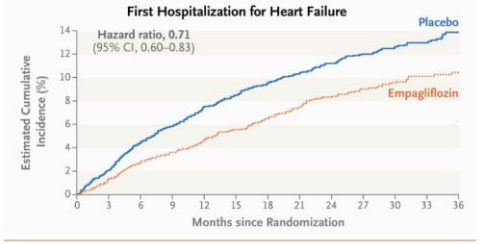
Safety: Serious adverse events occurred in 47.9% of patients in the empagliflozin group and in 51.6% of those in the placebo group. Uncomplicated genital and urinary tract infections and hypotension were more common with empagliflozin.

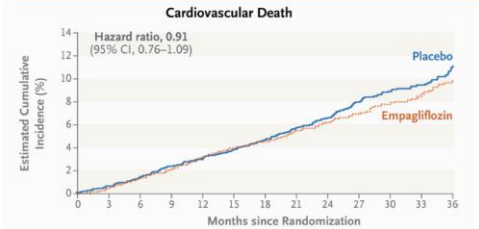
LIMITATIONS AND REMAINING QUESTIONS

- In this trial, empagliflozin did not significantly reduce the incidence of cardiovascular death alone.

Links: Full Article | NEJM Quick Take | Editorial







CONCLUSIONS

In patients with heart failure and a preserved ejection fraction, the SGLT2 inhibitor empagliflozin lowered the risk of a composite of cardiovascular death or hospitalization for heart failure, mainly owing to a reduction in hospitalizations for heart failure.

RESEARCH SUMMARY

Dapagliflozin in Heart Failure with Mildly Reduced or Preserved Ejection Fraction

Solomon SD et al. DOI: 10.1056/NEJMoa2206286

CLINICAL PROBLEM

Clinical guidelines recommend the use of sodium–glucose cotransporter 2 (SGLT2) inhibitors in patients with chronic heart failure and a reduced ejection fraction (a left ventricular ejection fraction of ≤40%), but the benefits in patients with a higher ejection fraction are less certain.

CLINICAL TRIAL

Design: An international, double-blind, randomized, placebo-controlled trial examined the efficacy and safety of the SGLT2 inhibitor dapagliflozin in patients with stabilized heart failure and a mildly reduced or preserved ejection fraction.

Intervention: 6263 patients 40 years of age or older with a left ventricular ejection fraction of more than 40% were assigned to receive either dapagliflozin (10 mg once daily) or placebo, in addition to usual therapy. The primary outcome was a composite of worsening heart failure (an unplanned hospitalization for heart failure or an urgent visit for heart failure) or cardiovascular death.

RESULTS

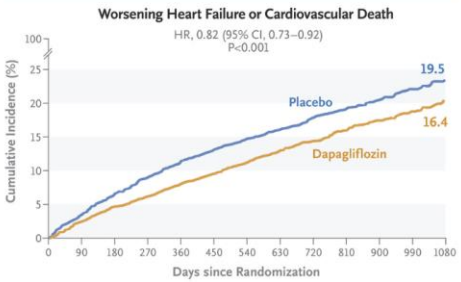
Efficacy: Overall, during a median follow-up of 2.3 years, a primary-outcome event occurred in significantly fewer patients in the dapagliflozin group than in the placebo group. A similar benefit was observed in a subgroup of patients with a left ventricular ejection fraction of less than 60%.

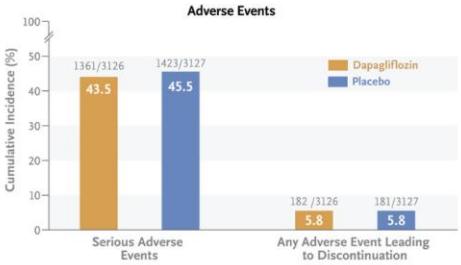
Safety: The incidence of serious adverse events was similar in the two groups.

LIMITATIONS AND REMAINING QUESTIONS

- Less than 5% of the patients enrolled were Black.
- All the subgroups were underpowered, so findings within subgroups should be interpreted with caution.
- Trials in higher-risk populations, or of longer duration, are needed to better assess the benefits of dapagliflozin with respect to mortality.

Links: Full Article | NEJM Quick Take | Editorial



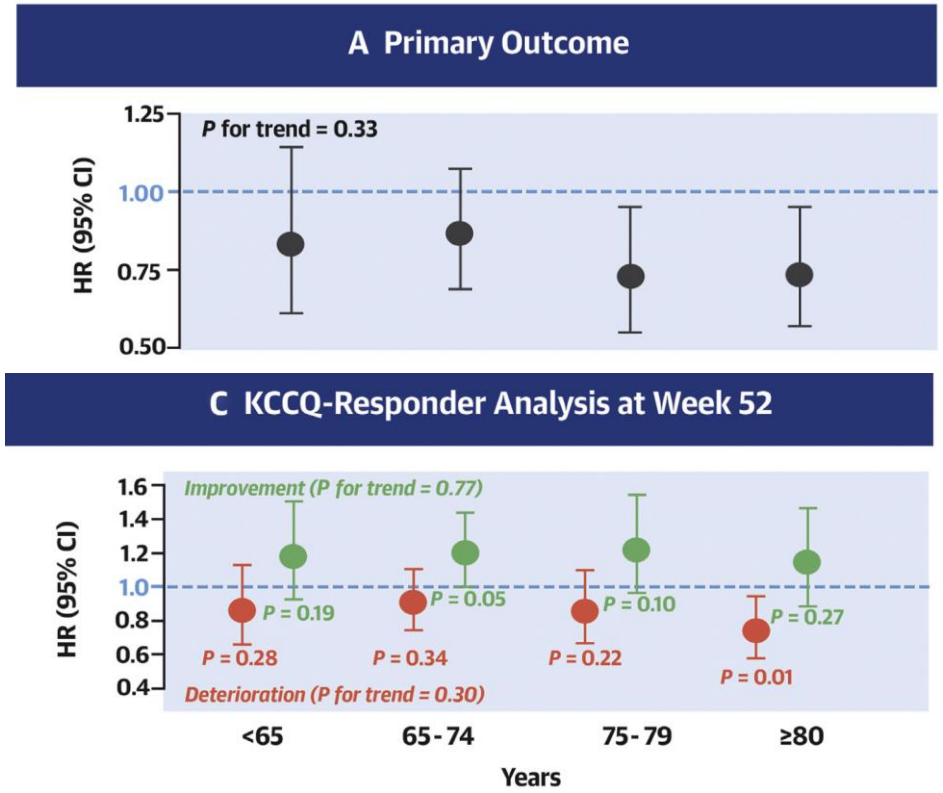


CONCLUSIONS

The SGLT2 inhibitor dapagliflozin reduced the risk of worsening heart failure or cardiovascular death among patients with heart failure and a mildly reduced or preserved ejection fraction, with no excess of adverse events.

Empagliflozin Improves Outcomes in HFpEF Patients Irrespective of Age

EMPEROR-Preserved: 5,988 MFmrEF and HFpEF according to their baseline age (20% <65 years, 37% 65-74 years, 21% 75-79 years, 22% >80 years)

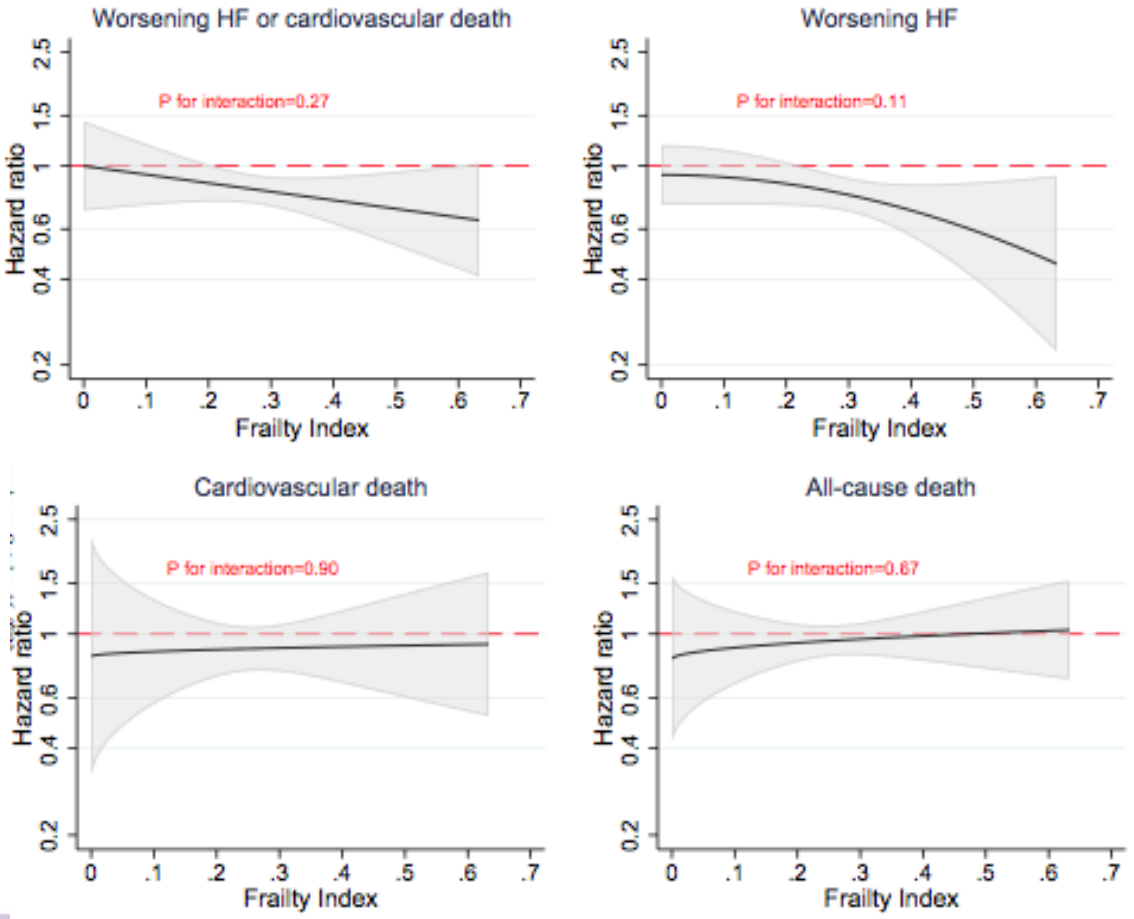


Empagliflozin reduced primary outcomes (first HF hospitalization or CV death) and first and recurrent HF hospitalization and improved symptoms across a broad age spectrum.

High age was not associated with reduced efficacy or meaningful intolerability.

Bohm M et al. J Am ColL Cardiol 2022

Benefit of dapagliflozin consistent across the spectrum of frailty.



No suggestion of reduced benefit in more frail subjects.

The improvement in health-related quality of life with dapagliflozin occurred early and was greater in patients with greater frailty.

Butt JH et al. Circulation 2022

Take home messages

- There are not data demonstrating a lack of benefit of HF evidence-based medications in older adults.
- However, guideline-directed medical therapy is underutilized in elderly HFrEF patients
- A multidisciplinary HF management program is essential in HF patients
- Geriatricians have a relevant role in the HF multidisciplinary team, and the application of CGA tools is mandatory
- Even more “complex” HF patients may benefit from evidence-based medications