Insufficienza cardiaca: hot news

L'uso delle glifozine nello scompenso cardiaco: dai dati dei trials a quelli "real world"

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The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 NOVEMBER 21, 2019 VOL. 381 NO. 21

Dapagliflozin in Patients with Heart Failure and Reduced Ejection Fraction

J.J.V. McMurray, S.D. Solomon, S.E. Inzucchi, L. Køber, M.N. Kosiborod, F.A. Martinez, P. Ponikowski, M.S. Sabatine, I.S. Anand, J. Bělohlávek, M. Böhm, C.-E. Chiang, V.K. Chopra, R.A. de Boer, A.S. Desai, M. Diez, J. Drozdz, A. Dukát, J. Ge, J.G. Howlett, T. Katova, M. Kitakaze, C.E.A. Ljungman, B. Merkely, J.C. Nicolau, E. O'Meara, M.C. Petrie, P.N. Vinh, M. Schou, S. Tereshchenko, S. Verma, C. Held, D.L. DeMets, K.F. Docherty, P.S. Jhund, O. Bengtsson, M. Sjöstrand, and A.-M. Langkilde, for the DAPA-HF Trial Committees and Investigators*

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 8, 2020 VOL. 383 NO. 15

Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure

M. Packer, S.D. Anker, J. Butler, G. Filippatos, S.J. Pocock, P. Carson, J. Januzzi, S. Verma, H. Tsutsui, M. Brueckmann, W. Jamal, K. Kimura, J. Schnee, C. Zeller, D. Cotton, E. Bocchi, M. Böhm, D.-J. Choi, V. Chopra, E. Chuquiure, N. Giannetti, S. Janssens, J. Zhang, J.R. Gonzalez Juanatey, S. Kaul, H.-P. Brunner-La Rocca, B. Merkely, S.J. Nicholls, S. Perrone, I. Pina, P. Ponikowski, N. Sattar, M. Senni, M.-F. Seronde, J. Spinar, I. Squire, S. Taddei, C. Wanner, and F. Zannad, for the EMPEROR-Reduced Trial Investigators*

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Dapagliflozin in Patients with Heart Failure and Reduced Ejection Fraction

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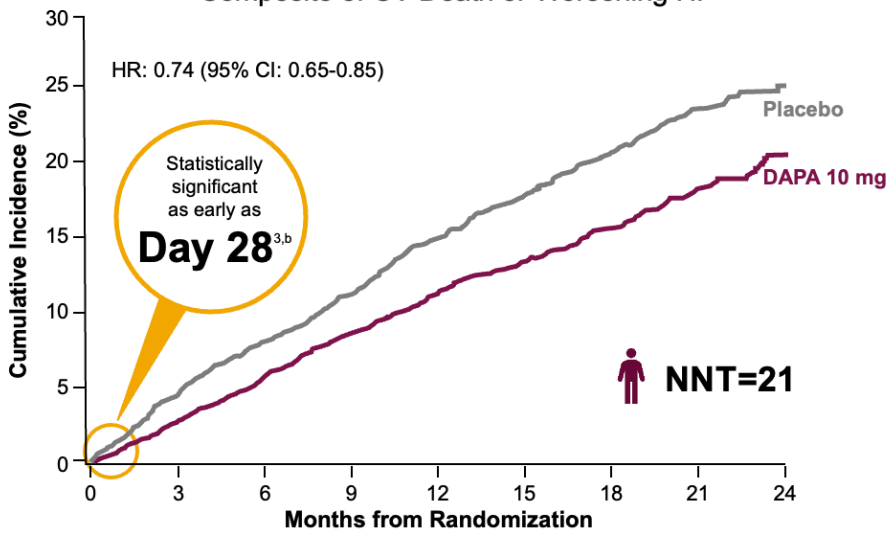
Dapagliflozin significantly reduced the risk of CV death and worsening HF[a] in patients with HFrEF[1,2]

DAPA HF

Primary Endpoint

Composite of CV Death or Worsening HF[a]



CV Death or Worsening HF[a]
26% RRR
4.9% ARR
p=0.00001

CV death
18% RRR
1.9% ARR
p=0.029

Worsening HF[a]
30% RRR
3.7% ARR
p=0.00003

Consistent benefit in the primary endpoint across key subgroups

All-cause mortality was also reduced in the dapagliflozin group

All-cause mortality
17% RRR
2.3% ARR
p=0.022[c]

Quality of life
18% RRI
P<0.001

Key Inclusion and Exclusion Criteria

Key Inclusion Criteria

- Men and women ≥18 years of age, with or without T2D
- Documented diagnosis of symptomatic HFrEF for ≥2 months (NYHA class II-IV)
- LVEF ≤40% within the last 12 months
- Elevated NT-proBNP (≥600 pg/mL or ≥400 pg/mL if hHF within 12 months or ≥900 pg/mL if atrial fibrillation/flutter irrespective of hHF history)
- Optimal pharmacological and device therapy for HF
- Optimal and stable[a] (≥4 weeks) background standard of care for HFrEF as per local guidelines including (unless contraindicated or not tolerated): ACEI, ARB, or sacubitril/valsartan; beta-blocker; and if appropriate a MRA
- eGFR[b] ≥30 mL/min/1.73 m^2

Key Exclusion Criteria

- Treatment within 8 weeks or intolerance to SGLT2 inhibitor
- T1D
- Symptomatic hypotension or SBP <95 mmHg
- Current acute decompensated HF or hospitalization within last 4 weeks due to decompensated HF
- Coronary revascularization (PCI or CABG), valve repair/replacement, or CRT device implantation within last 12 weeks or planned after randomization
- HF due to restrictive cardiomyopathy, active myocarditis, constrictive pericarditis, hypertrophic cardiomyopathy, or uncorrected primary valvular disease
- eGFR <30 mL/min/1.73 m^2 or rapidly declining renal function

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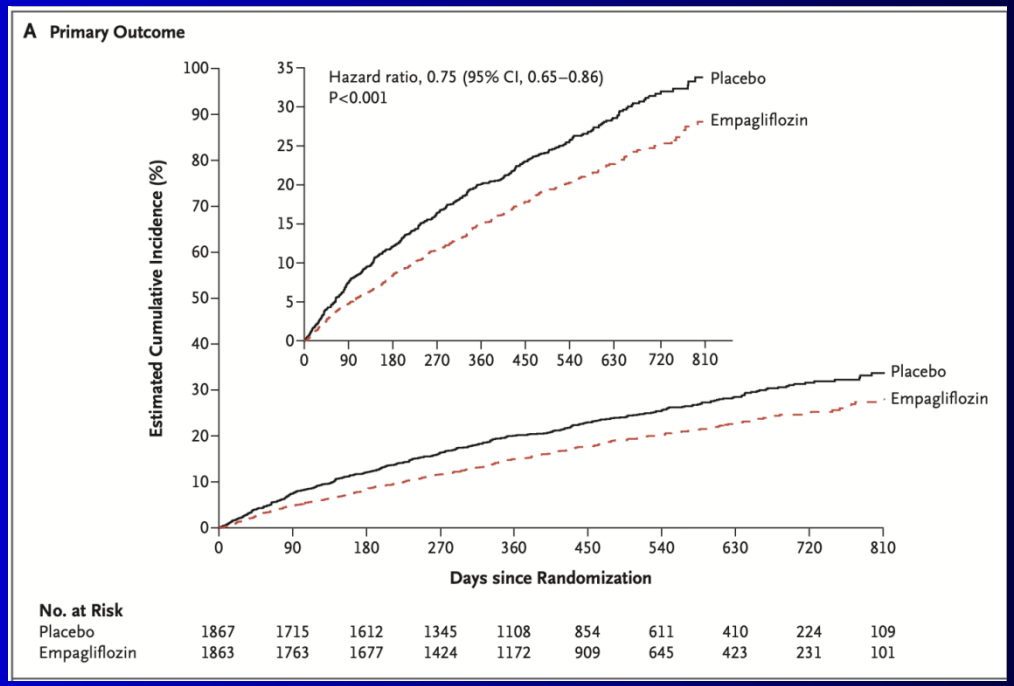
ESTABLISHED IN 1812 OCTOBER 8, 2020 VOL. 383 NO. 15

Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure

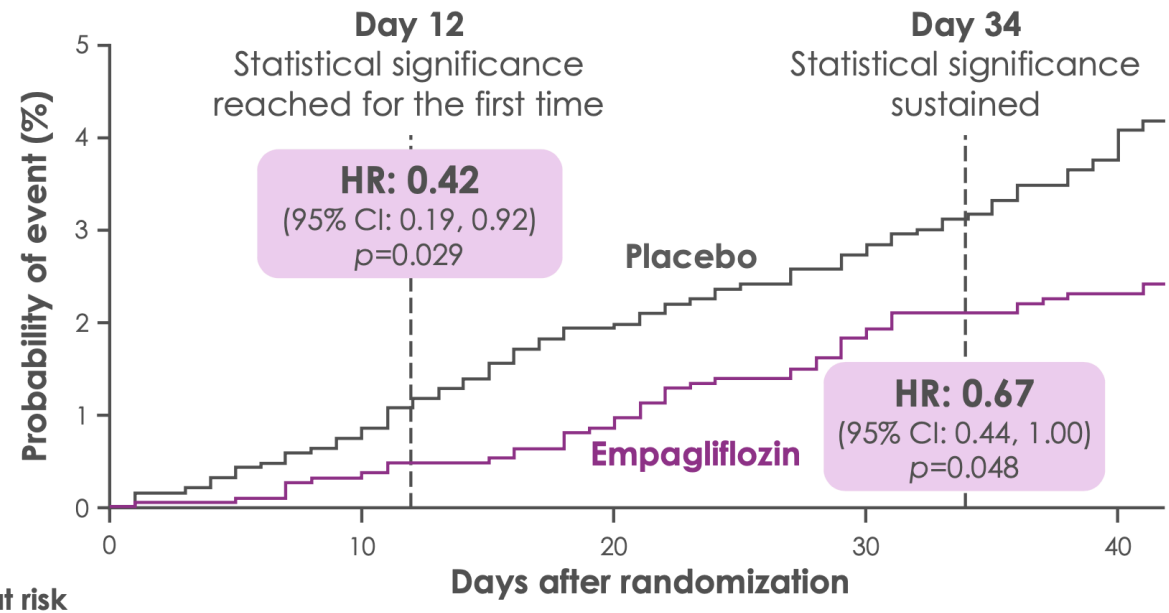
EMPEROR-Reduced Trial Investigators*



Early GDMT benefits in HFrEF

EMPEROR-Reduced

Compared with placebo, empagliflozin significantly reduced the combined risk of death, HHF or an emergent or urgent HF visit requiring IV treatment in HF patients with LVEF ≤40% from **day 12**



Patients at risk

Placebo	1867	1852	1830	1811	1792
Empagliflozin	1863	1855	1845	1826	1815

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Packer M, Anker SD, Butler J, et al. Cardiovascular and renal outcomes with empagliflozin in heart failure. N Engl J Med 2020;383:1413-24. DOI: 10.1056/NEJMoa2022190

Inclusion criteria

1. Age ≥ 18 years at screening. For Japan only: Age ≥ 20 years at screening
2. Men or women. A woman is considered of childbearing potential must be ready and able to use highly effective methods of birth control per ICH M3 (R2) that result in a low failure rate of less than 1% per year when used consistently and correctly. A list of contraception methods meeting these criteria is provided in the patient information
3. Patients with chronic heart failure diagnosed for at least 3 months before Visit 1, and currently in NYHA functional class II, III or IV
4. Chronic heart failure with a reduced left ventricular ejection fraction (LVEF), defined as LVEF ≤ 40% per local reading (obtained under stable conditions by echocardiography, radionuclide ventriculography, invasive angiography, MRI or CT). A historical LVEF may be used if it was measured within 6 months prior to visit 1 or the LVEF may be measured after study consent has been obtained. The LVEF must be documented in an official report prior to randomization

Exclusion criteria

Cardiovascular diseases or treatments that increase the unpredictability of or change the patients' clinical course, independent of heart failure

- Myocardial infarction (increase in cardiac enzymes in combination with symptoms of ischemia or new ischemic ECG changes), coronary artery bypass graft surgery, or other major cardiovascular surgery, stroke or transient ischemic attack in past 90 days

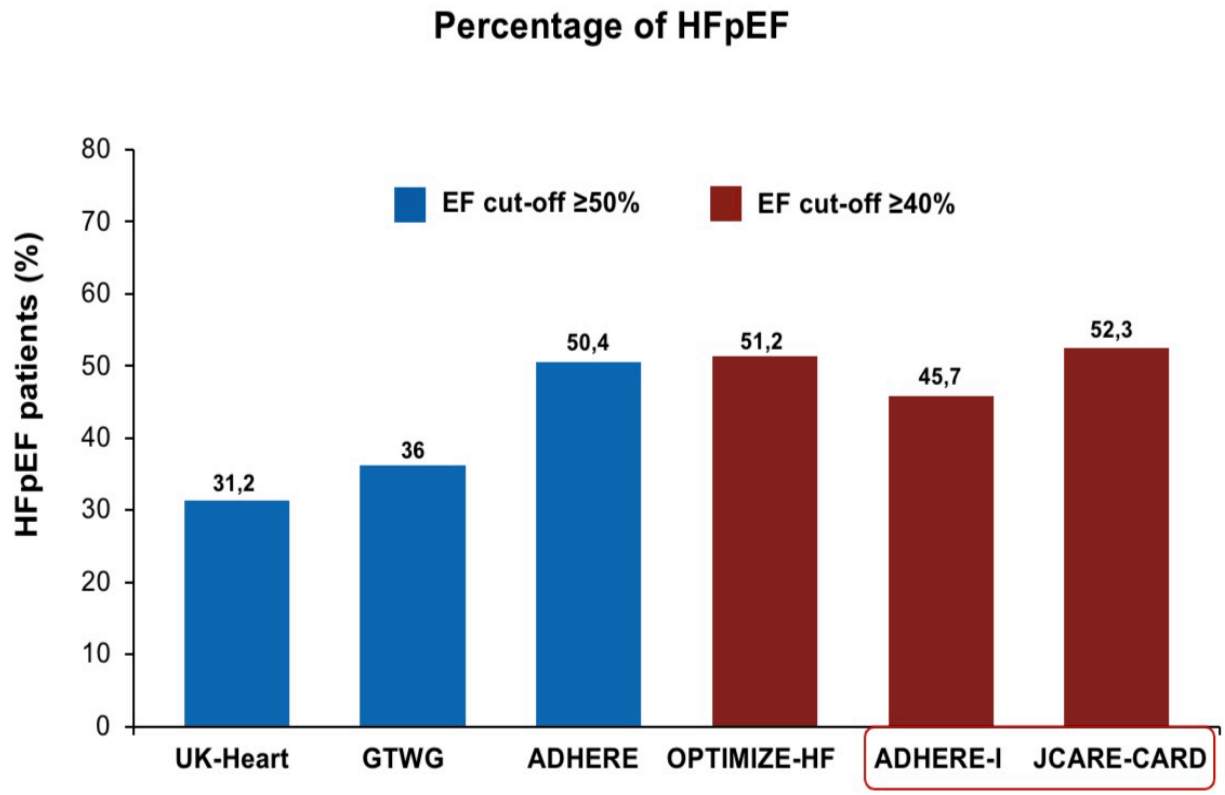
ESC European Society of Cardiology
European Heart Journal (2023) **44**, 3627–3639
https://doi.org/10.1093/eurheartj/ehad195

ESC GUIDELINES

2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

The Task Force considered and discussed the following new trials and any meta-analyses including them: ADVOR (Acetazolamide in Decompensated Heart Failure with Volume Overload),[2] CLOROTIC (Combination of Loop Diuretics with Hydrochlorothiazide in Acute Heart Failure),[3] COACH (Comparison of Outcomes and Access to Care for Heart Failure),[4] DAPA-CKD (Dapagliflozin And Prevention of Adverse outcomes in Chronic Kidney Disease),[5] DELIVER (Dapagliflozin Evaluation to Improve the LIVEs of Patients with PReserved Ejection Fraction Heart Failure),[6] EMPA-KIDNEY (EMPAgliflozin once daily to assess cardio-renal outcomes in patients with chronic KIDNEY disease),[7] EMPEROR-Preserved (Empagliflozin Outcome Trial in Patients with Chronic Heart Failure with Preserved Ejection Fraction),[8] EMPULSE (Empagliflozin in Patients Hospitalized with Acute Heart Failure Who Have Been Stabilized),[9] FIDELIO-DKD (Finerenone in Reducing Kidney Failure and Disease Progression in Diabetic Kidney Disease),[10] FIGARO-DKD (Finerenone in Reducing Cardiovascular Mortality and Morbidity in Diabetic Kidney Disease),[11] IRONMAN (Effectiveness of Intravenous Iron Treatment versus Standard Care in Patients with Heart Failure and Iron Deficiency),[12] PIVOTAL (Proactive IV Iron Therapy in Haemodialysis Patients),[13,14] REVIVED-BCIS2 (Revascularization for Ischemic Ventricular Dysfunction),[15] STRONG-HF (Safety, Tolerability and Efficacy of Rapid Optimization, Helped by NT-proBNP Testing, of Heart Failure Therapies),[16] TRANSFORM-HF (Torsemide Comparison with Furosemide for Management of Heart Failure),[17] and TRILUMINATE Pivotal (Clinical Trial to Evaluate Cardiovascular Outcomes in Patients Treated With the Tricuspid Valve Repair System Pivotal).[18]

Global prevalence of HFpEF



EF, ejection fraction; HF, heart failure; HFpEF, heart failure with preserved ejection fraction

Dhingra A et al. *Curr Heart Fail Rep*. 2014;11:354-365

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Empagliflozin in Heart Failure with a Preserved Ejection Fraction

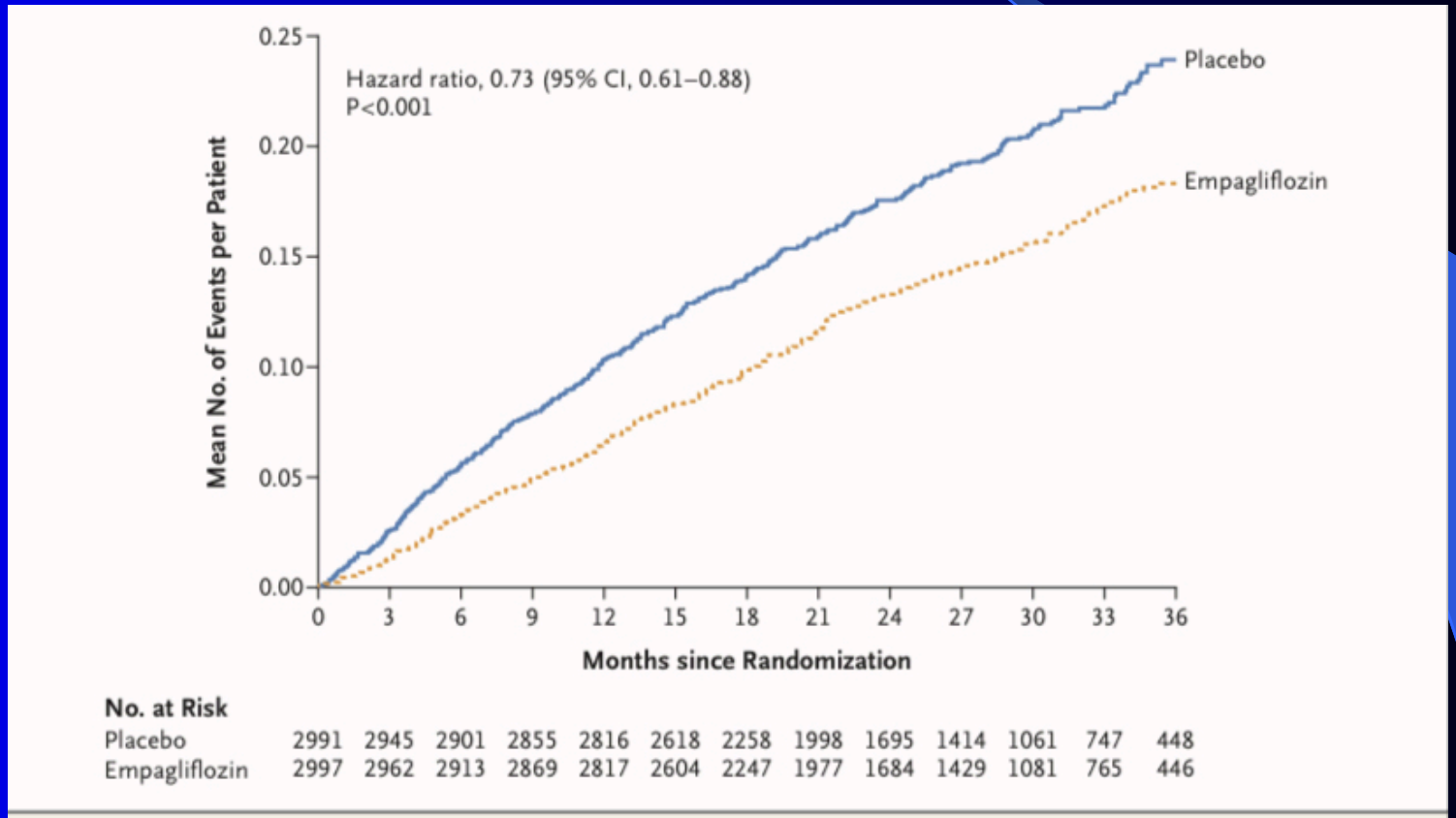
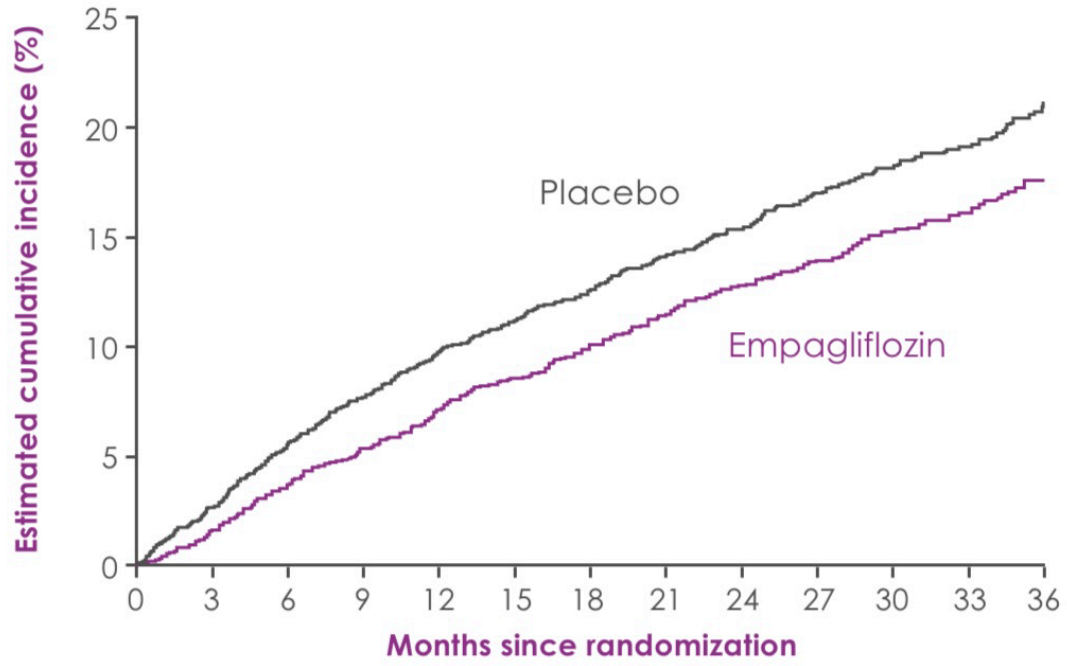


Figure 3. Hospitalizations for Heart Failure.

The mean number of events per patient for the first secondary outcome (total [first and recurrent] hospitalizations for heart failure) in the two groups is shown.

EMPEROR-Preserved



Patients at risk

Placebo	2991	2888	2786	2706	2627	2424	2066	1821	1534	1278	961	681	400
Empagliflozin	2997	2928	2843	2780	2708	2491	2134	1858	1578	1332	1005	709	402

RRR 21%

ARR 3.3%

NNT*=31

HR: 0.79
(95% CI: 0.69, 0.90)
p<0.001

Empagliflozin:
415 (13.8%) patients with event
Rate: 6.9/100 patient-years
Placebo:
511 (17.1%) patients with event
Rate: 8.7/100 patient-years

*During a median trial period of 26 months. ARR, absolute risk reduction; CI, confidence interval; CV, cardiovascular; HHF, hospitalization for heart failure; HR, hazard ratio; NNT, number needed to treat; RRR, relative risk reduction. Anker S *et al. N Engl J Med*. 2021; 10.1056/NEJMoa2107038.

EMPEROR-Preserved
Characteristics of patients at baseline

	Empagliflozin (n=2997)	Placebo (n=2991)
NYHA functional class, n (%)		
Class I	3 (0.1)	1 (<0.1)
Class II	2432 (81.1)	2451 (81.9)
Class III	552 (18.4)	531 (17.8)
Class IV	10 (0.3)	8 (0.3)
BMI, kg/m^2	29.77±5.8	29.90±5.9
Heart rate, bpm	70.4±12.0	70.3±11.8
Systolic BP, mmHg	131.8±15.6	131.9±15.7
LVEF, %	54.3±8.8	54.3±8.8
>40 to <50%, n (%)	995 (33.2)	988 (33.0)
≥50 to <60%, n (%)	1028 (34.3)	1030 (34.4)
≥60%, n (%)	974 (32.5)	973 (32.5)
NT-proBNP, median (IQR), pg/mL	994 (501, 1740)	946 (498, 1725)
Aetiology of HF, n (%)		
Ischaemic	1079 (36.0)	1038 (34.7)
Non-ischaemic	1917 (64.0)	1953 (65.3)
CV history, n (%)		
HHF <12 months	699 (23.3)	670 (22.4)
Atrial fibrillation	1543 (51.5)	1514 (50.6)
Diabetes mellitus	1466 (48.9)	1472 (49.2)
Hypertension	2721 (90.8)	2703 (90.4)

The NEW ENGLAND JOURNAL of MEDICINE

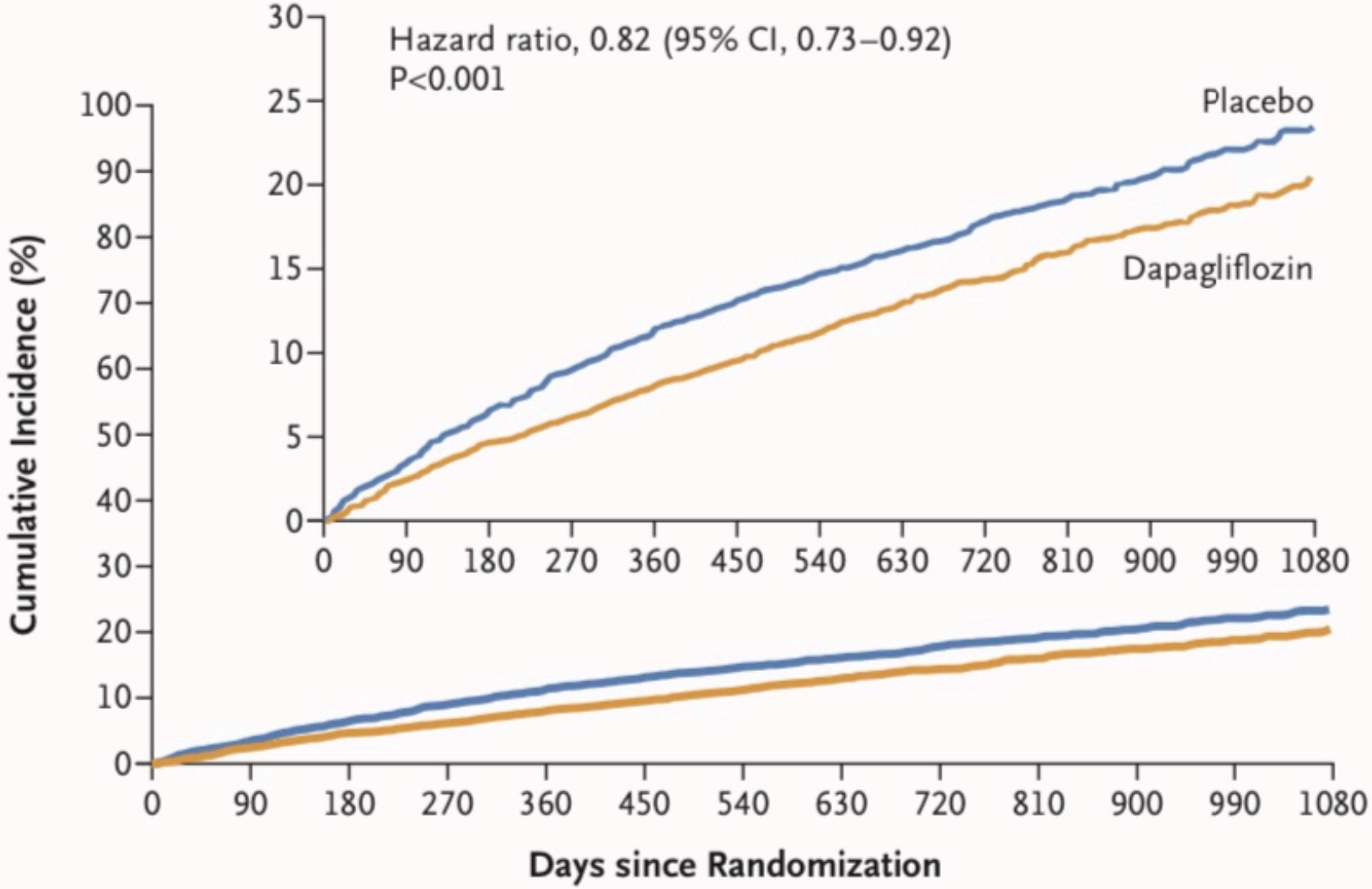
ORIGINAL ARTICLE

Dapagliflozin in Heart Failure with Mildly Reduced or Preserved Ejection Fraction

S.D. Solomon, J.J.V. McMurray, B. Claggett, R.A. de Boer, D. DeMets, A.F. Hernandez, S.E. Inzucchi, M.N. Kosiborod, C.S.P. Lam, F. Martinez, S.J. Shah, A.S. Desai, P.S. Jhund, J. Belohlavek, C.-E. Chiang, C.J.W. Borleffs, J. Comin-Colet, D. Dobreanu, J. Drozdz, J.C. Fang, M.A. Alcocer-Gamba, W. Al Habeeb, Y. Han, J.W. Cabrera Honorio, S.P. Janssens, T. Katova, M. Kitakaze, B. Merkely, E. O'Meara, J.F.K. Saraiva, S.N. Tereshchenko, J. Thierer, M. Vaduganathan, O. Vardeny, S. Verma, V.N. Pham, U. Wilderäng, N. Zaozerska, E. Bachus, D. Lindholm, M. Petersson, and A.M. Langkilde, for the DELIVER Trial Committees and Investigators*

NEJM, sept 2022

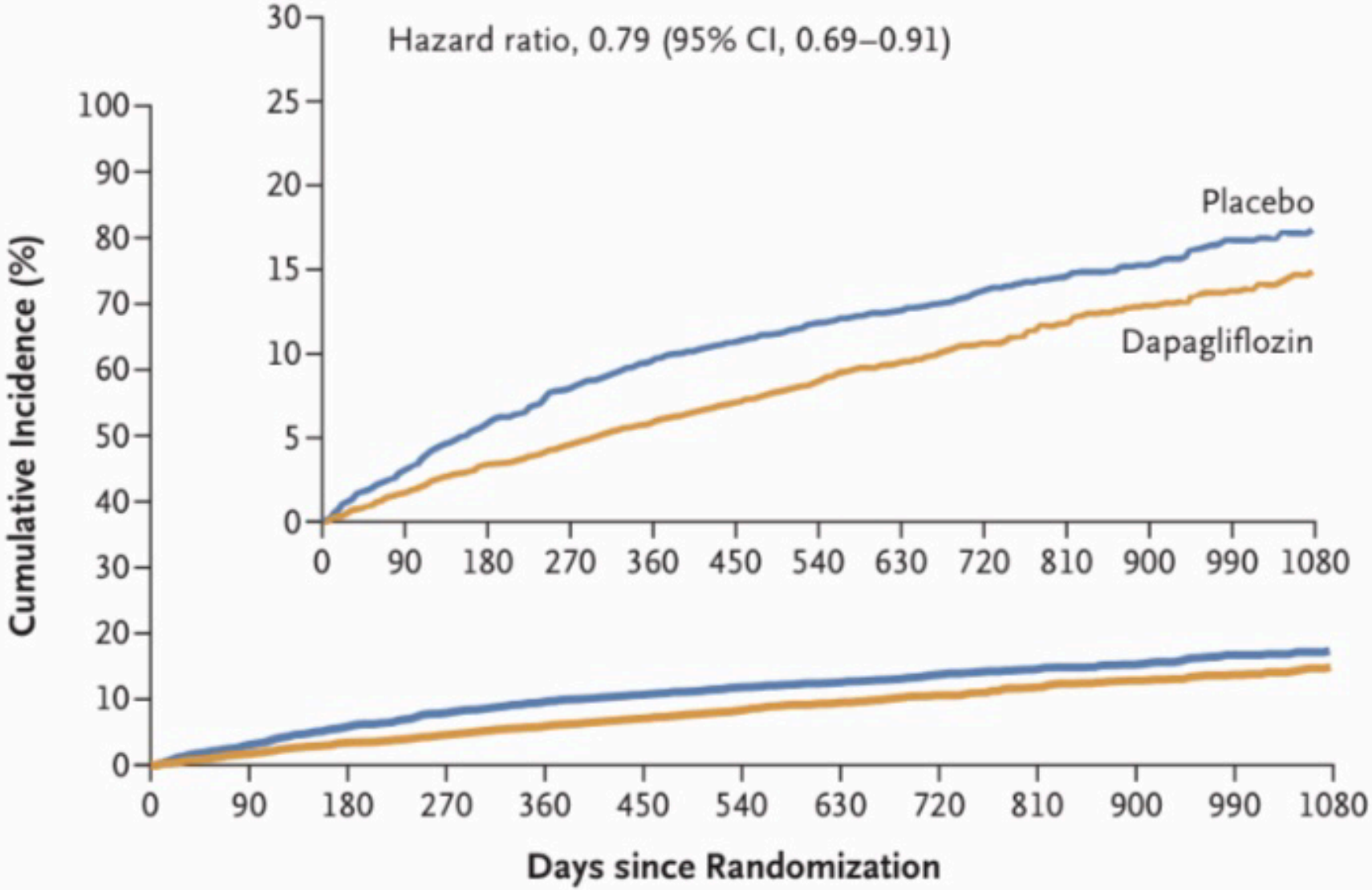
A Primary Outcome



No. at Risk

Placebo	3132	3007	2896	2799	2710	2608	2318	2080	1923	1554	1140	772	383
Dapagliflozin	3131	3040	2949	2885	2807	2716	2401	2147	1982	1603	1181	801	389

B **Worsening Heart Failure Event**



No. at Risk

Placebo	3132	3007	2896	2799	2710	2608	2318	2080	1923	1554	1140	772	383
Dapagliflozin	3131	3040	2949	2885	2807	2716	2401	2147	1982	1603	1181	801	389

Table 1. Characteristics of the Patients at Baseline.*

Characteristic	Dapagliflozin (N=3131)	Placebo (N=3132)
Age — yr	71.8±9.6	71.5±9.5
Female sex — no. (%)	1364 (43.6)	1383 (44.2)
Race — no. (%)†		
Asian	630 (20.1)	644 (20.6)
Black	81 (2.6)	78 (2.5)
White	2214 (70.7)	2225 (71.0)
Other	206 (6.6)	185 (5.9)
Geographic region — no. (%)		
North America	428 (13.7)	423 (13.5)
Latin America	602 (19.2)	579 (18.5)
Europe or Saudi Arabia	1494 (47.7)	1511 (48.2)
Asia	607 (19.4)	619 (19.8)
NYHA class — no. (%)‡		
II	2314 (73.9)	2399 (76.6)
III	807 (25.8)	724 (23.1)
IV	10 (0.3)	8 (0.3)
Left ventricular ejection fraction		
Mean — %	54.0±8.6	54.3±8.9
Distribution — no. (%)		
≤49%	1067 (34.1)	1049 (33.5)
50–59%	1133 (36.2)	1123 (35.9)
≥60%	931 (29.7)	960 (30.7)
Medical history — no. (%)		
Type 2 diabetes mellitus	1401 (44.7)	1405 (44.9)
Hypertension	2755 (88.0)	2798 (89.3)
Previous left ventricular ejection fraction ≤40%	572 (18.3)	579 (18.5)
Estimated GFR — ml/min/1.73 m^2	61±19	61±19

ESC European Society of Cardiology
European Heart Journal (2023) **44**, 3627–3639
https://doi.org/10.1093/eurheartj/ehad195

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2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

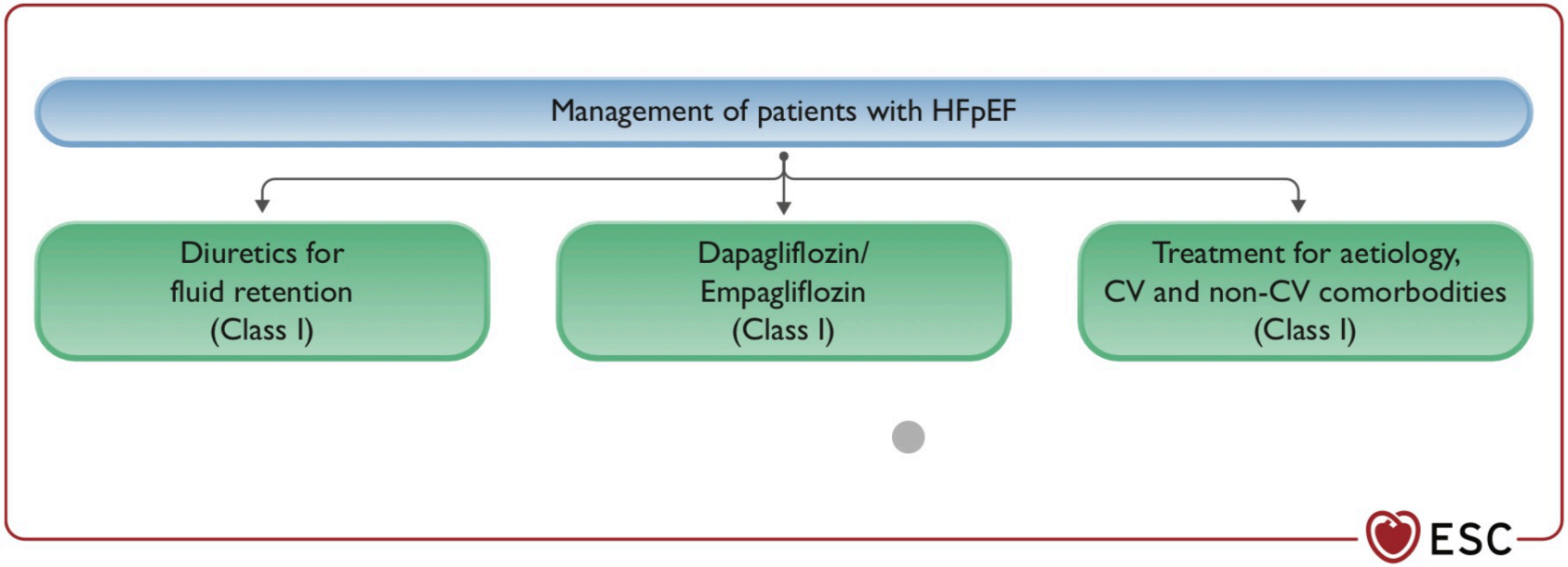
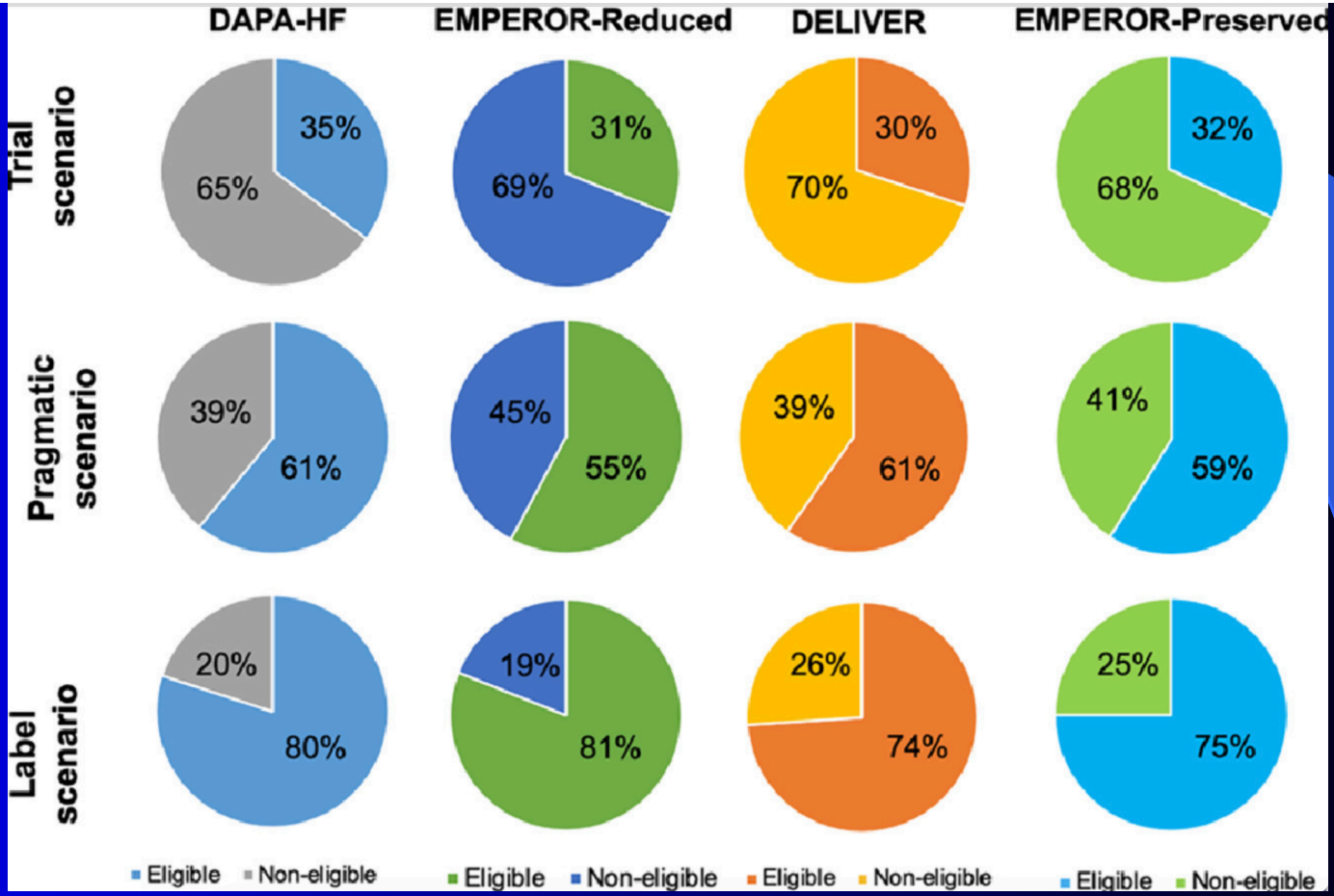


Figure 2 Management of patients with heart failure with preserved ejection fraction. CV, cardiovascular; HFpEF, heart failure with preserved ejection fraction.

Journal of Cardiac Failure Vol. 28 No. 7 2022

Eligibility for Dapagliflozin and Empagliflozin in a Real-world Heart Failure Population

TONJE THORVALDSEN, MD, PhD,[1,2,†] GIULIA FERRANNINI, MD,[1,†] LINDA MELLBIN, MD, PhD,[1,2] LINA BENSON, MSc,[1] FRANCESCO COSENTINO, MD PhD,[1,2] JOHN J.V. MCMURRAY, MD,[3] ULF DAHLSTRÖM, MD, PhD,[4] LARS H. LUND, MD, PhD,[1,2,#] AND GIANLUIGI SAVARESE, MD, PhD[1,2,#]



ESC European Society of Cardiology

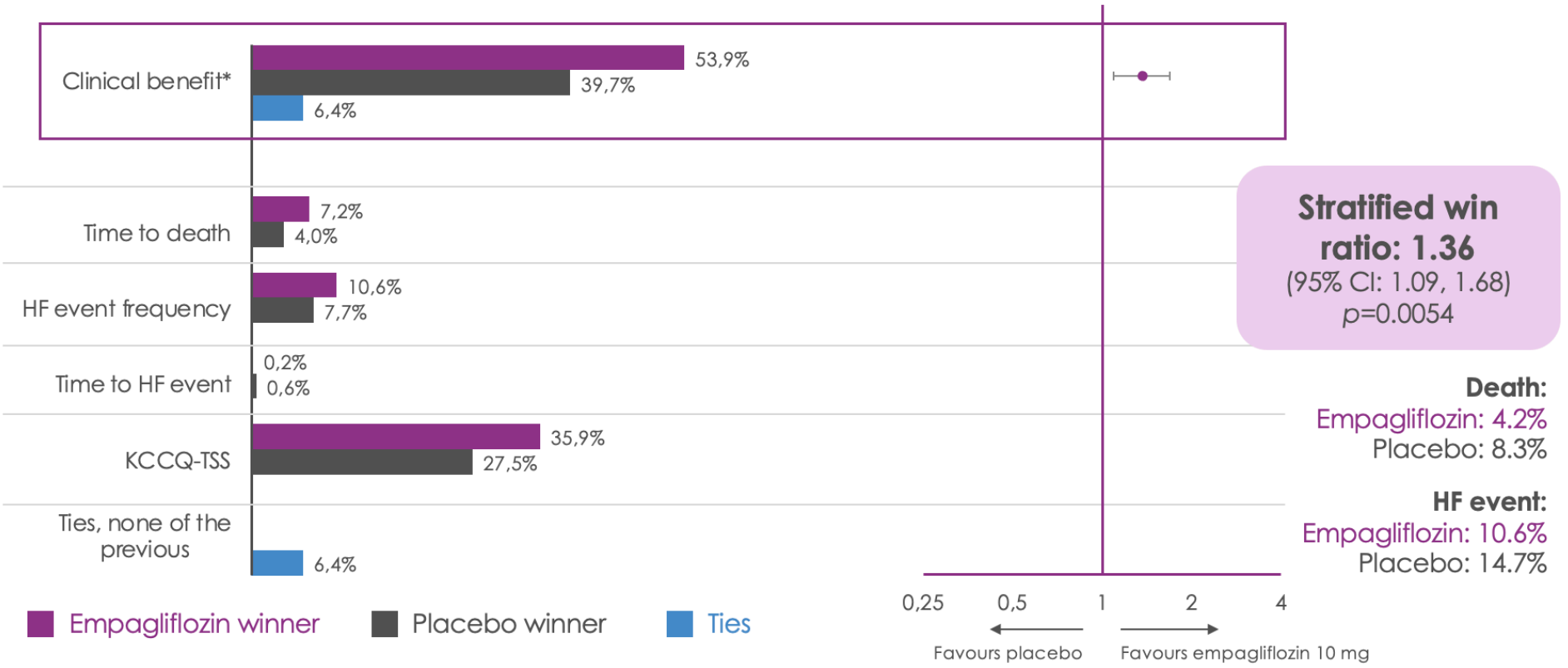
European Heart Journal (2023) **44**, 41–50
https://doi.org/10.1093/eurheartj/ehac530

CLINICAL RESEARCH
Clinical trials

Impact of empagliflozin on decongestion in acute heart failure: the EMPULSE trial

Jan Biegus [1]*, Adriaan A. Voors[2], Sean P. Collins[3,4], Mikhail N. Kosiborod[5,6], John R. Teerlink [7], Christiane E. Angermann [8], Jasper Tromp [9], Joao Pedro Ferreira[10,11], Michael E. Nassif[12], Mitchell A. Psotka [13], Martina Brueckmann [14,15], Afshin Salsali [16,17], Jonathan P. Blatchford [18], and Piotr Ponikowski [1]

EMPULSE: Patients treated with empagliflozin were 36% more likely to experience a clinical benefit than those who received placebo



Stratified win ratio: 1.36
(95% CI: 1.09, 1.68)
p=0.0054

Death:
Empagliflozin: 4.2%
Placebo: 8.3%

HF event:
Empagliflozin: 10.6%
Placebo: 14.7%

EMPULSE:
Selected inclusion and exclusion criteria

INCLUSION

- Currently hospitalized for the primary diagnosis of AHF (de novo or decompensated chronic HF), regardless of EF
- Meets stabilization criteria
- Randomization ≥24 hours and no later than 5 days after admission, as early as possible after stabilization and while still in hospital
- Elevated NT-proBNP or BNP:
  Without AF: NT-proBNP ≥1600 pg/mL or BNP ≥400 pg/mL
  With AF: NT-proBNP ≥2400 pg/mL or BNP ≥600 pg/mL
- Treatment with minimum dose of 40 mg of IV furosemide (or equivalent of other IV loop diuretic)

EXCLUSION

- Cardiogenic shock
- HHF triggered by secondary cause (e.g. acute MI, pulmonary embolism)
- Planned or previous (within 30 days) cardiovascular revascularization or major cardiac surgery/intervention/ device implantation
- Prior ACS, MI, stroke or TIA within 90 days
- eGFR <20 mL/min/1.73 m^2
- Type 1 diabetes mellitus

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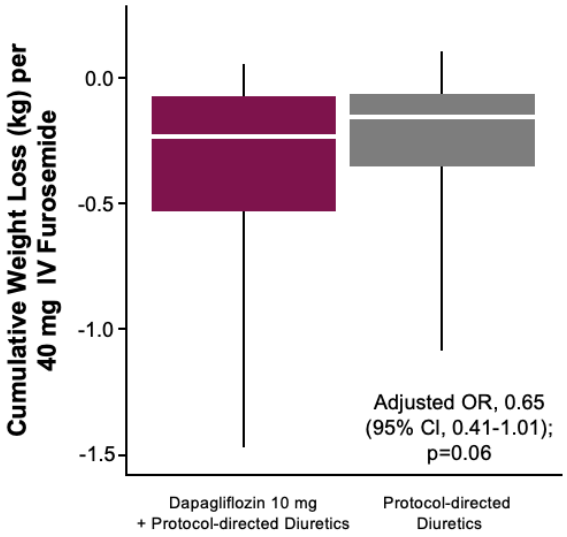
Efficacy and Safety of Dapagliflozin in Patients With Acute Heart Failure

Zachary L. Cox, PharmD,[a,b] Sean P. Collins, MD, MSc,[c,d] Gabriel A. Hernandez, MD,[e] A. Thomas McRae III, MD,[f] Beth T. Davidson, DNP,[f] Kirkwood Adams, MD,[g] Mark Aaron, MD,[h] Luke Cunningham, MD,[i] Cathy A. Jenkins, MS,[j] Christopher J. Lindsell, PhD,[j] Frank E. Harrell, Jr, PhD,[j] Christina Kampe, MAcc,[c] Karen F. Miller, RN, MPA,[c] William B. Stubblefield, MD, MPH,[c] JoAnn Lindenfeld, MD[k]

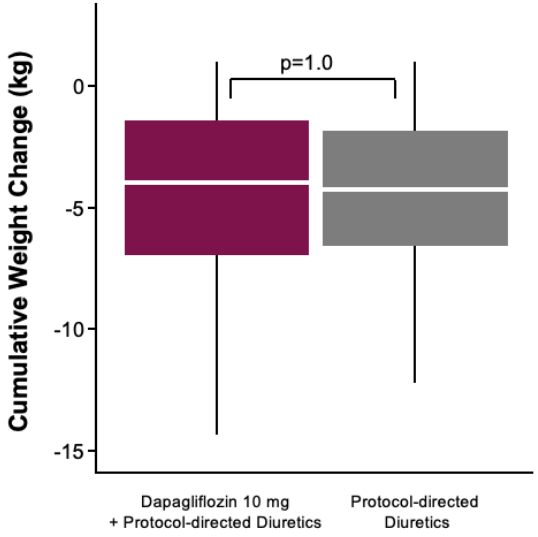
Primary Outcome and Individual Components

Primary Outcome: Diuretic Efficiency[a,b]

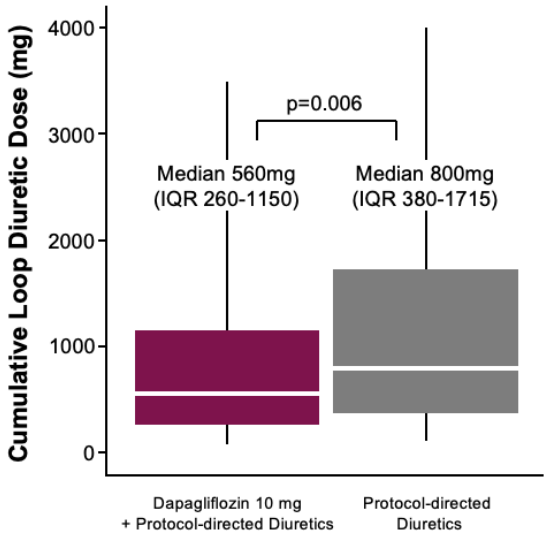


Components of Primary Outcome[b]

Cumulative Weight Change



Cumulative Loop Diuretic Dose



- **The addition of dapagliflozin resulted in an improvement in diuretic efficiency that did not reach statistical significance**
- **However, the dapagliflozin treatment arm required significantly lower loop diuretic dose to achieve a similar change in weight**

Journal of Cardiac Failure Vol. 28 No. 7 2022

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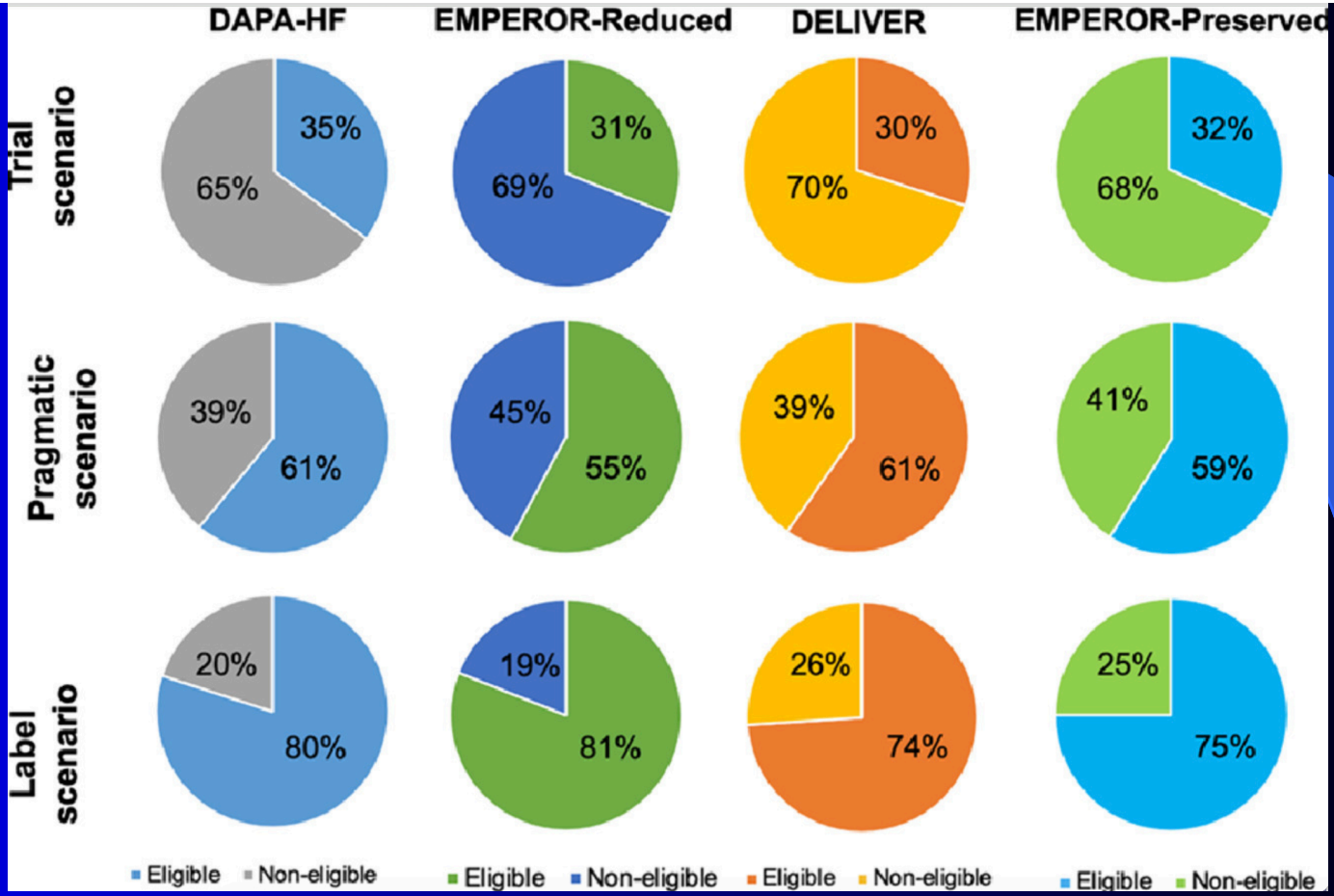
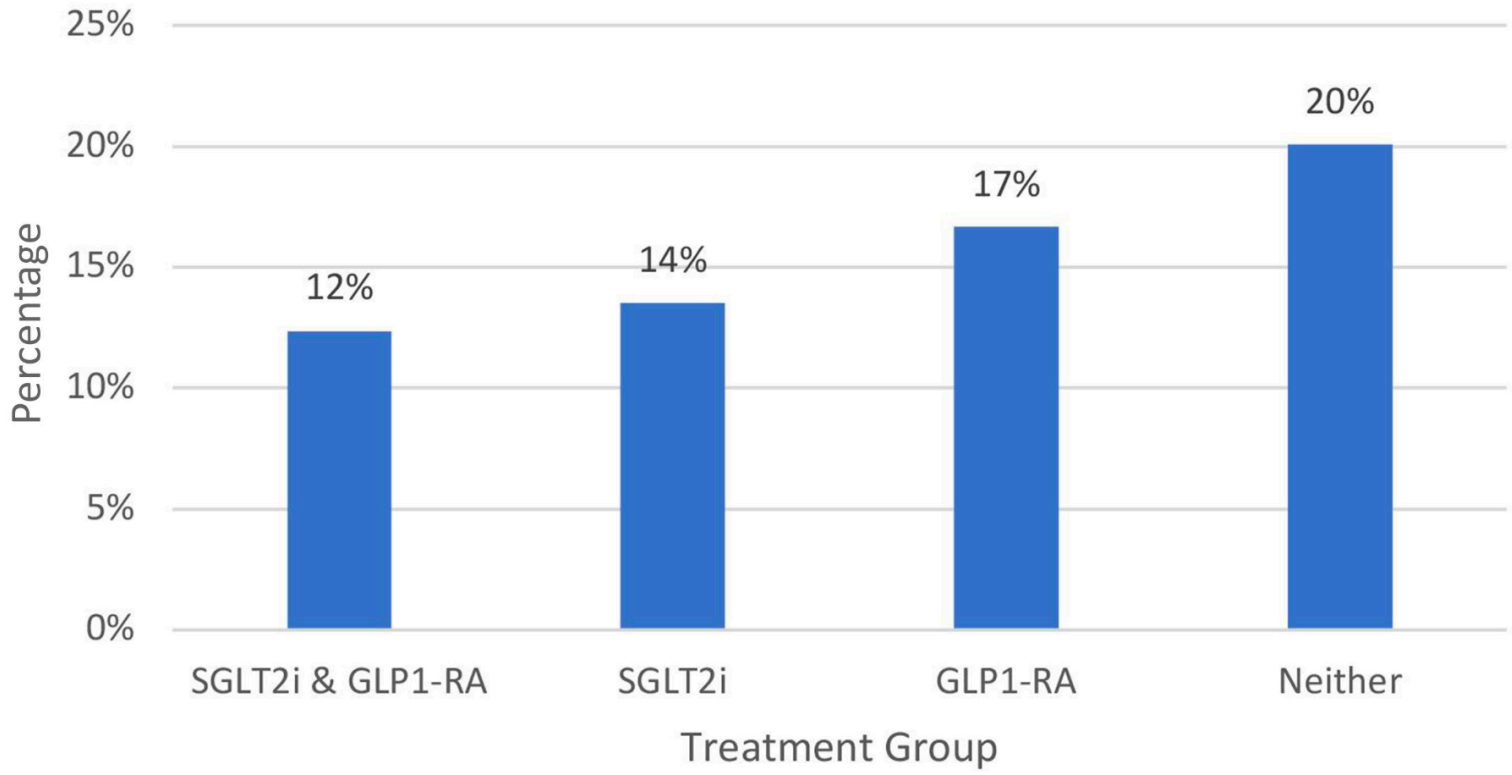


ORIGINAL RESEARCH

Use of SGLT2 Inhibitors Reduces Heart Failure and Hospitalization: A Multicenter, Real-World Evidence Study



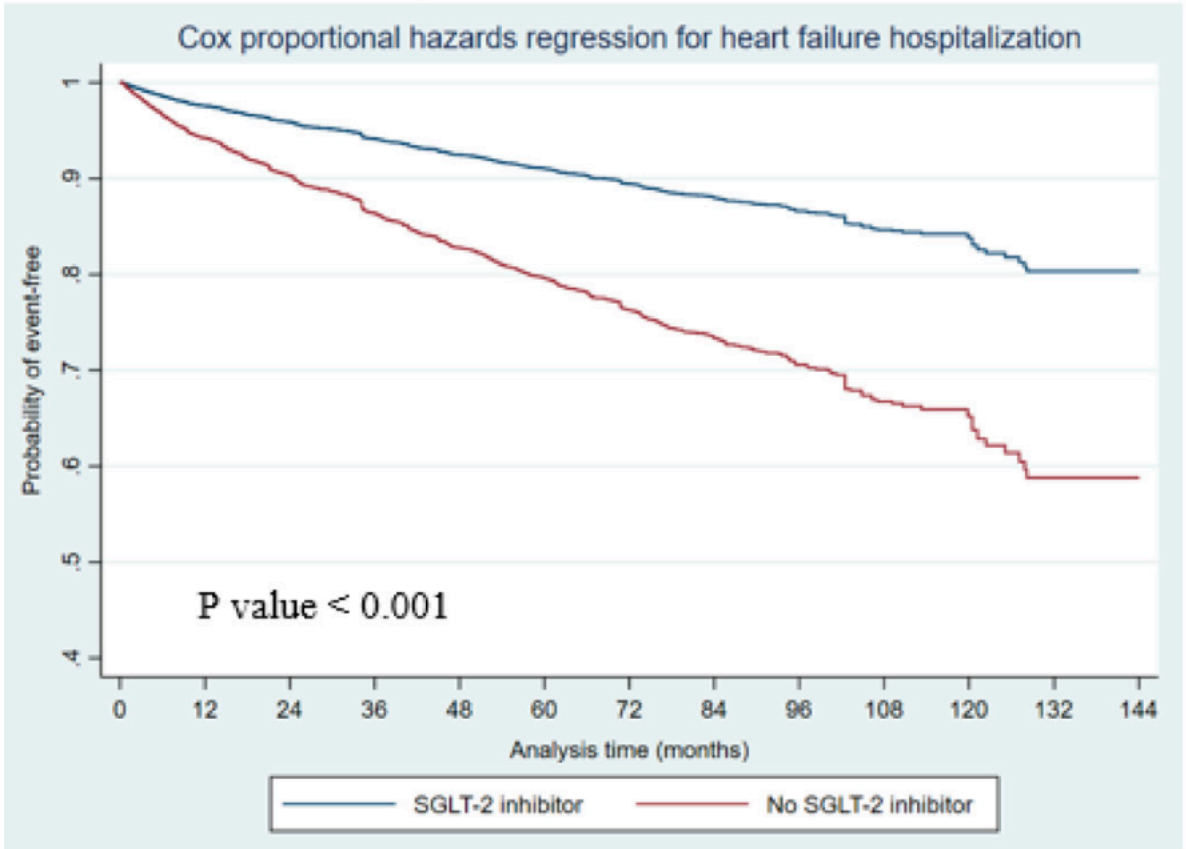
Blanco et al. Perm J 2023;27:22

BMJ Open

Can SGLT-2 inhibitors improve cardiovascular outcomes and ensure safety for patients with type 2 diabetes and heart failure in Thailand? A real-world multicentre retrospective cohort study

Tanawan Kongmalai ,[1,2,3] Amarit Tansawet ,[4] Oraluck Pattanaprateep ,[5] Cholatid Ratanatharathorn,[5] Porntep Amornritvanich ,[5] Panu Looareesuwan ,[5] Burin Boonwatcharapai,[6] Anon Khunakorncharatphong,[2] Hataikarn Nimitphong,[7] Varalak Srinonprasert,[2,3,8] Ammarin Thakkinstian[5]

A Heart failure hospitalization



BMJ Open 2024

ESC HEART FAILURE
ESC Heart Failure 2025; **12**: 3003–3017
Published online 11 May 2025 in Wiley Online Library (wileyonlinelibrary.com) **DOI:** 10.1002/ehf2.15320

ORIGINAL ARTICLE

Real-world use of guideline-directed therapy for heart failure: Insights from the Danish Heart Failure Registry

SETTING

46,816 patients with incident HFrEF

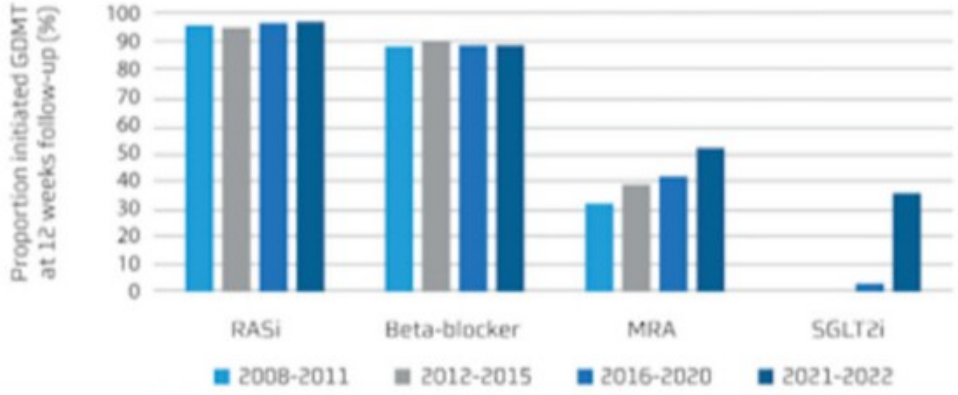
DANISH HEART FAILURE REGISTRY

METHODS

Initiation of GDMT within 4, 8 and 12 weeks of diagnosis according to the ESC Guidelines for HF 2008, 2012, 2016 and 2021

Number of DGMTs initiated within 4, 8 and 12 weeks of diagnosis associated with mortality and hospitalization

KEY FINDINGS

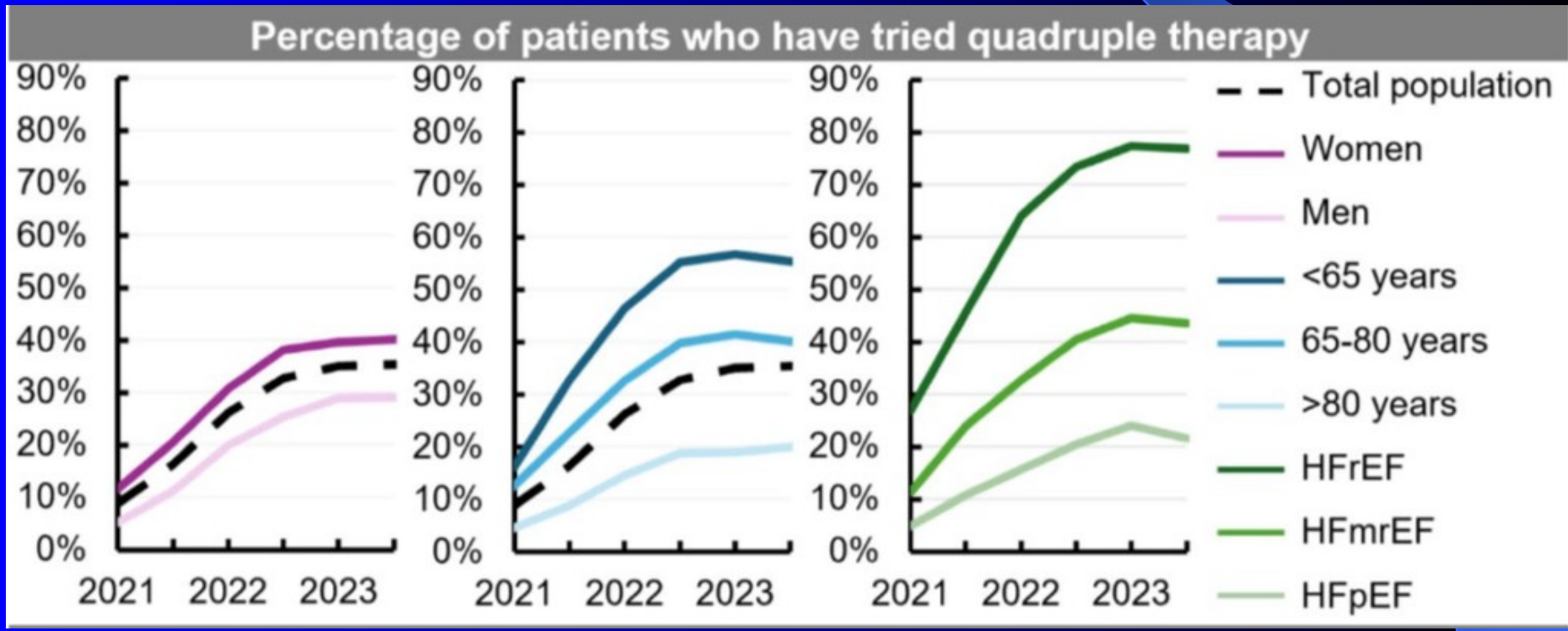


Number of GDMTs initiated		Mortality				Hospitalization			
		All-cause		Cardiovascular		All-cause		HF	
		1 year	3 years	1 year	3 years	1 year	3 years	1 year	3 years
4 weeks	1-2 vs. none	●	●	○	●	●	●	○	○
	3-4 vs. none	●	●	○	●	●	●	○	○
8 weeks	1-2 vs. none	●	●	●	●	●	●	○	○
	3-4 vs. none	●	●	●	●	●	●	○	○
12 weeks	1-2 vs. none	●	●	○	●	●	●	○	○
	3-4 vs. none	●	●	●	●	●	●	○	○

● Lower risk ○ Same risk

ORIGINAL RESEARCH ARTICLE

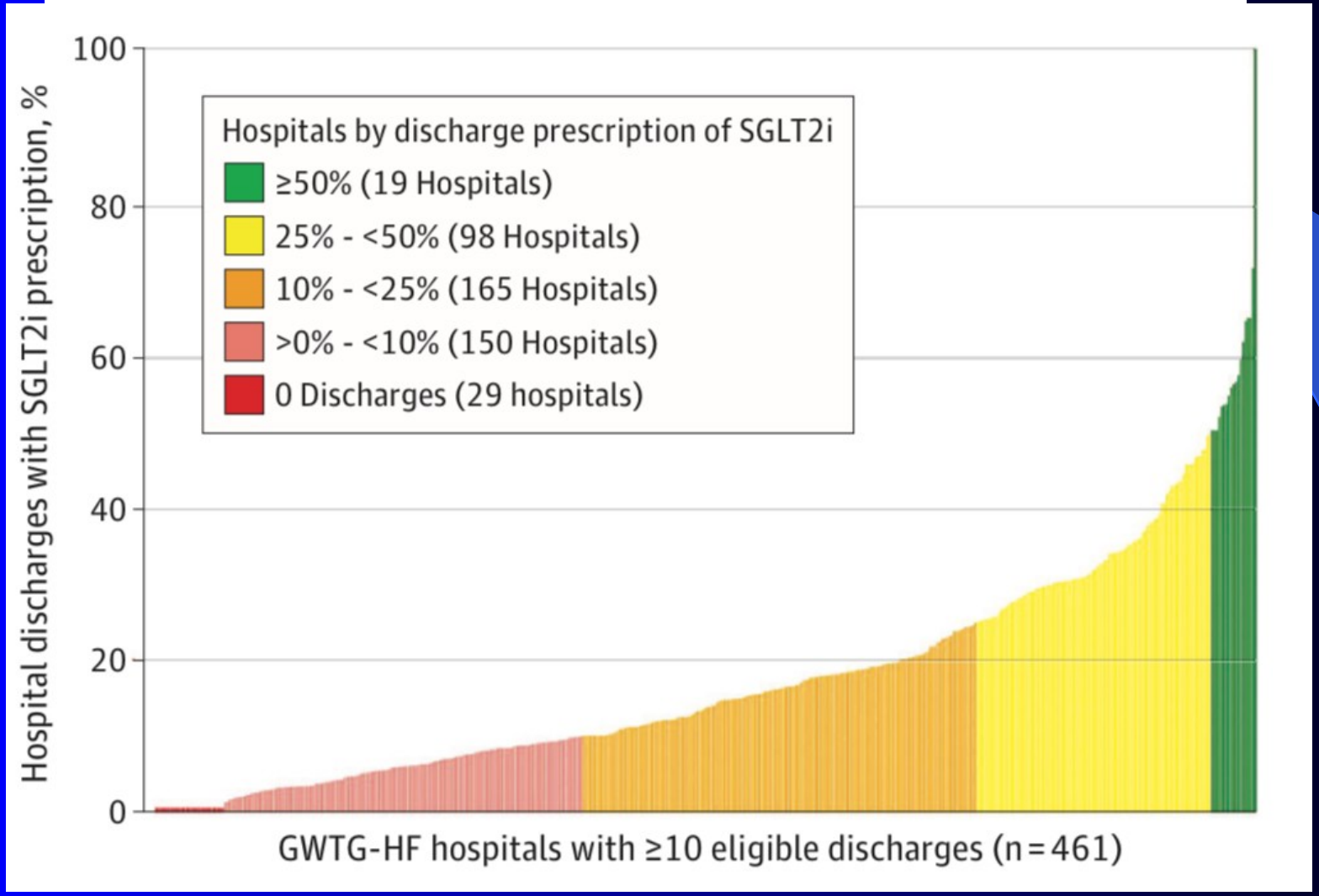
Treatment Pattern of Heart Failure Patients in Sweden During 2021–2023 in Relation to Updated Treatment Recommendations



JAMA Cardiology | Original Investigation

Contemporary Use of Sodium-Glucose Cotransporter-2 Inhibitor Therapy Among Patients Hospitalized for Heart Failure With Reduced Ejection Fraction in the US

The Get With The Guidelines–Heart Failure Registry



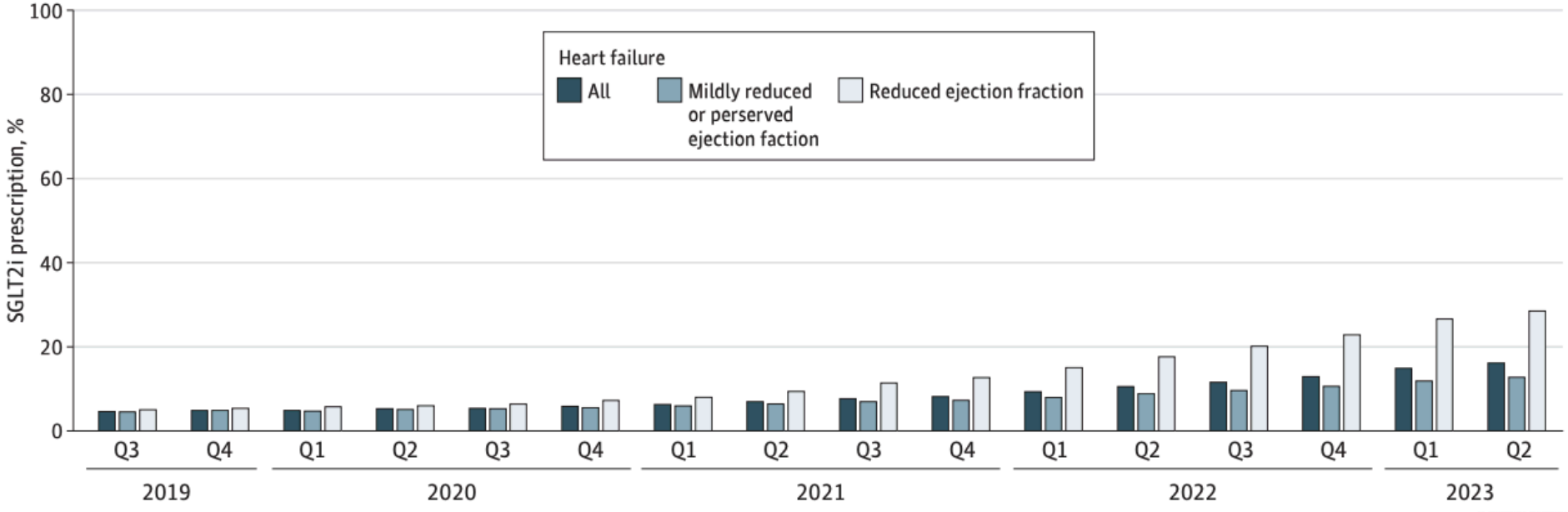
JAMA Cardiol 2023

JAMA Cardiology | Original Investigation

Sodium-Glucose Cotransporter 2 Inhibitor Use for Heart Failure in US Ambulatory Cardiovascular Care

Abdelghani El Rafei, MD, MS; Kensey Gosch, MS; Evan S. Manning, MD, MPP; Alireza Ghajar, MD; Sridharan Raghavan, MD; Thomas M. Maddox, MD, SM; Pamela N. Peterson, MD, MSPH; Lisa Fleming, MD, MPH; Suzanne V. Arnold, MD, MHA; Paul S. Chan, MD, MSc; Stephen J. Greene, MD; Gregg C. Fonarow, MD; Philip G. Jones, PhD; Larry A. Allen, MD, MHS; Paul L. Hess, MD, MHS

Figure 1. Sodium-glucose Cotransporter 2 Inhibitor Therapy Over Time Among Patients With Heart Failure



JAMA Cardiology, sept 2025

ESC European Society of Cardiology

European Journal of Heart Failure (2023) **25**, 1115–1131
doi:10.1002/ejhf.2888

CONSENSUS STATEMENT

Pre-discharge and early post-discharge management of patients hospitalized for acute heart failure: A scientific statement by the Heart Failure Association of the ESC

Acute heart failure is a major cause of urgent hospitalizations. These are followed by marked increases in death and rehospitalization rates, which then decline exponentially though they remain higher than in patients without a recent hospitalization. Therefore, optimal management of patients with acute heart failure before discharge and in the early post-discharge phase is critical. First, it may prevent rehospitalizations through the early detection and effective treatment of residual or recurrent congestion, the main manifestation of decompensation. Second, initiation at pre-discharge and titration to target doses in the early post-discharge period, of guideline-directed medical therapy may improve both short- and long-term outcomes. Third, in chronic heart failure, medical treatment is often left unchanged, so the acute heart failure hospitalization presents an opportunity for implementation of therapy. The aim of this scientific statement by the Heart Failure Association of the European Society of Cardiology is to summarize recent findings that have implications for clinical management both in the pre-discharge and the early post-discharge phase after a hospitalization for acute heart failure.

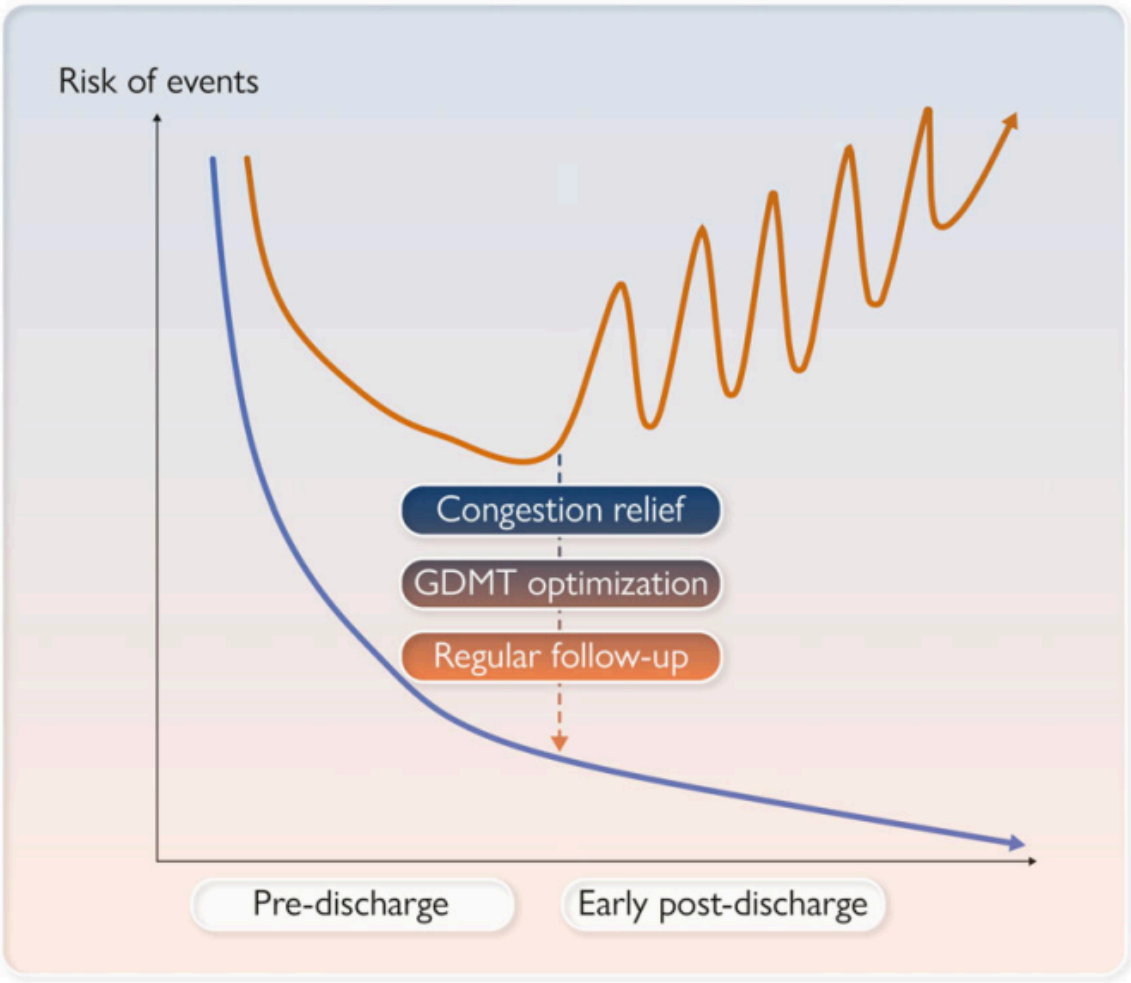
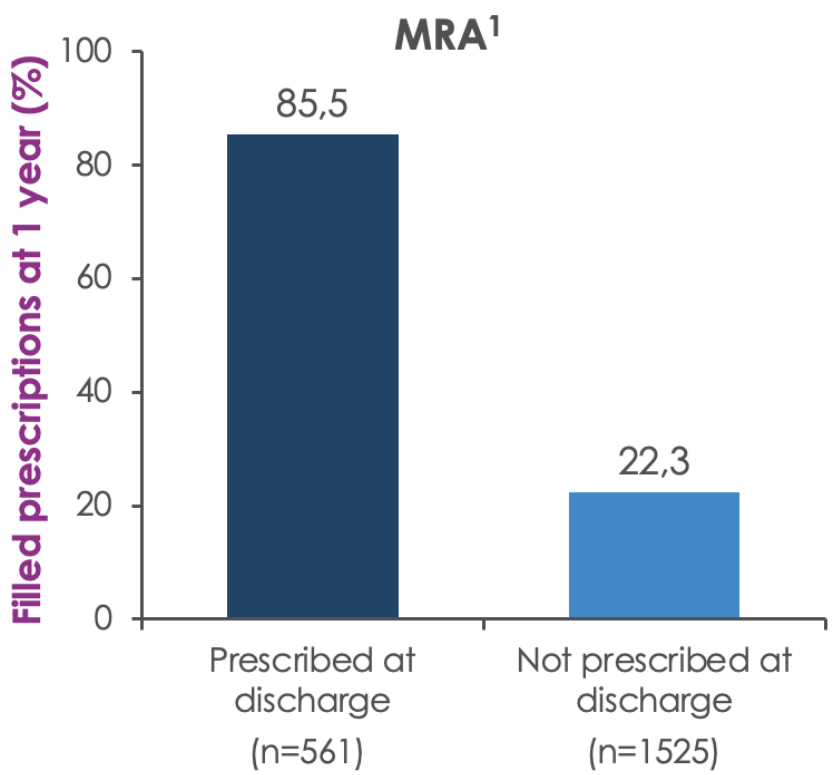


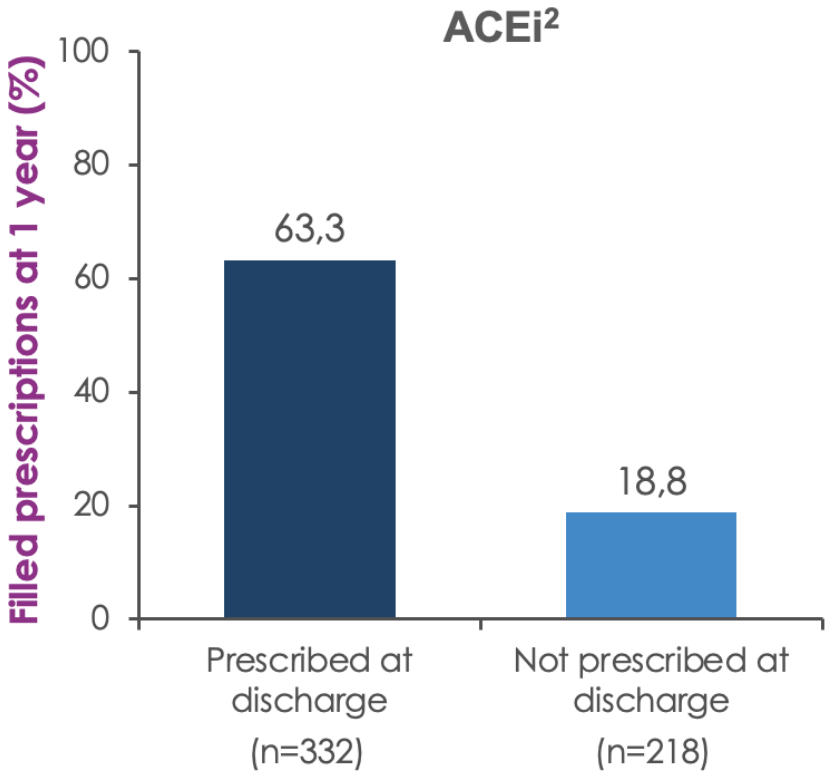
Figure 1 Determinants of better outcome after discharge. Optimal decongestion, optimization of guideline-directed medical therapy (GDMT) and intensive post-discharge monitoring reduce mortality and new heart failure events after discharge.

2023 ESC Heart Failure Focused Update: Pre-Discharge and Early Post-Discharge Follow-Up of Patients Hospitalized for Acute HF

Recommendation	Class[a]	Level[b]
An intensive strategy of initiation and rapid up-titration of evidence-based treatment before discharge and during frequent and careful follow-up visits in the first 6 weeks following a HF hospitalization is recommended to reduce the risk of HF rehospitalization or death[c,d,e]	I	B

Early treatment initiation in the hospital is associated with improved adherence



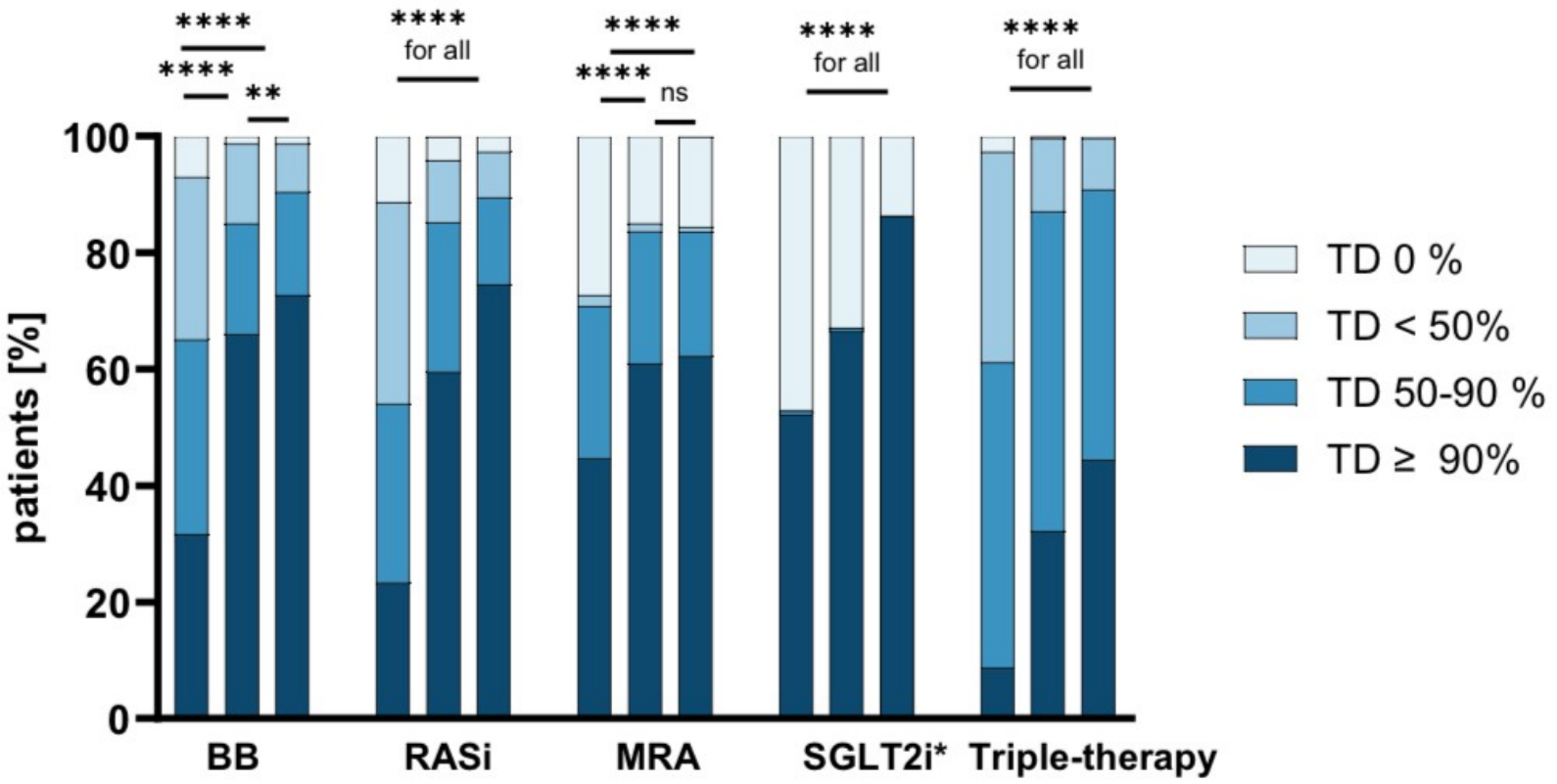


biomedicines

MDPI

Article

Implementation of Medical Therapy in Different Stages of Heart Failure with Reduced Ejection Fraction: An Analysis of the VIENNA-HF Registry



ESC HEART FAILURE
ESC Heart Failure (2025)
Published online in Wiley Online Library (wileyonlinelibrary.com) **DOI:** 10.1002/ehf2.15398

STUDY DESIGN

Digital implementation strategy to increase SGLT2 inhibitor uptake in heart failure: Study design of EMAIL-HF

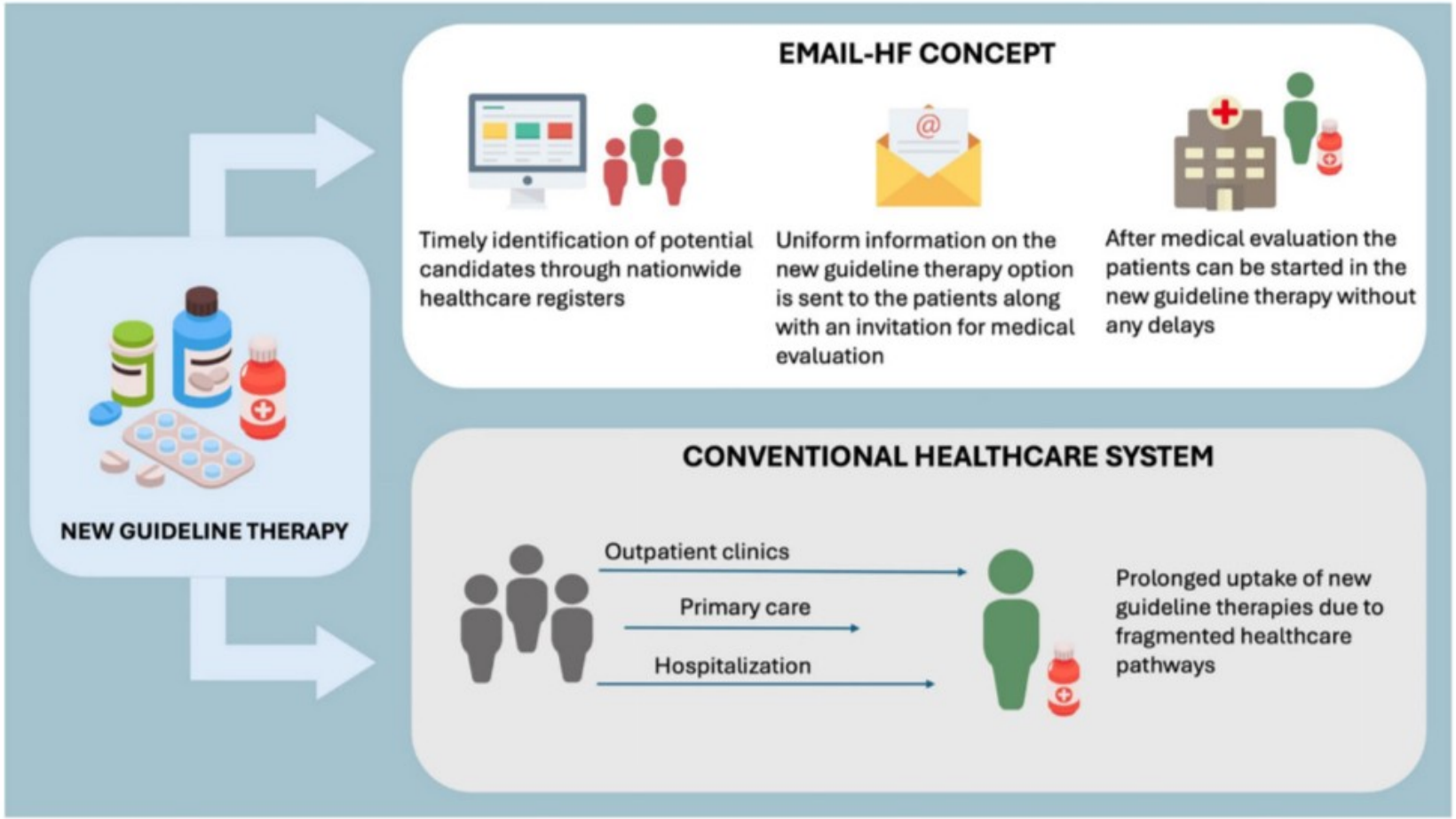
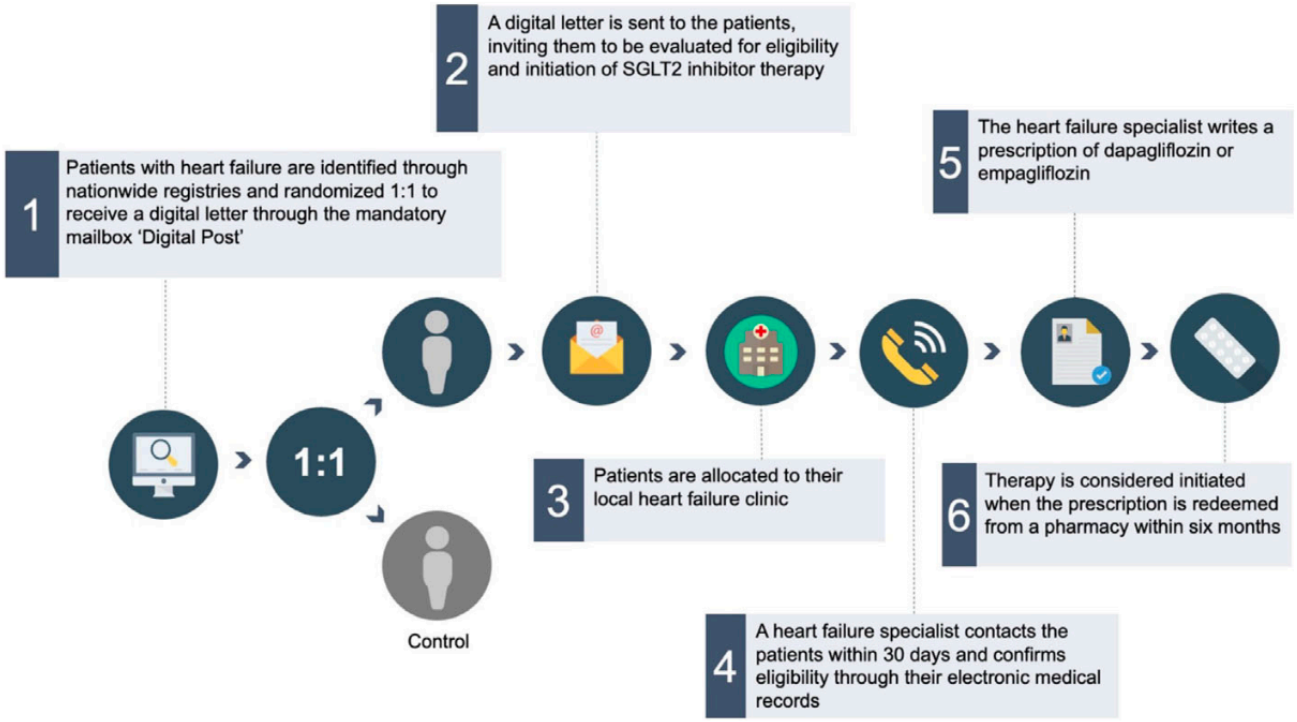


Figure 2 Simplified study design.



Region Hovedstaden

REGION SJÆLLAND – vi er til for dig

Date:

New treatment option for patients with heart failure

Dear '"Name Surname"

We are contacting you because you are registered with a diagnosis of heart failure in the Danish National Patient Register.

Heart failure is a serious condition that can have a significant impact on daily life for many patients. With heart failure, patients may experience symptoms such as physical exhaustion, shortness of breath, dizziness, and fluid buildup in the legs.

In 2021, a new and groundbreaking medication, "SGLT2 inhibitors", for the treatment of heart failure was approved in Denmark, as well as in the rest of Europe and the United States. Evidence has shown that SGLT2 inhibitors can:

- Improve quality of life and reduce symptoms of heart failure
- Reduce the risk of death or hospitalization due to heart failure
- Reduce the risk of developing other cardiovascular diseases
- Protect and improve the kidney function

You now have the opportunity to be contacted by a heart failure specialist to learn more about this medication and explore your options for starting treatment, even if you do not currently have heart failure symptoms. Click the link below to provide your contact information and give consent for us to contact you.

Click on the link

www.personal-weblink.dk

The link is personal and may not be shared

Sincerely,

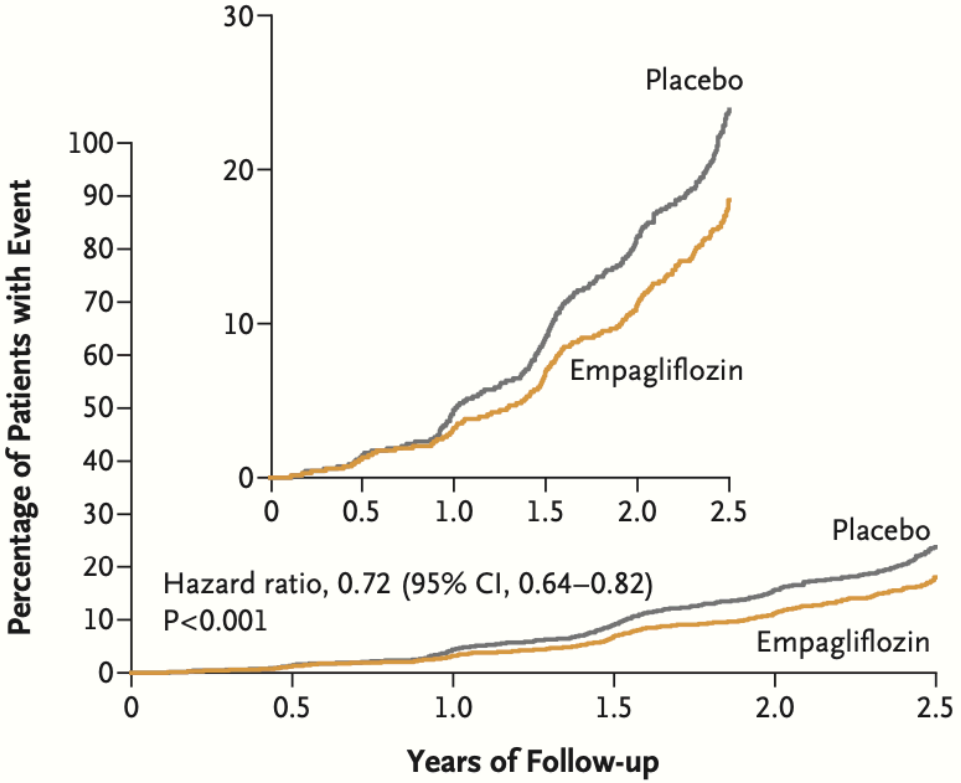
Morten Schou, clinical professor, and heart failure specialist
Department Of Cardiology, Herlev-Gentofte Hospital
E-mail: hgh-fp-hjertesvigt@regionh.dk

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Empagliflozin in Patients with Chronic Kidney Disease

The EMPA-KIDNEY Collaborative Group*



No. at Risk

Placebo	3305	3250	3129	2243	1496	592
Empagliflozin	3304	3252	3163	2275	1538	624

Figure 1. Progression of Kidney Disease or Death from Cardiovascular Causes.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Empagliflozin in Patients with Chronic Kidney Disease

The EMPA-KIDNEY Collaborative Group*

METHODS

We enrolled patients with chronic kidney disease who had an estimated glomerular filtration rate (eGFR) of at least 20 but less than 45 ml per minute per 1.73 m^2 of body-surface area, or who had an eGFR of at least 45 but less than 90 ml per minute per 1.73 m^2 with a urinary albumin-to-creatinine ratio (with albumin measured in milligrams and creatinine measured in grams) of at least 200. Patients

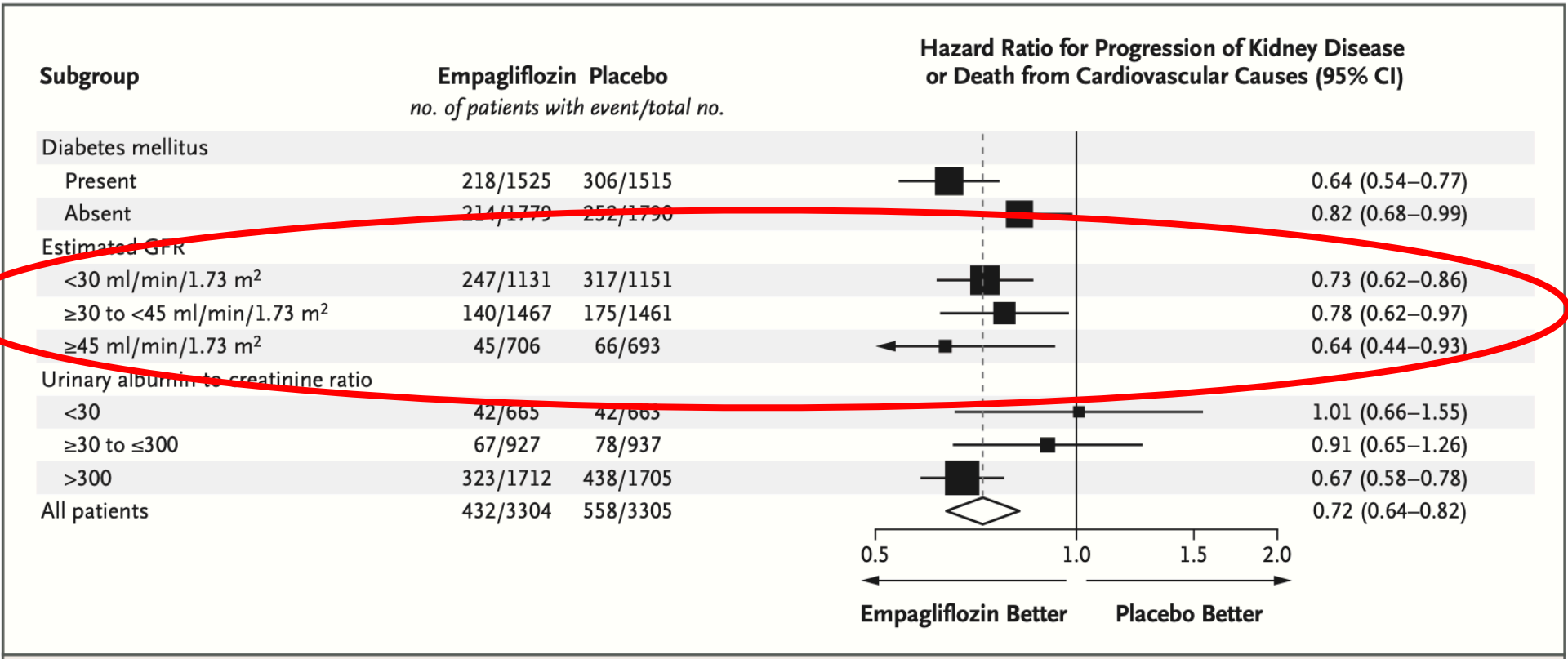


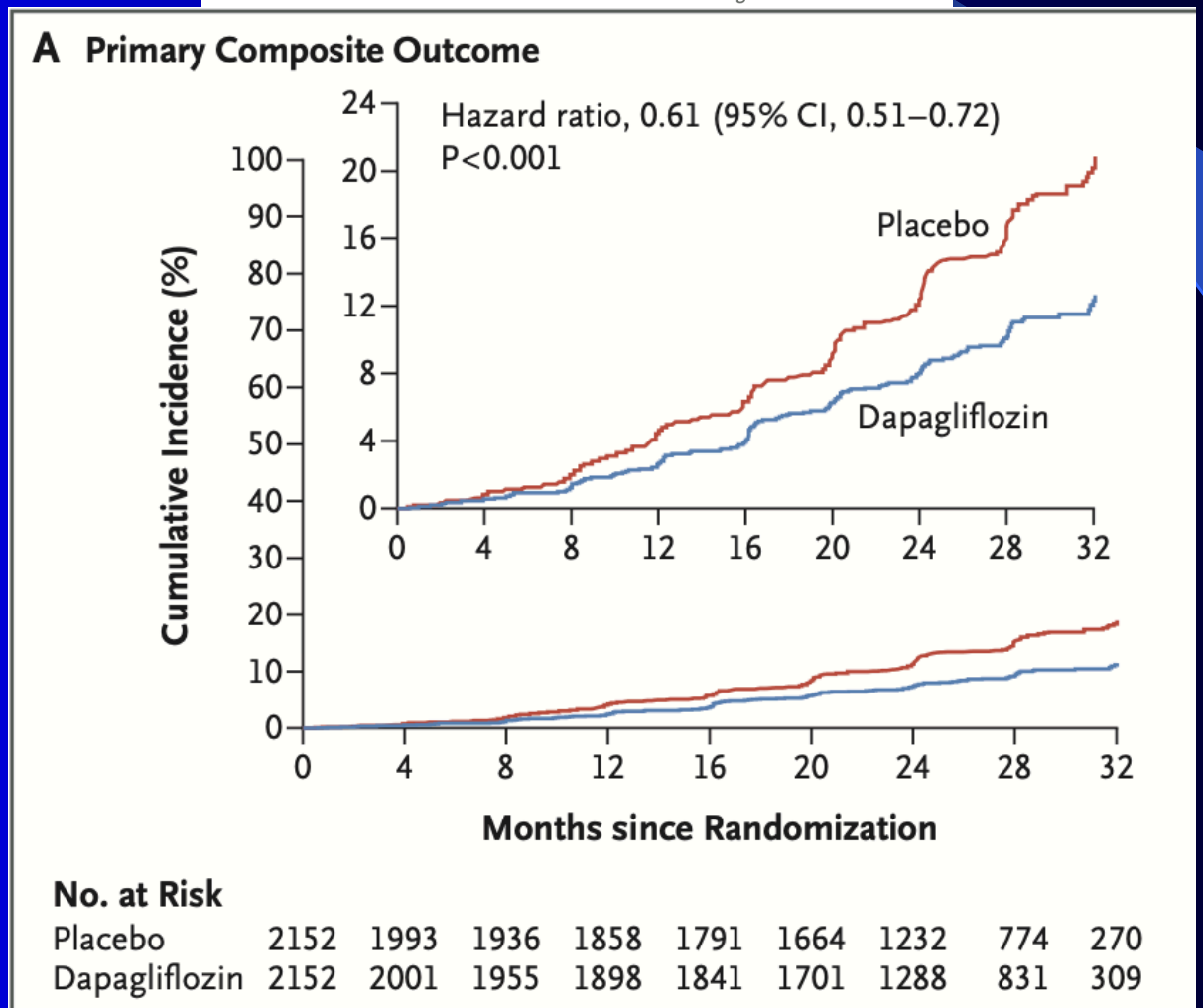
Figure 2. **Primary Outcome in Key Prespecified Subgroups.**

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Dapagliflozin in Patients with Chronic Kidney Disease

Hiddo J.L. Heerspink, Ph.D., Bergur V. Stefánsson, M.D., Ricardo Correa-Rotter, M.D., Glenn M. Chertow, M.D., Tom Greene, Ph.D., Fan-Fan Hou, M.D., Johannes F.E. Mann, M.D., John J.V. McMurray, M.D., Magnus Lindberg, M.Sc., Peter Rossing, M.D., C. David Sjöström, M.D., Roberto D. Toto, M.D., Anna-Maria Langkilde, M.D., and David C. Wheeler, M.D., for the DAPA-CKD Trial Committees and Investigators*



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Dapagliflozin in Patients with Chronic Kidney Disease

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METHODS

We randomly assigned 4304 participants with an estimated glomerular filtration rate (GFR) of 25 to 75 ml per minute per 1.73 m^2 of body-surface area and a urinary albumin-to-creatinine ratio (with albumin measured in milligrams and creatinine measured in grams) of 200 to 5000 to receive dapagliflozin (10 mg once daily) or placebo. The primary outcome was a composite of a sustained decline in

Subgroup	Dapagliflozin	Placebo	Hazard Ratio (95% CI)
	no. of participants/total no.		
All participants	197/2152	312/2152	0.61 (0.51–0.72)
Age			
≤65 yr	122/1247	191/1239	0.64 (0.51–0.80)
>65 yr	75/905	121/913	0.58 (0.43–0.77)
Sex			
Male	126/1443	209/1436	0.57 (0.46–0.72)
Female	71/709	103/716	0.65 (0.48–0.88)
Race			
White	110/1124	174/1166	0.62 (0.49–0.79)
Black	7/104	14/87	0.33 (0.13–0.81)
Asian	53/749	77/718	0.66 (0.46–0.93)
Other	27/175	47/181	0.54 (0.33–0.86)
Geographic region			
Asia	50/692	69/654	0.70 (0.48–1.00)
Europe	57/610	89/623	0.60 (0.43–0.85)
North America	35/401	69/412	0.51 (0.34–0.76)
Latin America	55/449	85/463	0.61 (0.43–0.86)
Type 2 diabetes			
Yes	152/1455	229/1451	0.64 (0.52–0.79)
No	45/697	83/701	0.50 (0.35–0.72)
Estimated GFR			
<45 ml/min/1.73 m^2	152/1272	217/1250	0.63 (0.51–0.78)
≥45 ml/min/1.73 m^2	45/880	95/902	0.49 (0.34–0.69)
Urinary albumin-to-creatinine ratio			
≤1000	44/1104	84/1121	0.54 (0.37–0.77)
>1000	153/1048	228/1031	0.62 (0.50–0.76)
Systolic blood pressure			
≤130 mm Hg	46/793	96/749	0.44 (0.31–0.63)
>130 mm Hg	151/1359	216/1403	0.68 (0.56–0.84)

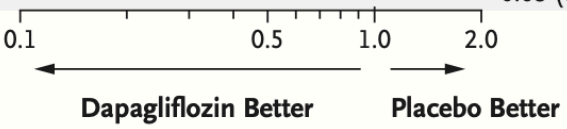
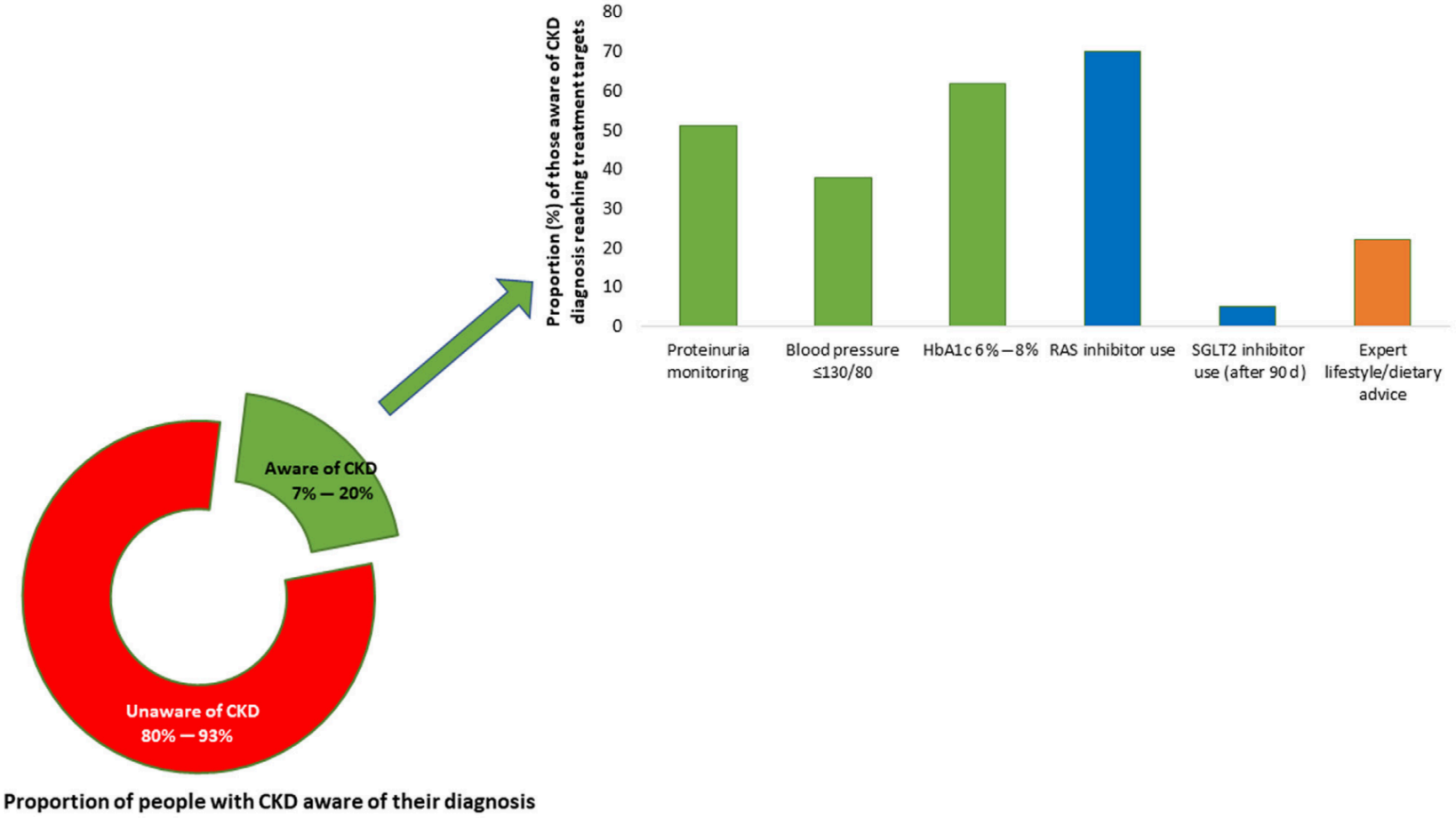


Figure 2. Primary Outcome According to Prespecified Subgroups at Baseline.

KI REPORTS
KIReports.org
EDITORIAL: SPECIAL REPORT

Mind the Gap in Kidney Care: Translating What We Know into What We Do

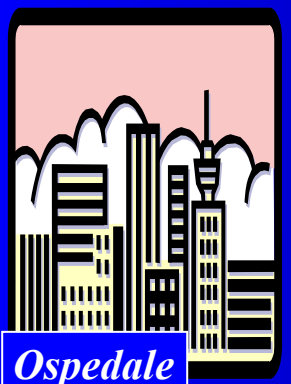
Valerie A. Luyckx[1,2,3,18], Katherine R. Tuttle[4,5,18], Dina Abdellatif[6], Ricardo Correa-Rotter[7], Winston W.S. Fung[8], Agnès Haris[9], Li-Li Hsiao[2], Makram Khalife[10,19], Latha A. Kumaraswami[11], Fiona Loud[10,19], Vasundhara Raghavan[10,19], Stefanos Roumeliotis[12], Marianella Sierra[10,19], Ifeoma Ulasi[13], Bill Wang[10,19], Siu-Fai Lui[14], Vassilios Liakopoulos[15] and Alessandro Balducci[16]; for the World Kidney Day Joint Steering Committee[17]



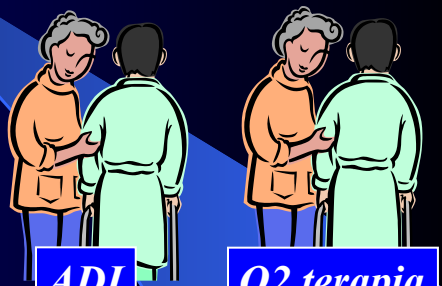
Cardiologo

MMG

MMG



Ospedale



ADI

O2 terapia

Nurse

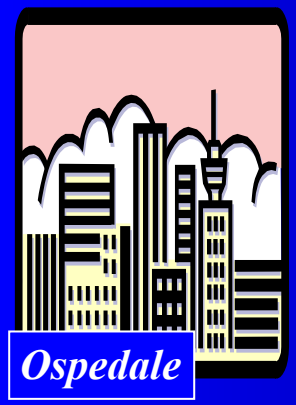
Nurse

Nurse

Nefrologo

Domicilio

Centri Educazione ed Informazione



Ospedale

Diabet
ologo

Nefrologo

GRAZIE PER
L'ATTENZIONE

nte

ADI

Domicilio

Paziente