

Effect of Dapagliflozin on Health Status & Quality-of-Life Across the Spectrum of Ejection Fraction: from the DAPA-HF & DELIVER Trials

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Disclosures

No relevant disclosures.

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Background and Rationale

- **Patients with heart failure (HF) experience a high burden of symptoms and physical limitations, and a poor quality-of-life regardless of left ventricular ejection fraction (LVEF).**
- **Improving health status and quality-of-life is a central goal in the treatment of HF.**
- **Pooled data from other SGLT2i programs in HF have demonstrated improvements in health status, but these appeared attenuated in patients at the highest ranges of LVEF.**
- **Whether favorable effects of dapagliflozin on health status and quality-of-life in HF are present equally across the LVEF spectrum has not been as fully elucidated.**

Therefore, we used pooled, participant-level data from DAPA-HF & DELIVER to examine the effects of dapagliflozin health status across the full spectrum of LVEF.

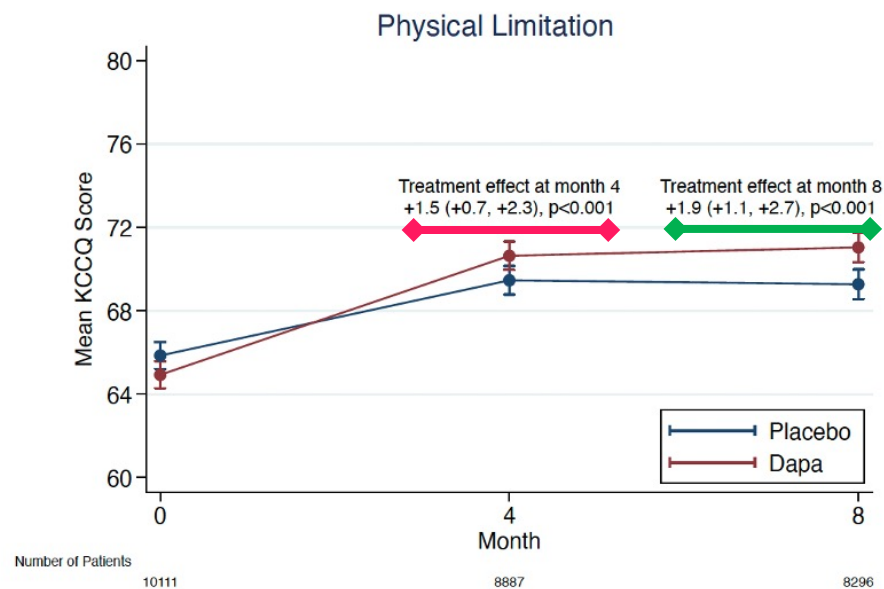
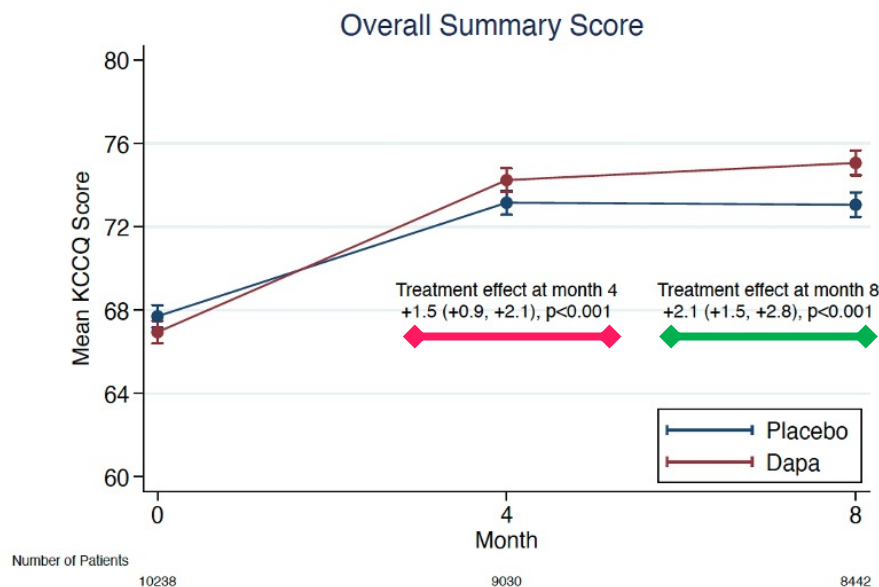
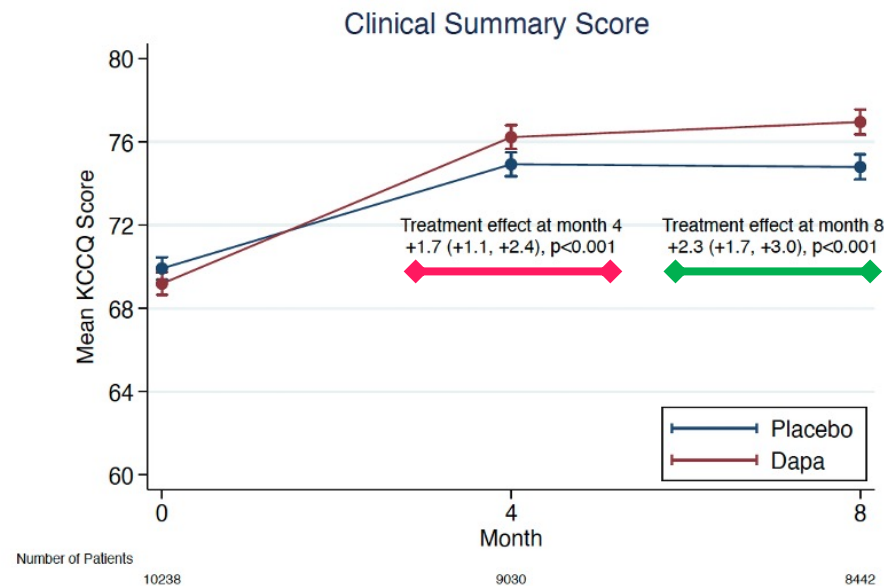
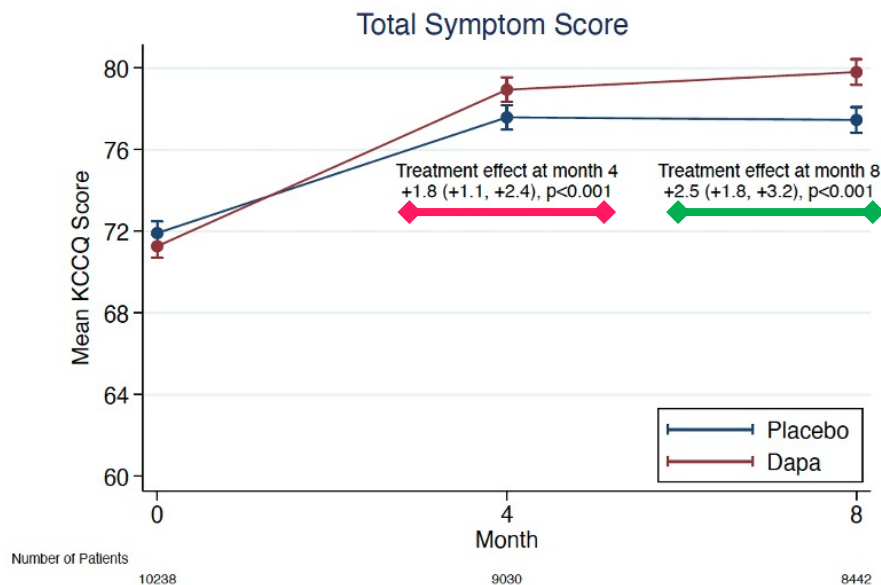
Methods

- We evaluated mean change in KCCQ at 4- and 8-months post randomization using pooled data from both trials. KCCQ-TSS was a prespecified secondary outcome.
- The relationship between baseline KCCQ-TSS, -CSS, -OSS, -PLS and LVEF was modeled as a continuous variable using restricted cubic splines.
- A responder analysis compared the proportion of dapagliflozin- and placebo-treated participants with **meaningful deteriorations (≥ 5 point decline) and small, moderate, and large improvements (≥ 5 , ≥ 10 , and ≥ 15 -point increases, respectively) in KCCQ-TSS.**
 - Models were generated across baseline LVEF categories: $\leq 40\%$, 41-60%, and $>60\%$.
- Using previously derived methods, KCCQ-TSS trajectory preceding a HF hospitalization (irrespective of treatment assignment) was modeled using cubic splines across both trial populations.

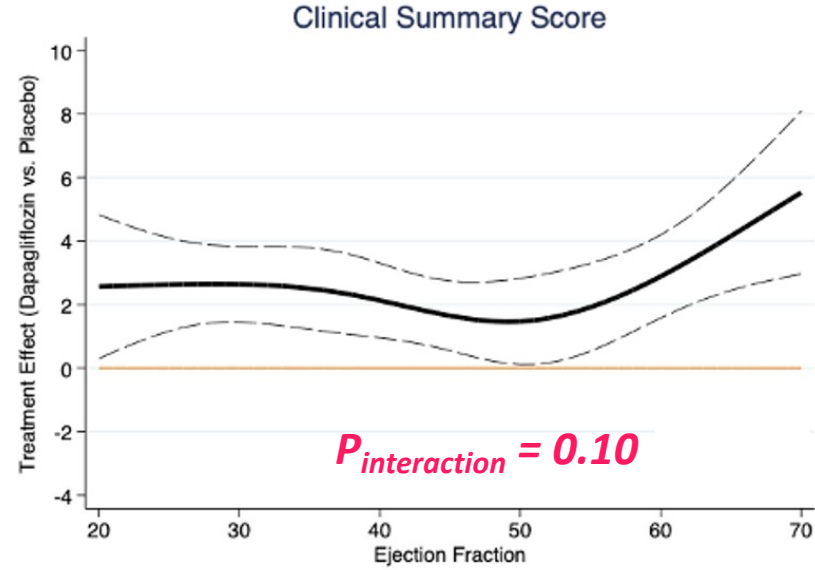
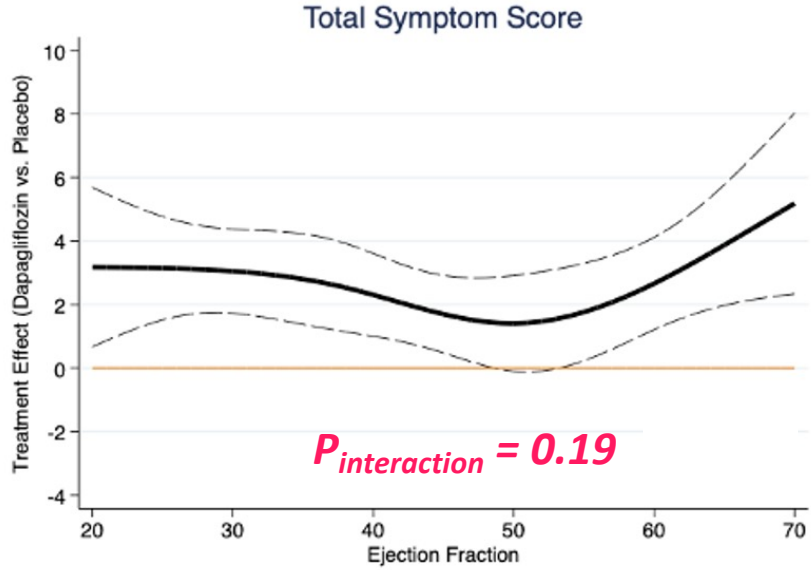
KCCQ at Baseline by Ejection Fraction

KCCQ Domain Median [25 th , 75 th]	Overall (n=11,007)	LVEF ≤ 40% (n=4,747)	LVEF 41-60% (n=4,865)	LVEF > 60 (n=1,395)	P-value
Total Symptom Score (TSS)	75 [57, 90]	77 [58, 92]	73 [55, 88]	73 [54, 88]	0.001
Clinical Summary Score (CSS)	72 [56, 86]	74 [57, 88]	71 [54, 85]	71 [53, 85]	0.001
Overall Summary Score (OSS)	70 [53, 84]	71 [54, 85]	68 [53, 82]	70 [53, 83]	0.001
Physical Limitation Score (PLS)	67 [50, 83]	71 [50, 88]	67 [50, 83]	67 [46, 83]	0.014

Mean Changes in KCCQ Across LVEF

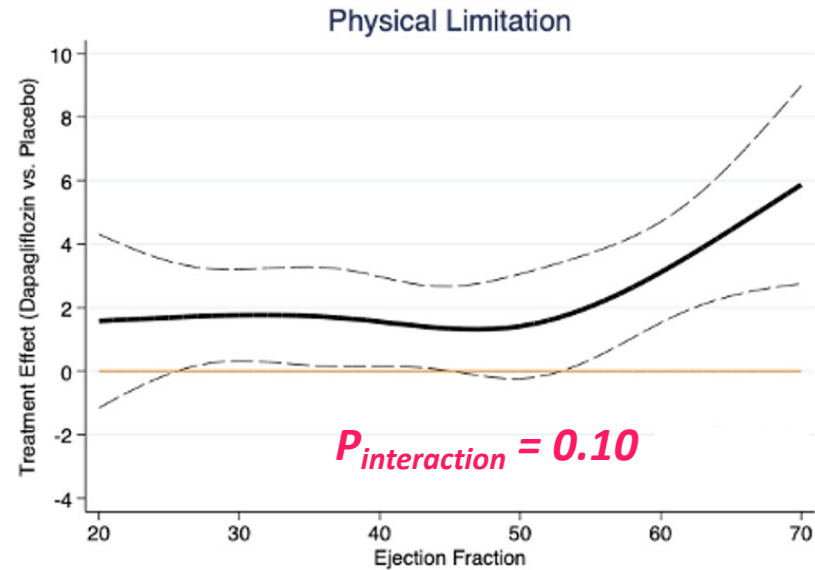
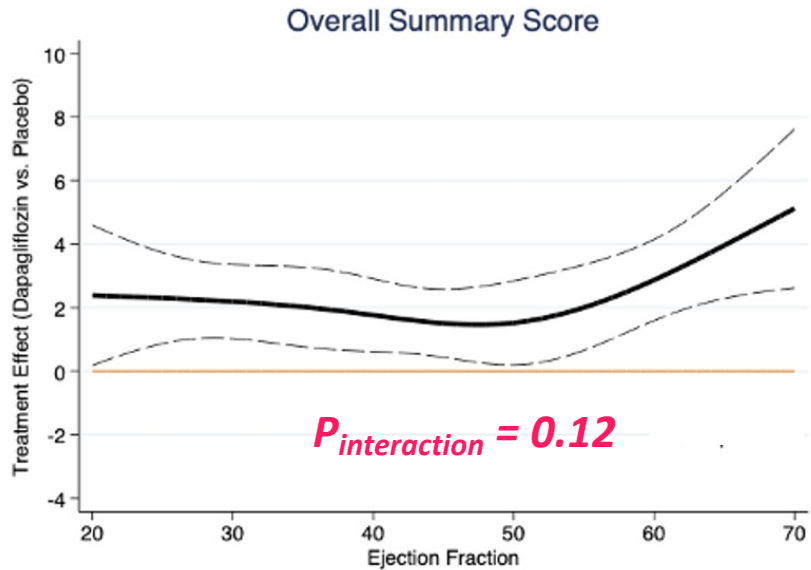


Improvements in Health Status with Dapagliflozin Across LVEF



Improved Health Status

Worsening Health Status



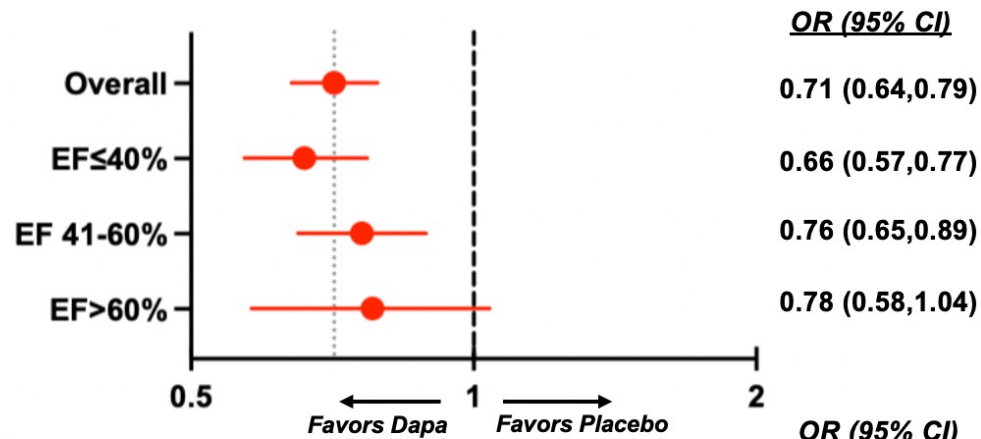
Improved Health Status

Worsening Health Status

Odds of Deterioration or Improvement in KCCQ-TSS (8 months)

$NN_{Benefit} = 16$

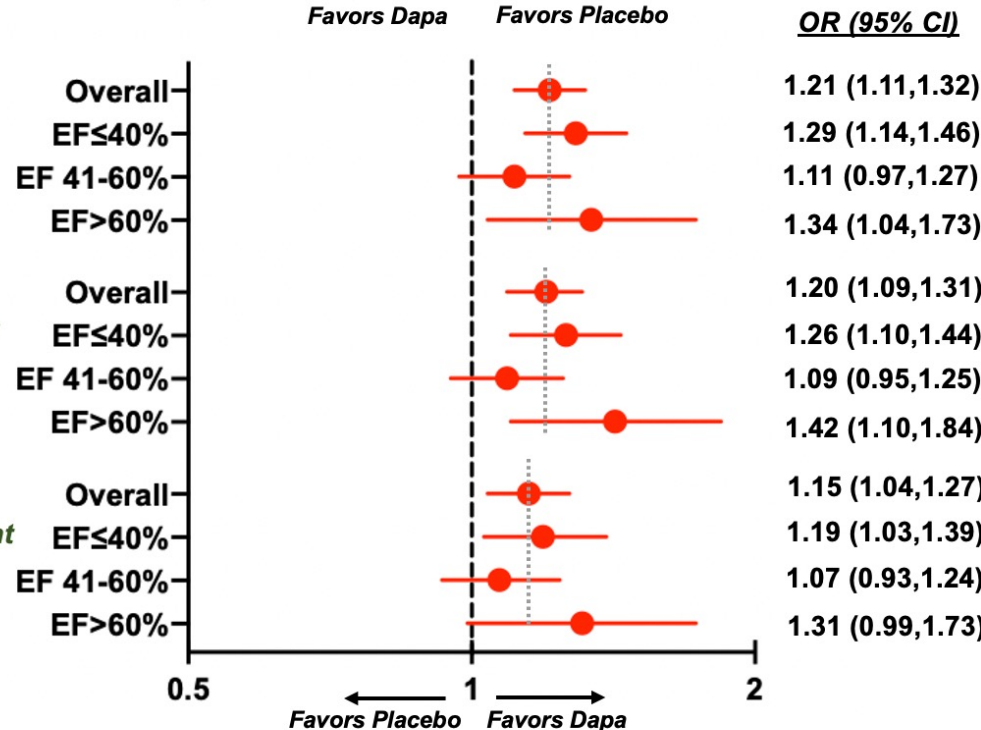
*Deterioration
(5+ point decline)*



P-interaction = 0.20

$NN_{Benefit} = 20$

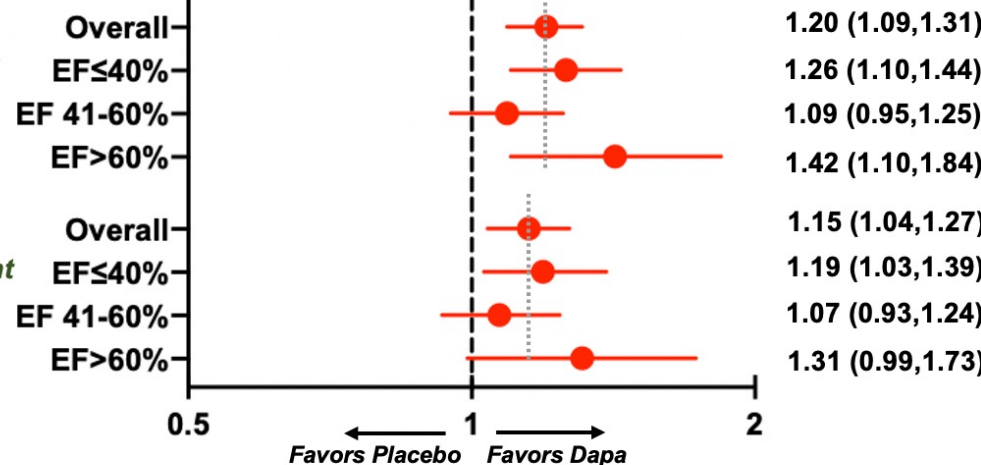
*At Least Small
Improvement
(5+ points)*



P-interaction = 0.64

$NN_{Benefit} = 24$

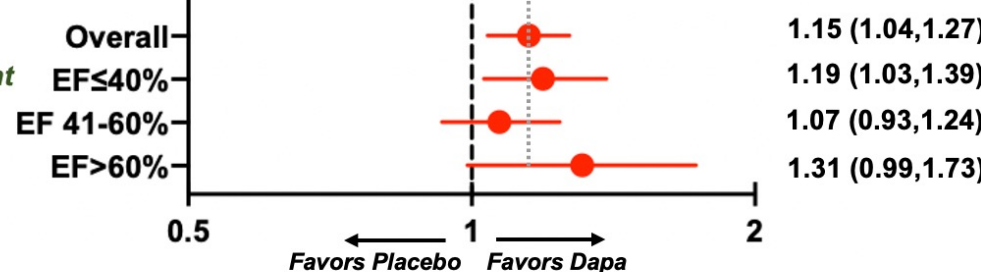
*At Least Moderate
Improvement
(10+ points)*



P-interaction = 0.97

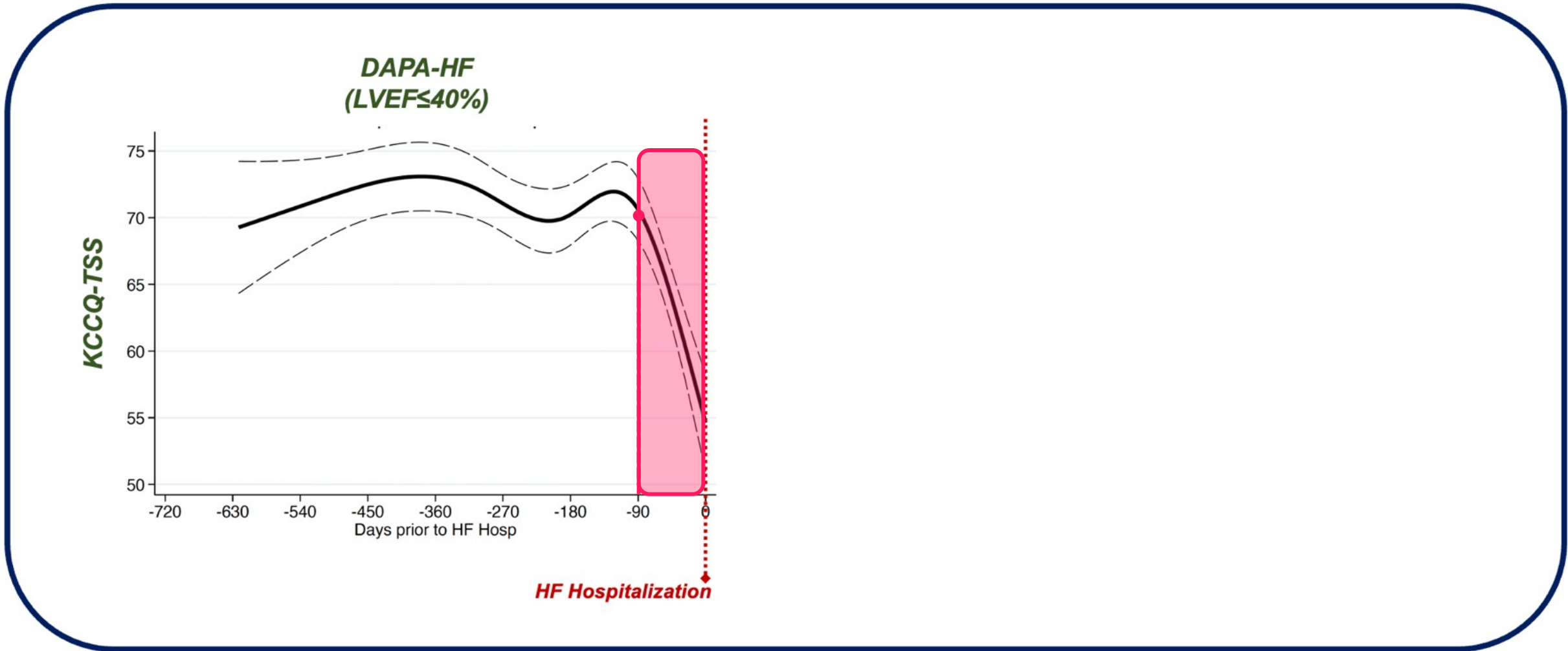
$NN_{Benefit} = 37$

*Large Improvement
(15+ points)*



P-interaction = 0.94

Declines in KCCQ Precede HF Hospitalization



Conclusions

- Dapagliflozin **improved health status** as measured by multiple KCCQ domains at 4- and 8-months post randomization.
- Improvements in health status were **observed consistently across the full range of LVEF**, including in those with LVEF above 60%.
- Patients randomized to dapagliflozin were **less likely to experience meaningful deteriorations** and **more likely to experience small, moderate, and large improvements** in health status compared to those randomized to placebo; these beneficial effects were also observed consistently across the full range of LVEF.
- **KCCQ steeply declined prior to HF hospitalization**, with declines evident up to 3 months preceding the clinical event in patients with HFrEF & HFmrEF/HFpEF.

These data support treatment with dapagliflozin to improve symptoms and quality-of-life in patients with HF across the full spectrum of LVEF.

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Use of inotropes in advanced heart failure. From Gustafsson et al. Eur J Heart Fail 2020, see figure 1 legend on page 459

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