Brigham and Women's Hospital
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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Scientific Sessions

HEALTH-RELATED QUALITY OF LIFE ACROSS THE SPECTRUM OF CARDIOVASCULAR-KIDNEY-METABOLIC SYNDROME: INSIGHTS FROM PARTICIPANT-LEVEL POOLED ANALYSIS OF 3 GLOBAL TRIALS

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Robert I. Levy Memorial Lecture and Lifestyle and Cardiometabolic Health Early Career Investigator Award Competition

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American Heart Association.

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BACKGROUND

- ✓ Cardiovascular–kidney–metabolic (CKM) syndrome integrates cardiovascular disease, chronic kidney disease, and diabetes, which collectively represent a substantial global burden.[1, 2]
- ✓ Individuals with CKM conditions have a high risk of adverse clinical events and mortality.[3, 4]
- ✓ However, health-related quality-of-life (HRQoL) among individuals with CKM conditions and the effects of evidence-based therapies with established cardiovascular and kidney benefits on HRQoL remain incompletely understood.

1. *Circulation. 2026;154:e50-e158*, 2. *JAMA. 2024;331:1858-1860*, 3. *Circulation. 2026;153:1268-1280*, 4. *J Am Coll Cardiol. 2024;84:223-228.*

OBJECTIVES

1. Characterize baseline HRQoL among individuals with CKM conditions

2. Assess the association between HRQoL and clinical outcomes

3. Evaluate the effects of the nonsteroidal mineralocorticoid receptor antagonist finerenone on longitudinal changes in HRQoL

Nat Med. 2024;30:3758-64.

FINEHEART

FIDELIO-DKD

NEJM. 2020;383:2219-29.

FIGARO-DKD

NEJM. 2021;385:2252-63.

FINEARTS-HF

NEJM. 2024;391:1475-85.

METHODS

In FINE-HEART analysis[1], we pooled participant-level data from 3 randomized placebo-controlled trials of finerenone in CKM conditions

- 2 trials of chronic kidney disease and type 2 diabetes (FIDELIO-DKD[2] and FIGARO-DKD[3])
- 1 trial of HF with mildly reduced or preserved ejection fraction (FINEARTS-HF[4])

FIDELIO-DKD FIGARO-DKD

- ✓ Age ≥18 years
- ✓ Type 2 diabetes
- ✓ Albuminuria (UACR ≥30 mg/g)
- ✓ Maximally tolerated RASi

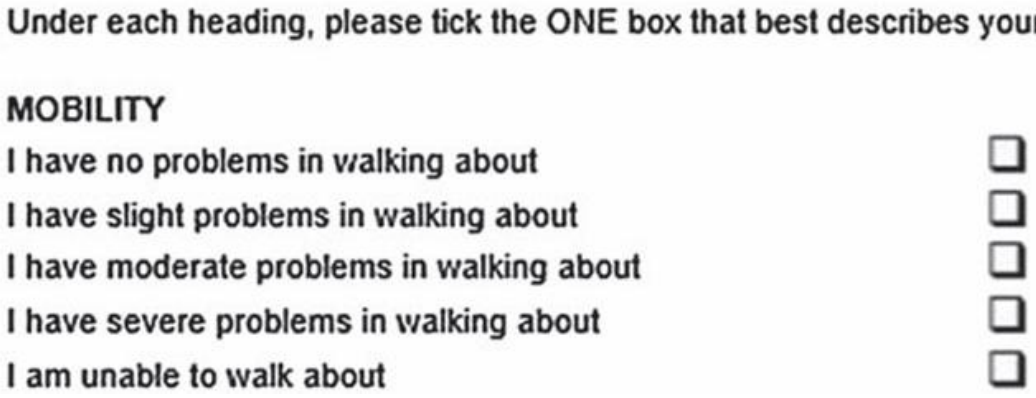
FINEARTS-HF

- ✓ Age ≥40 years
- ✓ Symptomatic HF (NYHA II-IV)
- ✓ LVEF ≥40%
- ✓ Elevated NT-proBNP levels

1. *Nat Med. 2024;30:3758-64*, 2. *NEJM. 2020;383:2219-29*, 3. *NEJM. 2021;385:2252-63*, 4. *NEJM. 2024;391:1475-85.*

METHODS

- ✓ In all 3 trials, HRQoL was assessed by the EuroQol 5-dimension, 5-level questionnaire (EQ-5D-5L) at baseline and 12 months.
- ✓ The EQ-5D-5L includes a descriptive system covering five dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), each with five levels of severity.[1]



Under each heading, please tick the ONE box that best describes your health

MOBILITY

I have no problems in walking about ☐

I have slight problems in walking about ☐

I have moderate problems in walking about ☐

I have severe problems in walking about ☐

I am unable to walk about ☐

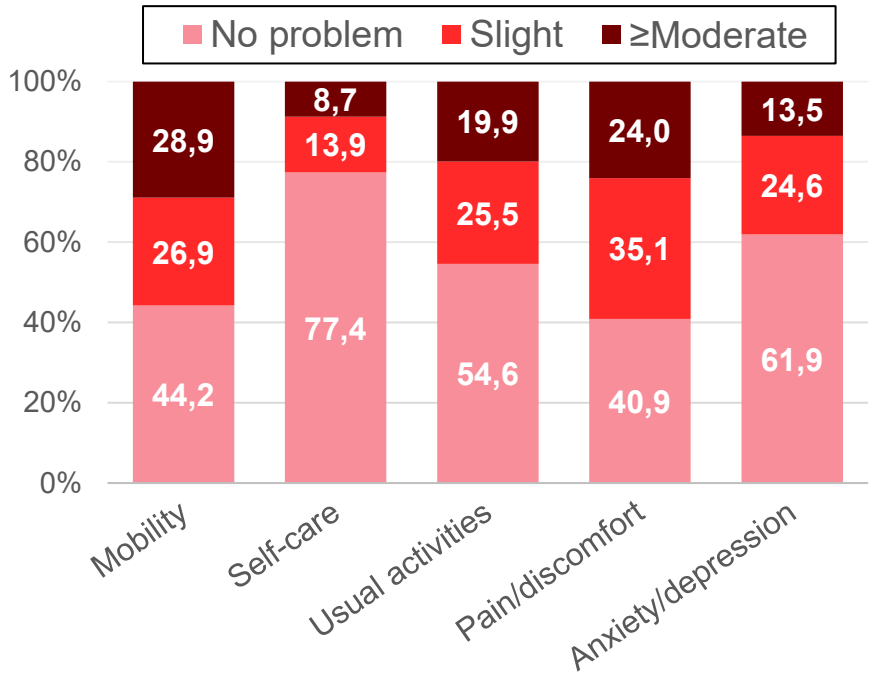
The 5^5 (=3,125) possible health-state profiles are converted into a single summary score (EQ-5D-5L utility index) using a national valuation set.[2-4]

1. *Qual Life Res. 2011;20:1727-1736*, 2. *Value Health. 2012;15:708-715*, 3. *Med Care. 1997;35:1095-1108*, 4. *Med Care. 2005;43:203-220.*

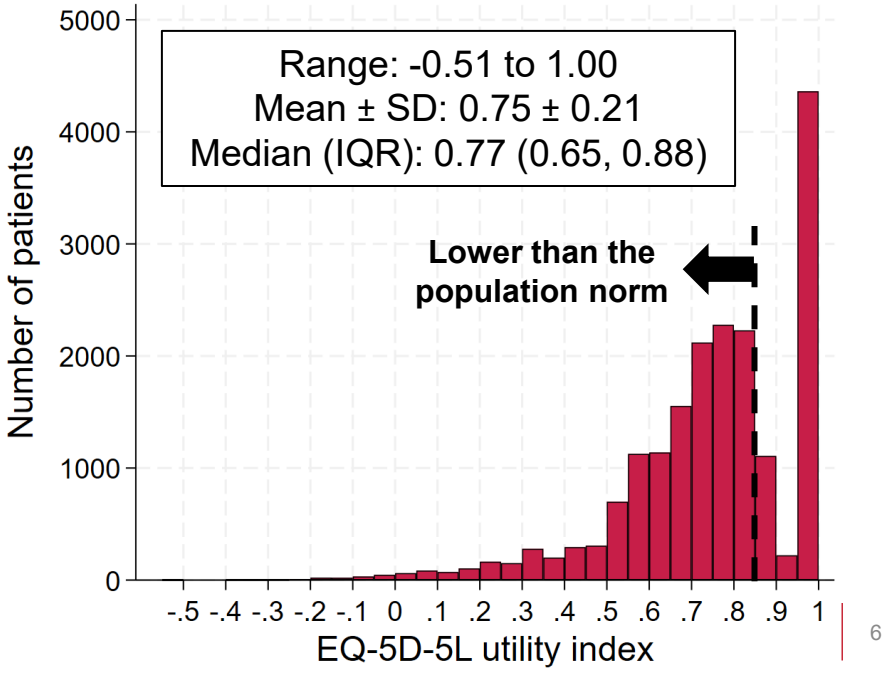
HRQoL impairment in CKM conditions

- ✓ Of 18,991 participants in FINE-HEART, 18,694 (98%) had available baseline EQ-5D-5L data (mean age, 67±10 years; 35% women).

Distribution of EQ-5D-5L components



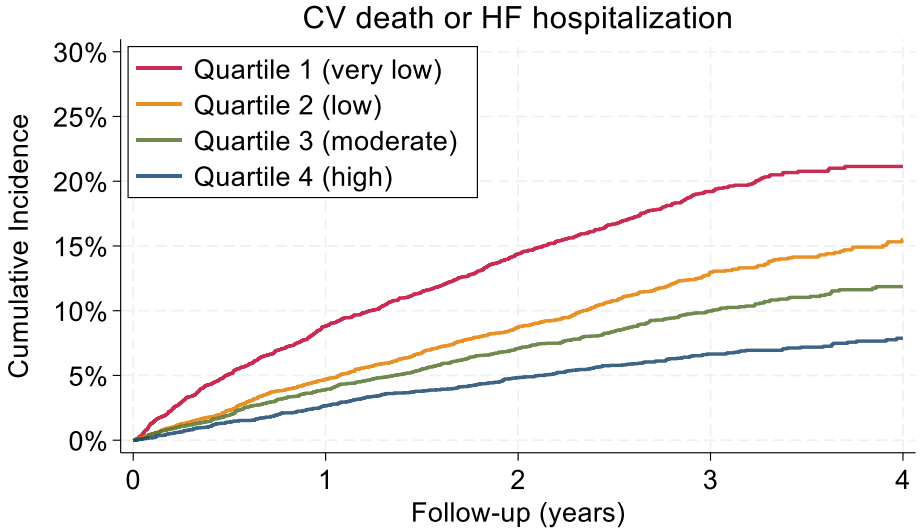
Distribution of EQ-5D-5L utility index

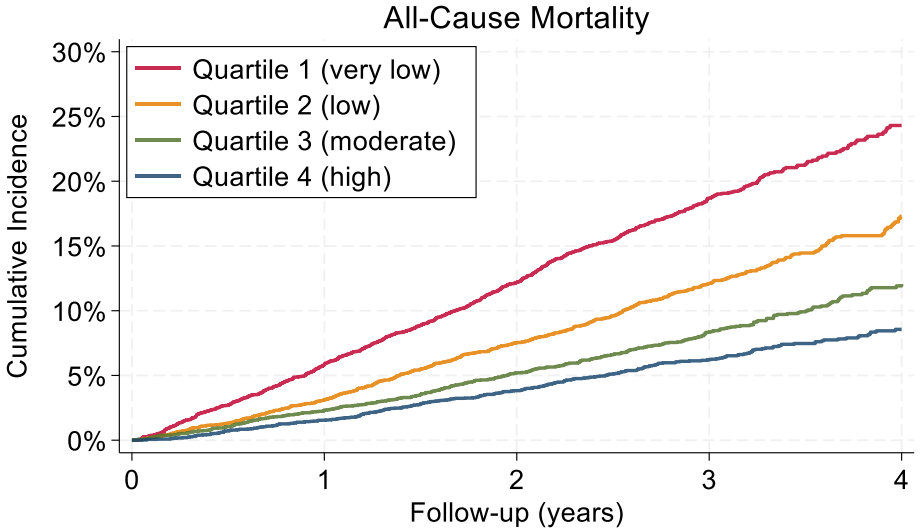


Baseline characteristics

	Quartile 1 (Very low: -0.510 to 0.648)	Quartile 2 (Low: 0.649 to 0.767)	Quartile 3 (Moderate: 0.768 to 0.879)	Quartile 4 (High: 0.883 to 1.000)	P for trend
	n=4,805	n=4,847	n=4,436	n=4,606	
Age (years)	68.9 ± 10.1	68.0 ± 9.8	66.4 ± 10.0	64.7 ± 10.2	<0.001
Women	49%	37%	29%	23%	<0.001
BMI (kg/m^2)	32.5 ± 6.7	31.4 ± 6.0	30.1 ± 5.7	29.3 ± 5.4	<0.001
Systolic BP (mmHg)	134 ± 15	135 ± 15	135 ± 15	134 ± 15	0.11
eGFR (ml/min/1.73m^2)	58.2 ± 20.8	58.2 ± 20.7	59.1 ± 21.3	60.9 ± 21.8	<0.001
HbA1c (%)	7.3 ± 1.5	7.3 ± 1.4	7.2 ± 1.4	7.3 ± 1.4	0.67
Atrial fibrillation	21%	15%	14%	10%	<0.001
Heart failure	52%	38%	33%	25%	<0.001
ASCVD	48%	45%	39%	34%	<0.001
Baseline EQ-5D-5L utility index	0.47 ± 0.18	0.72 ± 0.04	0.83 ± 0.04	0.99 ± 0.02	<0.001

Stepwise increase in outcomes by EQ-5D-5L quartile

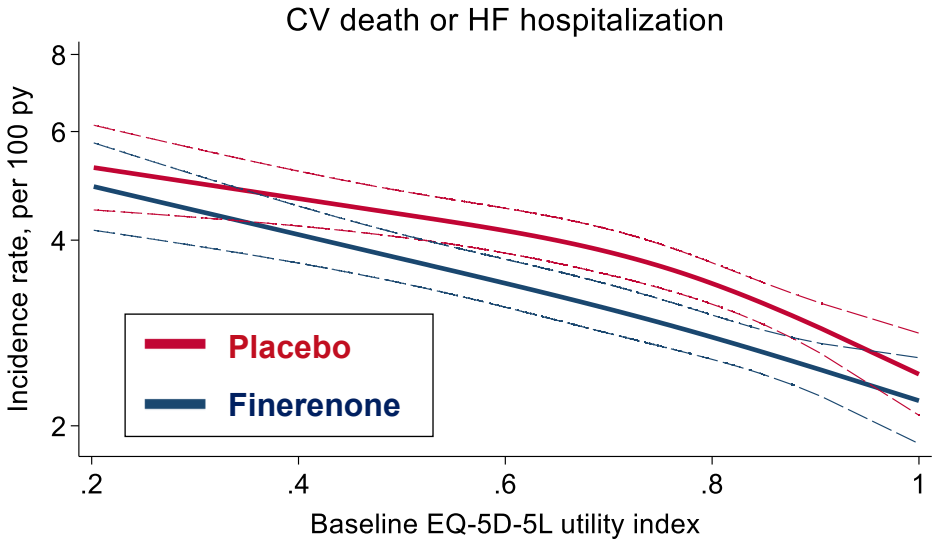


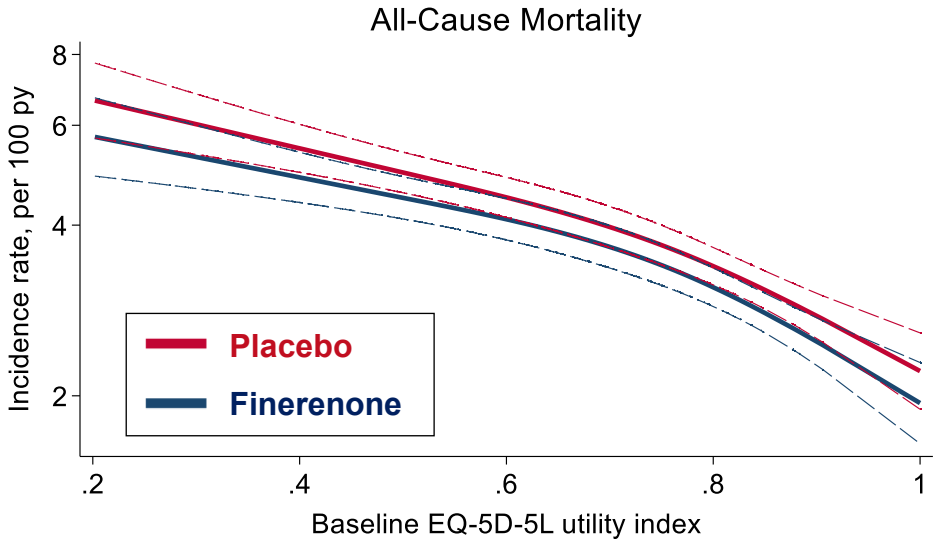


	Quartile 1 (Very low)	Quartile 2 (Low)	Quartile 3 (Moderate)	Quartile 4 (High)
CV death or HF hospitalization				
Adjusted HR (95%CI)*	1.95 (1.69-2.25)	1.49 (1.29-1.73)	1.31 (1.13-1.52)	Reference
All-cause mortality				
Adjusted HR (95%CI)*	2.28 (1.98-2.62)	1.63 (1.41-1.89)	1.20 (1.03-1.40)	Reference

*Adjusted for age, sex, BMI, eGFR, HbA1c, SBP, history of HF, AF, DM, CKD, ASCVD, and treatment arm, and stratified by trial and region

Outcomes by continuous EQ-5D-5L utility index



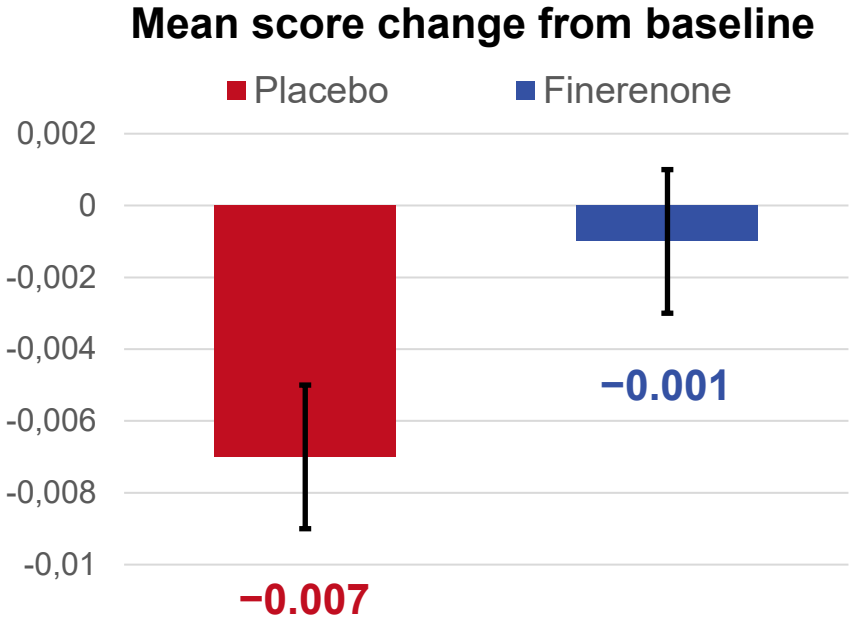


- Baseline EQ-5D-5L utility index was independently associated with the risk of key clinical outcomes
- The benefits of finerenone in reducing the risk of clinical outcomes were consistent across EQ-5D-5L utility index

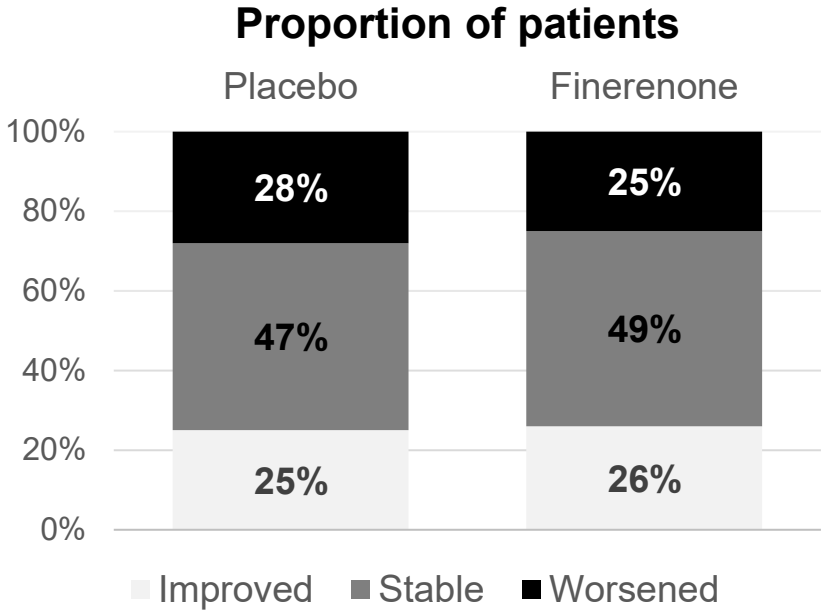
Finerenone preserved EQ-5D-5L at 12 months

Placebo-corrected difference: +0.006 (+0.001 to +0.011)*

Odds for improvement: 1.08 (1.01 to 1.14)

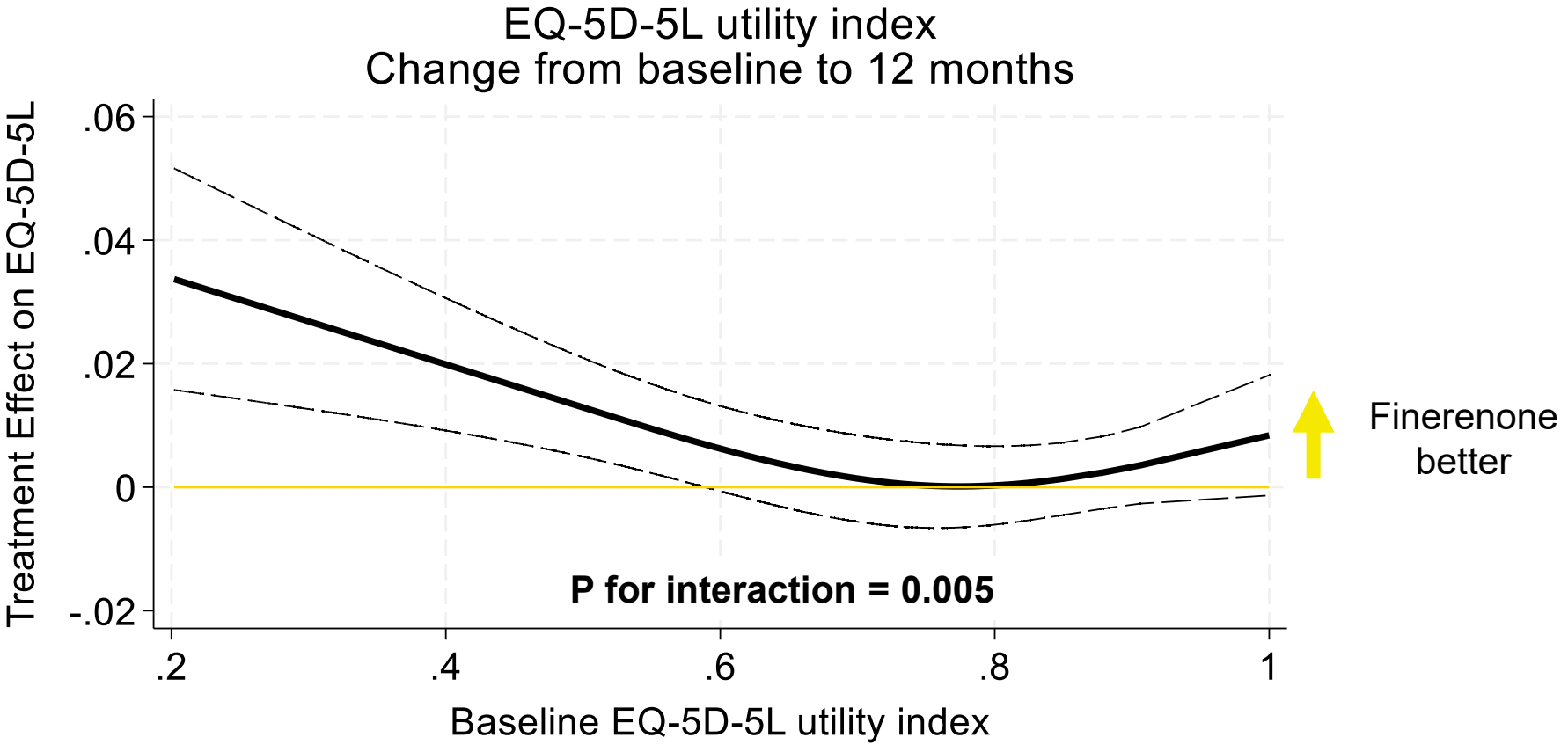


*Linear regression adjusted for region and trial



Improved or worsened was defined as a change ≥ the minimally important difference (0.074)

Greater improvement in poorer baseline HRQoL



SUMMARY

- ✓ Individuals with CKM conditions in the FINE-HEART pooled cohort exhibited HRQoL impairments that spanned multiple domains.
- ✓ Worse HRQoL was independently associated with a higher risk of adverse clinical outcomes.
- ✓ Finerenone appeared to modestly improve HRQoL, with greater improvements observed among those with lower baseline HRQoL.

These findings highlight HRQoL as an important and modifiable patient-centered outcome among individuals with CKM conditions

THANK YOU

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