# Finerenone and Kidney Outcomes in Patients with Heart Failure with Mildly Reduced or Preserved Ejection Fraction: The FINEARTS-HF Trial

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on behalf of the FINEARTS-HF Investigators

FINEARTS-HF

**FIN**erenone trial to investigate **E**fficacy and s**A**fety superio**R** to placebo in pa**T**ient**S** with **H**eart **F**ailure

# Disclosures

- Dr. Mc Causland reports research grants from NIDDK, Satellite Healthcare, Fifth Eye, Alexion, and Novartis paid directly to his institution; expert witness fees from Rubin-Anders Scientific; consulting fees from GSK and Zydus Therapeutics.

- The FINEARTS-HF Trial was sponsored by Bayer

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# Rationale

Chronic kidney disease (CKD) is present in ~50% of patients with heart failure with mildly reduced or preserved ejection fraction (HFmrEF/HFpEF), and is associated with higher morbidity and mortality, compared to those without CKD.[1]

Among patients with HFmrEF/HFpEF, the presence and magnitude of albuminuria is a potent predictor of both cardiovascular and kidney adverse outcomes.[2]

Finerenone, a non-steroidal mineralocorticoid receptor antagonist (MRA), has proven efficacy in reducing kidney disease progression among patients with CKD, T2DM, and albuminuria,[3] and was recently observed to lower the risk of HF events and CV death among patients with HFmrEF/HFpEF in FINEARTS-HF.[4]

Herein, we explore the effects of finerenone on kidney outcomes in FINEARTS-HF

1.Damman K et al, *Eur Heart J*. 2014;35:455–469; 2. Jackson CE et al, *Lancet*. 2009;374:543–550;
3.Bakris GL et a; *New Engl J Med*. 2020;383:2219–2229; 4.Solomon SD et al *N Engl J Med*. 2024

# FINEARTS-HF Study Design

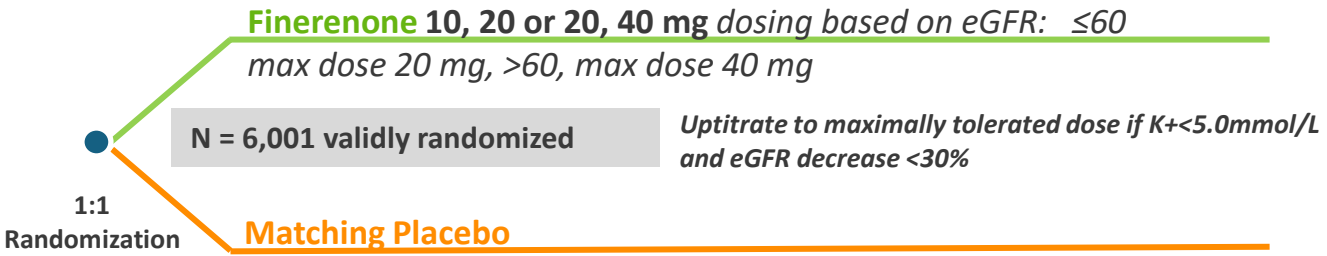
Randomized, double-blind, placebo-controlled trial of patients with HFmrEF/HFpEF

**Key Inclusion Criteria**

- **Symptomatic HF with LVEF ≥ 40%**
- **Age ≥40 yrs**
- **Elevated natriuretic peptide levels**
- **Structural heart disease (LA↑ or LVH)**
- **Diuretics in the 30d prior to randomization**

**Key Exclusion Criteria**

- **eGFR <25 mL/min/1.73 m²**
- **Potassium >5.0 mmol/L**
- **Hemoglobin < 10 g/dL**
- **Symptomatic hypotension**
- **MRA use 30d prior to randomization**




Visits: Month 1, then 3-monthly for first 12 months, 4-monthly visits thereafter

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# Endpoints

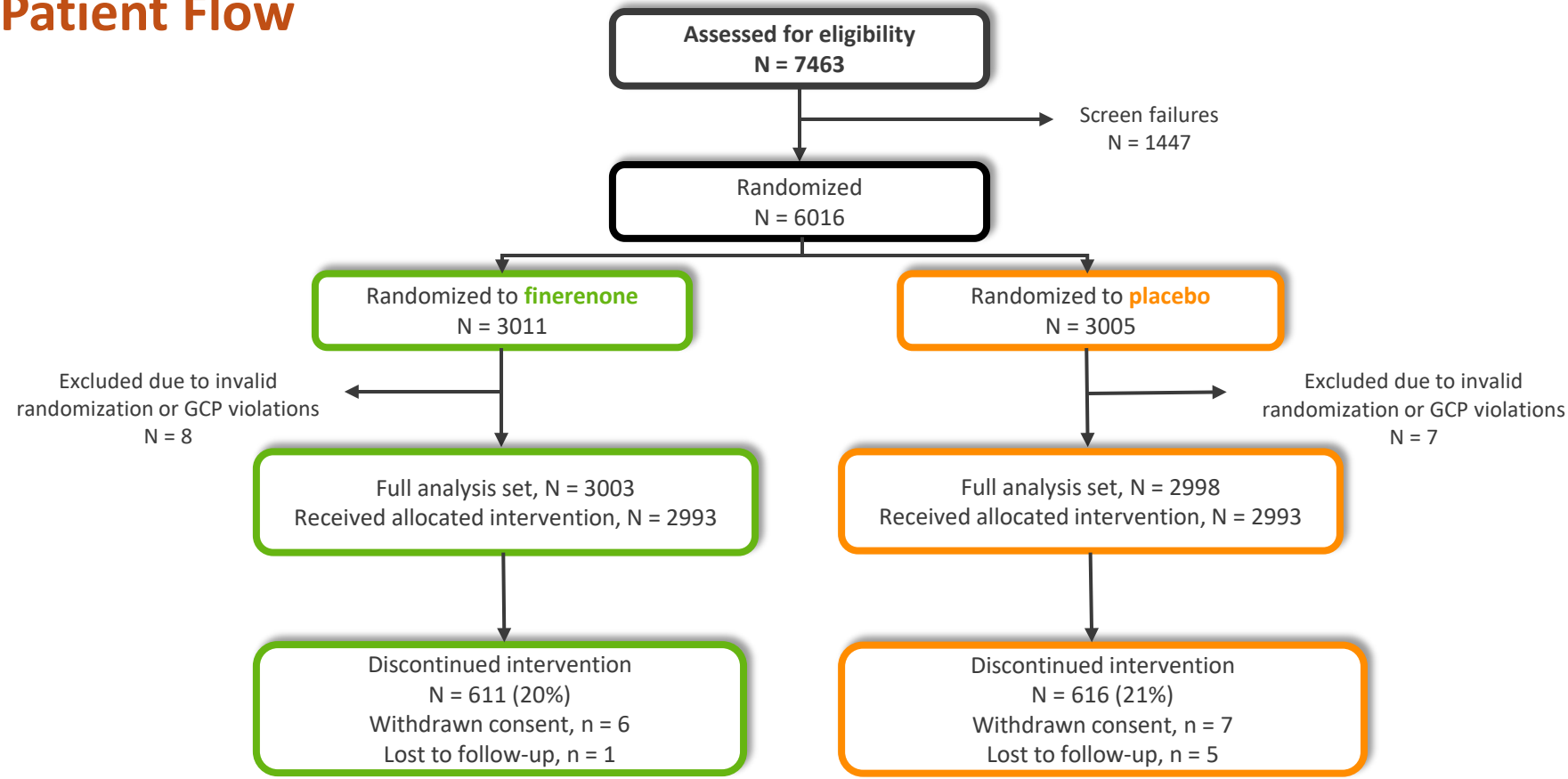
**Primary Endpoint**

- CV death and total HF events (hospitalizations/urgent visits)

**Endpoints for current analyses**

- **Renal composite endpoint**
  - Initiation of long-term dialysis or kidney transplantation (adjudicated)
  - Sustained eGFR decline ≥50% (or 57%)
  - Sustained eGFR <15 mL/min/1.73 $m^2$
- **New-onset micro- & macroalbuminuria**
  - UACR ≥30mg/g or ≥300 mg/g, respectively
- **Change in eGFR and UACR from baseline**

# Patient Flow




GCP, good clinical practice

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# Baseline Characteristics

*Well-balanced between treatment groups*

| | eGFR ≥60 mL/min/1.73 m² | | eGFR 45 to <60 mL/min/1.73 m² | | eGFR <45 mL/min/1.73 m² | |
|---|---|---|---|---|---|---|
| | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** |
| | n=1561 | n=1552 | n=754 | n=802 | n=683 | n=649 |
| **Age, years** | 68 ± 10 | 69 ± 10 | 75 ± 8 | 74 ± 8 | 77 ± 8 | 77 ± 8 |
| **Female, n(%)** | 643 (41%) | 637 (41%) | 375 (50%) | 400 (50%) | 359 (53%) | 318 (49%) |
| **Race, n(%)** | | | | | | |
| **Asian** | 255 (16%) | 252 (16%) | 118 (16%) | 122 (15%) | 126 (18%) | 123 (19%) |
| **Black** | 22 (1%) | 28 (2%) | 9 (1%) | 15 (2%) | 8 (1%) | 6 (1%) |
| **Other** | 39 (3%) | 47 (3%) | 27 (4%) | 22 (3%) | 25 (4%) | 22 (3%) |
| **White** | 1245 (80%) | 1225 (79%) | 600 (80%) | 643 (80%) | 524 (77%) | 498 (77%) |
| **History of Diabetes, n(%)** | 583 (37%) | 556 (36%) | 301 (40%) | 338 (42%) | 338 (50%) | 323 (50%) |
| **Systolic BP, mmHg** | 130 ± 15 | 130 ± 15 | 130 ± 16 | 129 ± 15 | 128 ± 16 | 130 ± 16 |
| **Serum creatinine, mg/dL** | 0.9 ± 0.2 | 0.9 ± 0.2 | 1.2 ± 0.2 | 1.2 ± 0.2 | 1.6 ± 0.5 | 1.6 ± 0.3 |
| **eGFR, mL/min/1.73 m²** | 78 ± 12 | 77 ± 12 | 53 ± 4 | 53 ± 4 | 36 ± 6 | 36 ± 6 |
| **Urine ACR, mg/g** | 14 [6, 45] | 14 [5, 45] | 20 [7, 77] | 19 [8, 75] | 31 [11, 148] | 36 [11, 176] |
| **Serum potassium, mmol/L** | 4.3 ± 0.5 | 4.4 ± 0.4 | 4.4 ± 0.5 | 4.4 ± 0.5 | 4.4 ± 0.5 | 4.4 ± 0.5 |
| **LV ejection fraction, (%)** | 52 ± 8 | 52 ± 8 | 53 ± 8 | 53 ± 8 | 53 ± 8 | 54 ± 8 |
| **NT-proBNP, pg/mL** | 766 [338, 1486] | 844 [372, 1529] | 1219 [535, 2339] | 1152 [536, 2030] | 1581 [790, 3025] | 1638 [784, 2946] |

# Baseline Medication Use

| | eGFR ≥60 mL/min/1.73 m$^2$ | | eGFR 45 to <60 mL/min/1.73 m$^2$ | | eGFR <45 mL/min/1.73 m$^2$ | |
|---|---|---|---|---|---|---|
| **Medication, n(%)** | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** |
| | n=1,561 | n=1,552 | n=754 | n=802 | n=683 | n=649 |
| **Beta-blocker** | 1342 (86%) | 1316 (85%) | 643 (85%) | 688 (86%) | 569 (83%) | 537 (83%) |
| **Angiotensin-converting enzyme inhibitor** | 616 (40%) | 613 (40%) | 257 (34%) | 275 (34%) | 199 (29%) | 195 (30%) |
| **Angiotensin-receptor blocker** | 521 (33%) | 503 (32%) | 287 (38%) | 316 (39%) | 247 (36%) | 228 (35%) |
| **Angiotensin receptor-neprilysin inhibitor** | 154 (10%) | 141 (9%) | 56 (7%) | 60 (8%) | 47 (7%) | 55 (9%) |
| **Sodium-glucose cotransporter 2 inhibitor** | 188 (12%) | 180 (12%) | 103 (14%) | 116 (15%) | 133 (12%) | 97 (15%) |
| **Loop diuretic** | 1329 (85%) | 1329 (86%) | 662 (88%) | 685 (85%) | 630 (92%) | 604 (93%) |
| **Thiazide diuretic** | 225 (14%) | 231 (15%) | 110 (15%) | 130 (16%) | 67 (10%) | 68 (11%) |

# Renal Composite

## (long-term dialysis or transplant, sustained eGFR decline ≥50%, sustained eGFR <15 mL/min/1.73 $m^2$)

| Renal Composite (≥50% eGFR decline) | Placebo | Finerenone |
|---|---|---|
| **No. events/No. patients (%)** | 55/2998 (1.8%) | 75/3003 (2.5%) |
| **Rate/100 PY (95% CI)** | 0.9 (0.7, 1.1) | 1.2 (0.9, 1.5) |
| **Hazard Ratio (95%CI)** | **1.33 (0.94, 1.89)** | |

| Renal Composite (≥57% eGFR decline) | Placebo | Finerenone |
|---|---|---|
| **No. events/No. patients (%)** | 31/2998 (1.0%) | 41/3003 (1.4%) |
| **Rate/100 PY (95% CI)** | 0.5 (0.3, 0.7) | 0.6 (0.5, 0.9) |
| **Hazard Ratio (95%CI)** | **1.28 (0.80, 2.05)** | |

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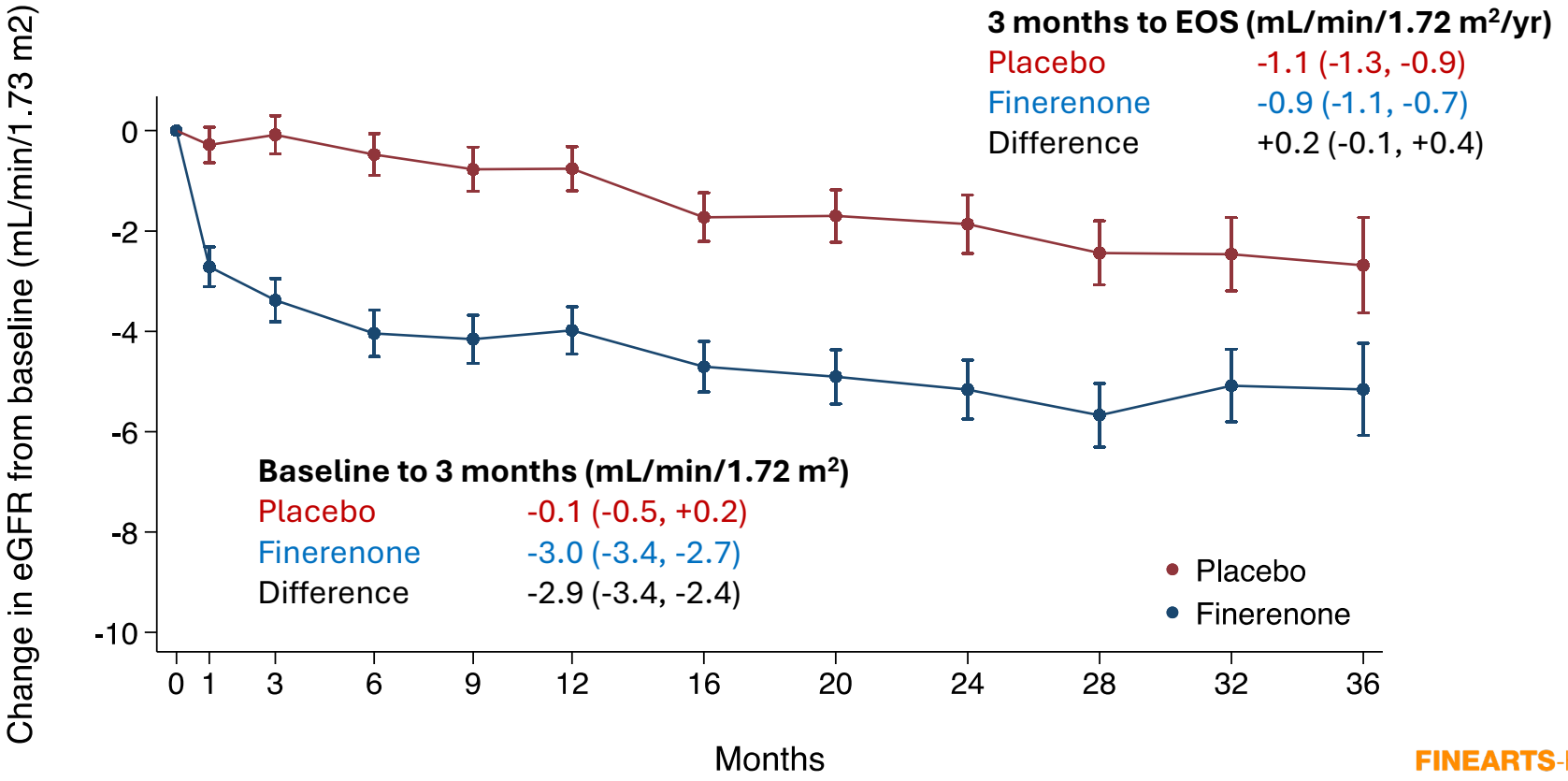
# Change in eGFR over time

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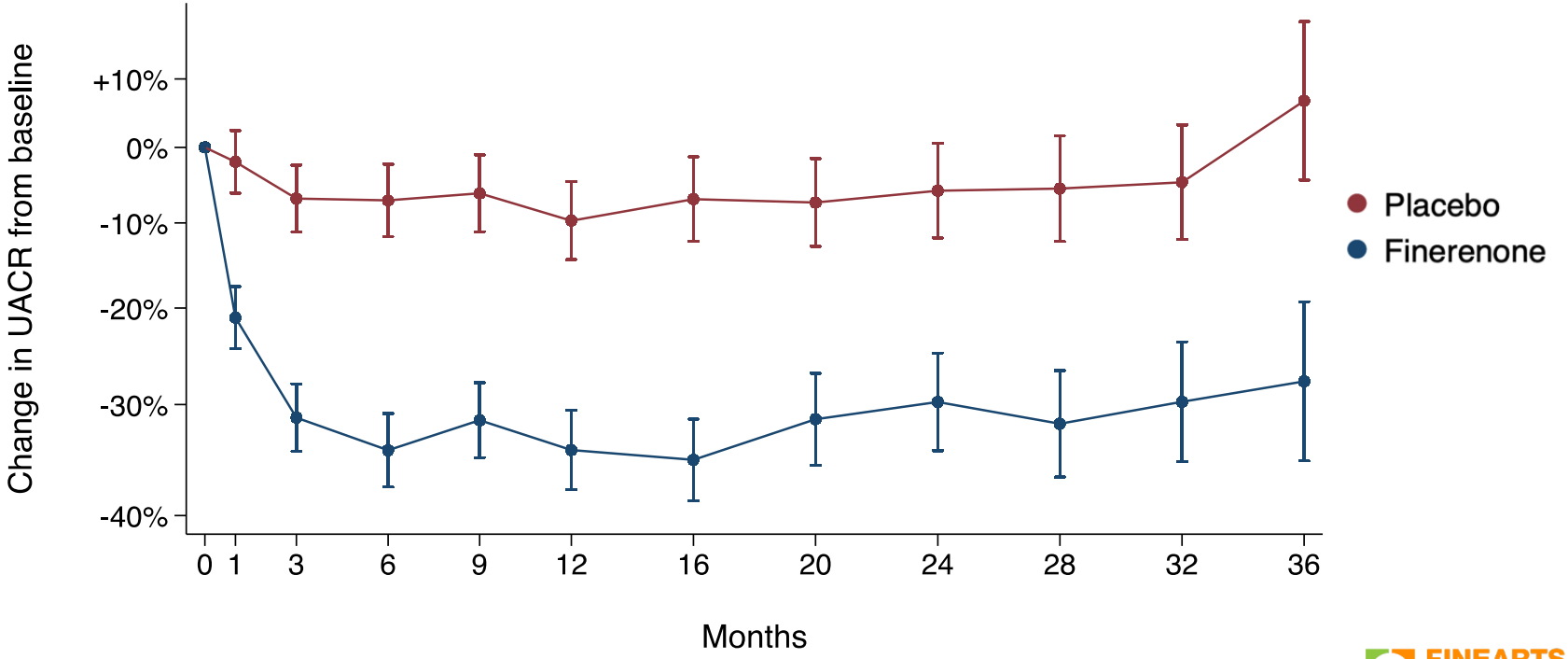
# Change in UACR over time

UACR was 30% (95%CI 25%, 34%) lower at 6 months for finerenone vs. placebo

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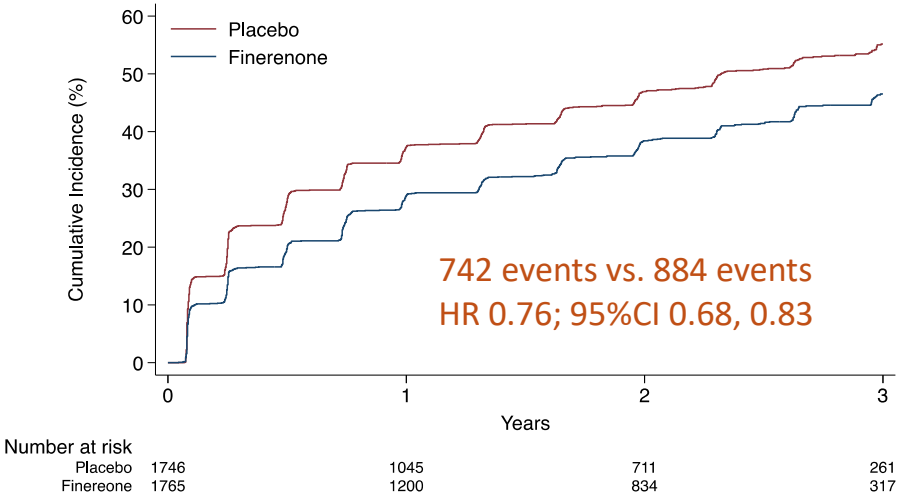
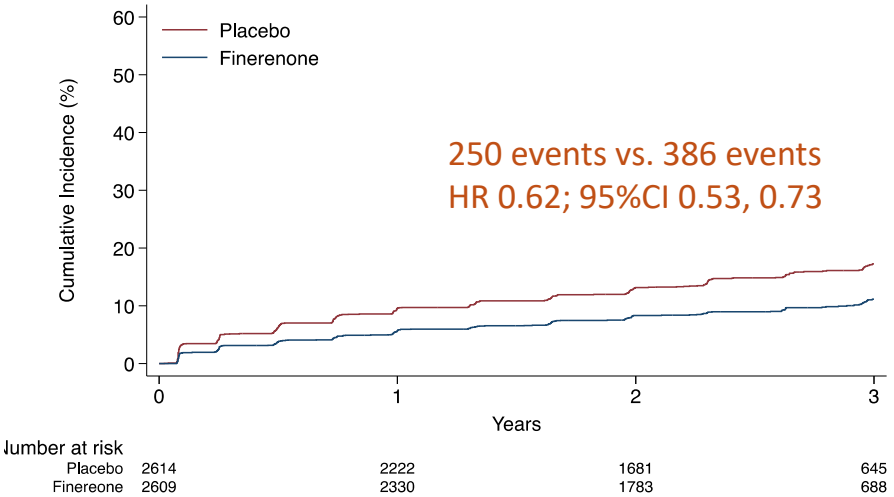
# New-onset micro- and macroalbuminuria




n=3,511 with baseline UACR <30 mg/g




n=5,223 with baseline UACR <300 mg/g

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# Safety

| | eGFR ≥60 mL/min/1.73 m² | | eGFR 45 to <60 mL/min/1.73 m² | | eGFR <45 mL/min/1.73 m² | |
|---|---|---|---|---|---|---|
| | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** | **Placebo** | **Finerenone** |
| | n=1,557 | n=1,547 | n=754 | n=800 | n=682 | n=646 |
| **Any SAE** | 552 (36%) | 498 (32%) | 344 (46%) | 341 (43%) | 317 (47%) | 318 (49%) |
| | | | | | | |
| **Serum creatinine ≥3.0 mg/dL** | 2 (0.1%) | 11 (0.7%) | 5 (0.7%) | 5 (0.6 %) | 27 (4.2%) | 41 (6.7%) |
| **Acute kidney injury*** | 18 (1.2%) | 31 (2.0%) | 21 (2.8%) | 26 (3.2%) | 25 (3.7%) | 54 (8.4%) |
| **AKI that led to hospitalization*** | 7 (0.4 %) | 8 (0.5 %) | 7 (0.9 %) | 9 (1.1 %) | 11 (1.6 %) | 31 (4.8 %) |
| **Serum K >5.5 mmol/L** | 86 (6%) | 175 (12%) | 55 (8%) | 118 (15%) | 58 (9%) | 120 (20%) |
| **Serum K >6.0 mmol/L** | 16 (1%) | 36 (2%) | 12 (2%) | 27 (4%) | 13 (2%) | 23 (4%) |
| **Hyperkalemia that led to hospitalization** | 1 (0.1%) | 5 (0.3%) | 2 (0.3%) | 3 (0.4%) | 3 (0.4%) | 8 (1.2%) |
| | | | | | | |
| **Systolic BP <100 mmHg** | 164 (11%) | 270 (18%) | 94 (13%) | 150 (19%) | 103 (16%) | 118 (19%) |

* Investigator reported

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# Conclusions

- Among patients with HFmrEF/HFpEF in FINEARTS-HF, who were at relatively low risk of adverse kidney events, finerenone did not alter the frequency of the prespecified kidney composite outcome
- Finerenone caused an initial expected decline in eGFR, but did not alter longer-term eGFR trajectory, compared with placebo
- Finerenone caused an early and sustained lowering of albuminuria and lowered the risk of new-onset micro- and macroalbuminuria
- Hyperkalemic episodes were more common with finerenone than with placebo, with similar patterns across eGFR categories
- Overall, these data provide important information on expected changes in kidney biomarkers when prescribing finerenone for patients with HFmrEF/HFpEF

# Steering Committee

## Scott D. Solomon, MD & John J.V. McMurray, MD, Co-Chairs

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**We thank all the FINEARTS-HF Investigators and participants!**

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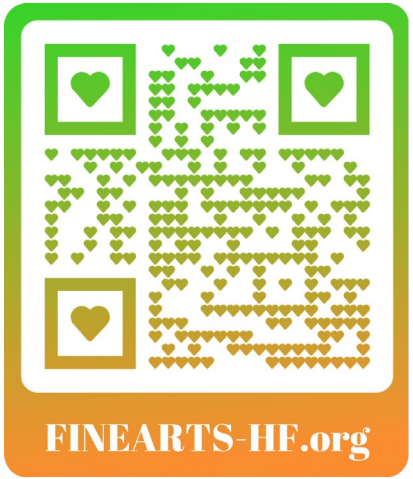
# Placeholder for Sim Pub(?)

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