

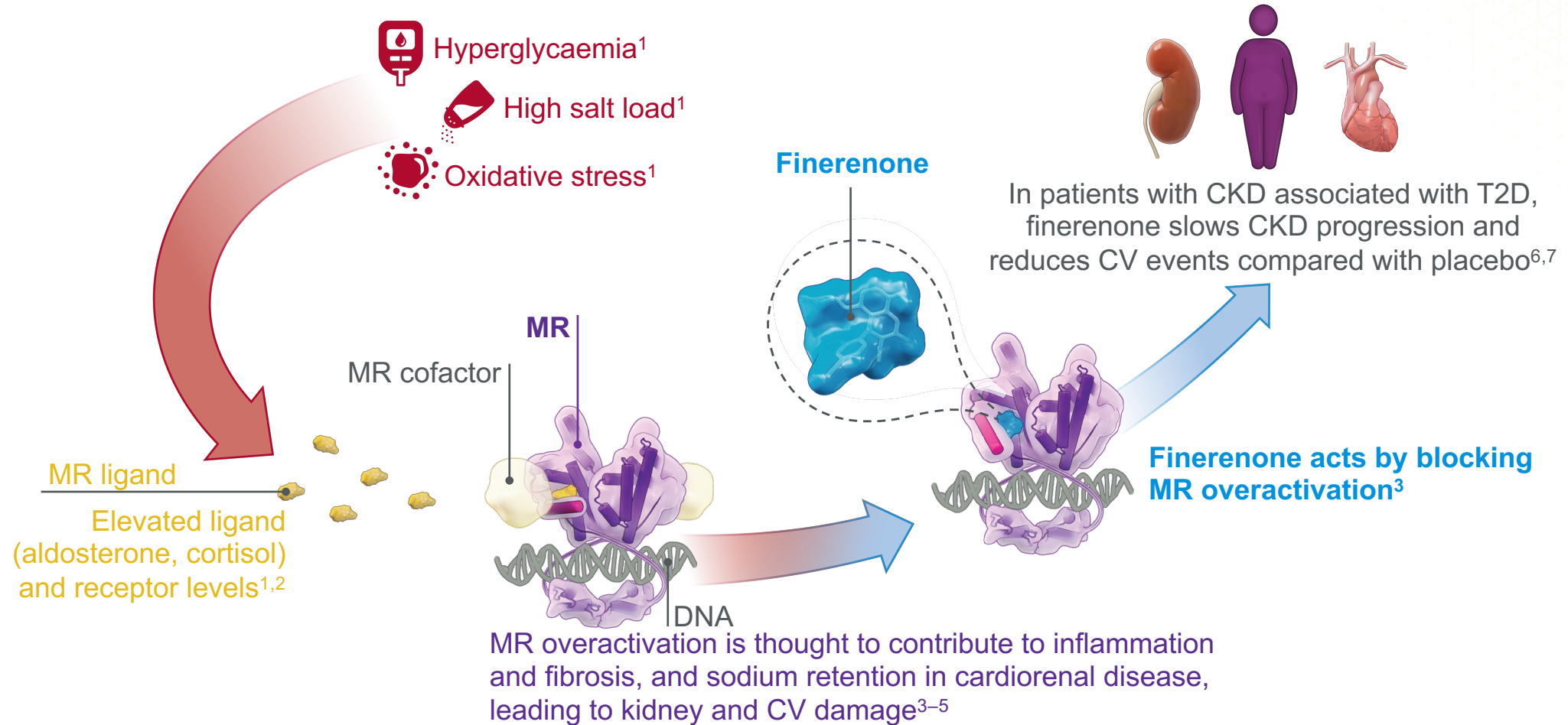
Finerenone in patients with stage 1–4 chronic kidney disease and type 2 diabetes: A secondary analysis of heart failure from the FIGARO-DKD trial

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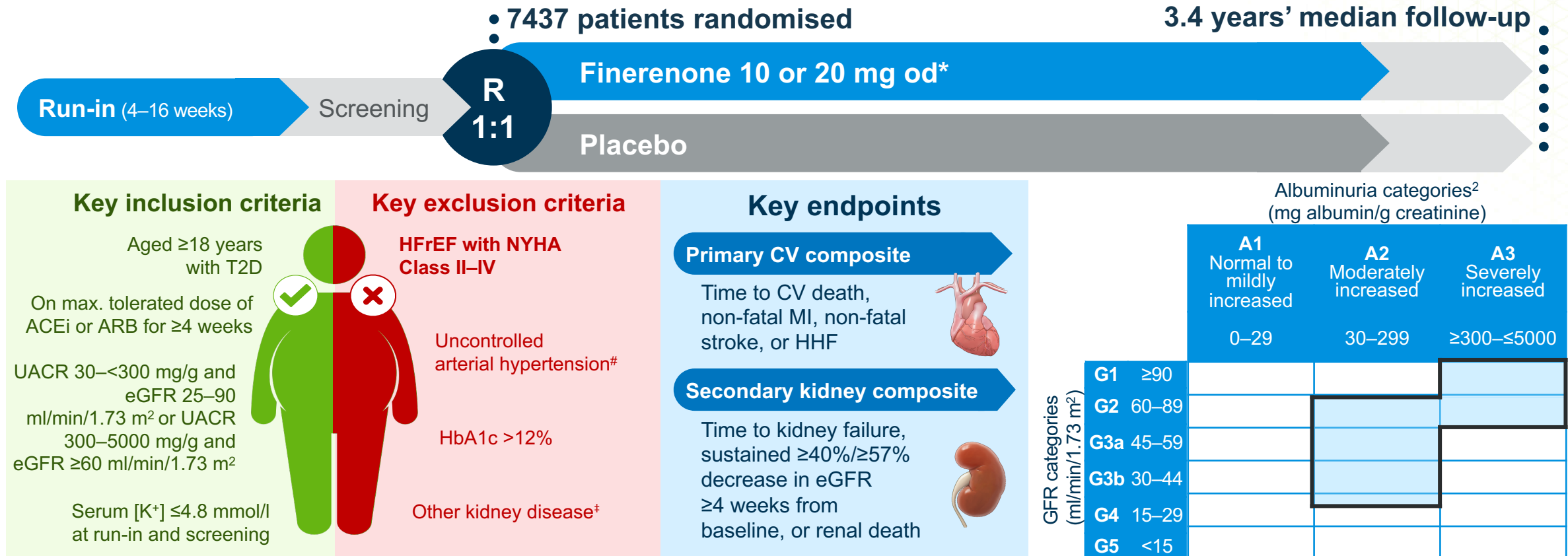
Finerenone targets MR overactivation, which contributes to CVD progression in patients with CKD associated with T2D



CKD, chronic kidney disease; CV, cardiovascular; CVD, cardiovascular disease; MR, mineralocorticoid receptor; T2D, type 2 diabetes

1. Buonafine M, et al. *Am J Hypertens* 2018;31:1165–1174; 2. Buglioni A, et al. *Hypertension* 2015;65:45–53; 3. Agarwal R, et al. *Nephrol Dial Transplant* 2020; doi: 10.1093/ndt/gfaa294; 4. Agarwal R, et al. *Eur Heart J* 2021;42:152–161; 5. Khan NUA & Movahed A. *Rev Cardiovasc Med* 2004;5:71–81; 6. Bakris GL, et al. *N Engl J Med* 2020;383:2219–2229; 7. Pitt B, et al. *N Engl J Med* 2021; doi: 10.1056/NEJMoa2110956.

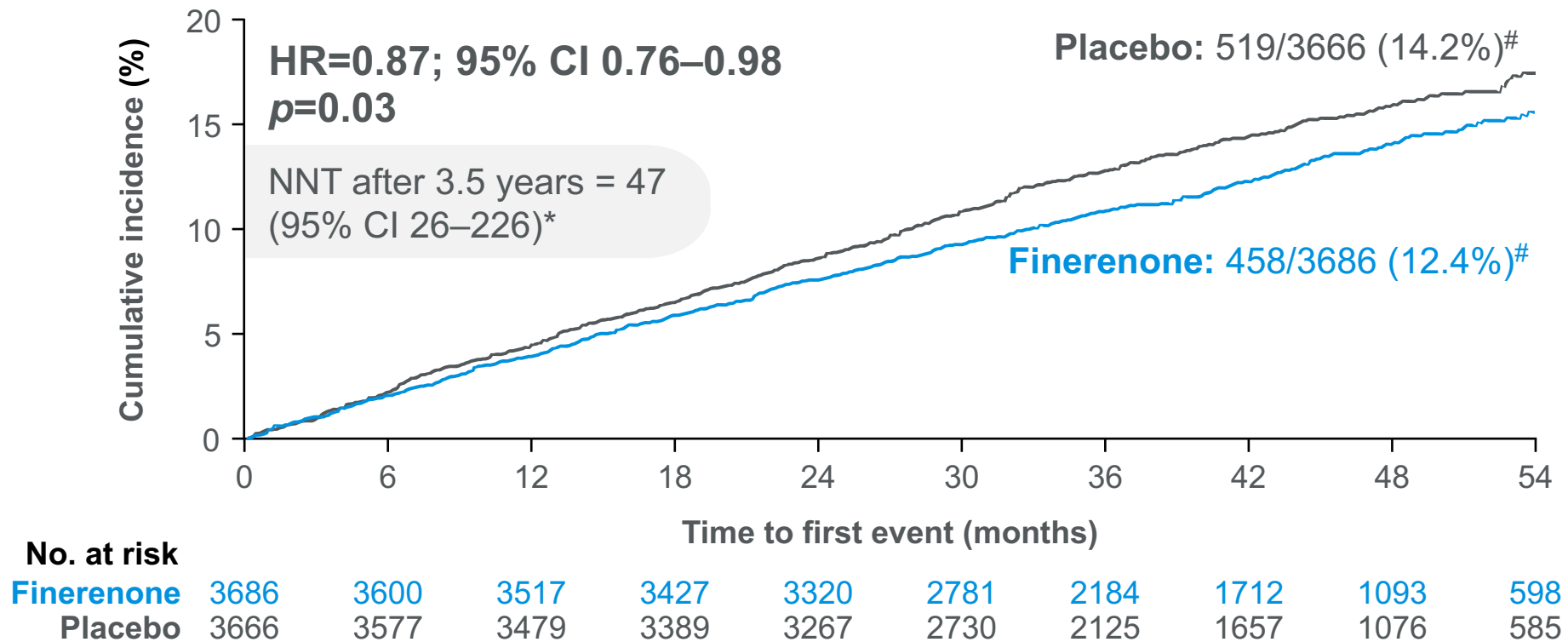
FIGARO-DKD was a randomised phase III trial of finerenone vs placebo in patients with early-stage CKD associated with T2D¹



*10 mg if screening eGFR <60 ml/min/1.73 m²; 20 mg if ≥60 ml/min/1.73 m², up-titration encouraged from month 1 if serum potassium ≤4.8 mmol/l and eGFR stable; a decrease in the dose from 20 to 10 mg od was allowed any time after the initiation of finerenone or placebo; [#]mean sitting SBP ≥170 mmHg or mean sitting DBP ≥110 mmHg at the run-in visit, or mean sitting SBP ≥160 mmHg or mean sitting DBP ≥100 mmHg at the screening visit; [‡]known significant non-diabetic kidney disease, including clinically relevant renal artery stenosis
ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; DBP, diastolic blood pressure; eGFR, estimated glomerular filtration rate; GFR, glomerular filtration rate; HbA1c, glycated haemoglobin; HFrEF, heart failure with reduced ejection fraction; HHF, hospitalisation for heart failure; [K⁺], potassium concentration; MI, myocardial infarction; NYHA, New York Heart Association; od, once daily; R, randomisation; SBP, systolic blood pressure
1. Pitt B, *et al.* *N Engl J Med* 2021; doi: 10.1056/NEJMoa2110956; 2. Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. *Kidney Int* 2013;3:1–150

On top of optimised RAS blockade, finerenone significantly reduced the risk of the primary CV outcome by 13% vs placebo

Time to CV death, non-fatal MI, non-fatal stroke, or HHF



*NNT calculations based on an absolute risk reduction after 3.5 years of 2.1% (95% CI 0.4–3.8); #number of patients with an event over a median of 3.4 years of follow-up
CI, confidence interval; HR, hazard ratio; NNT, number needed to treat; RAS, renin–angiotensin system
Pitt B, *et al.* *N Engl J Med* 2021; doi: 10.1056/NEJMoa2110956

FIGARO-DKD: A secondary analysis of heart failure

The aim of this secondary analysis was to evaluate new onset of HF and HF outcomes for patients with and without a history of HF

Patients with a history of HF had lower eGFR and were more likely to have a history of CVD

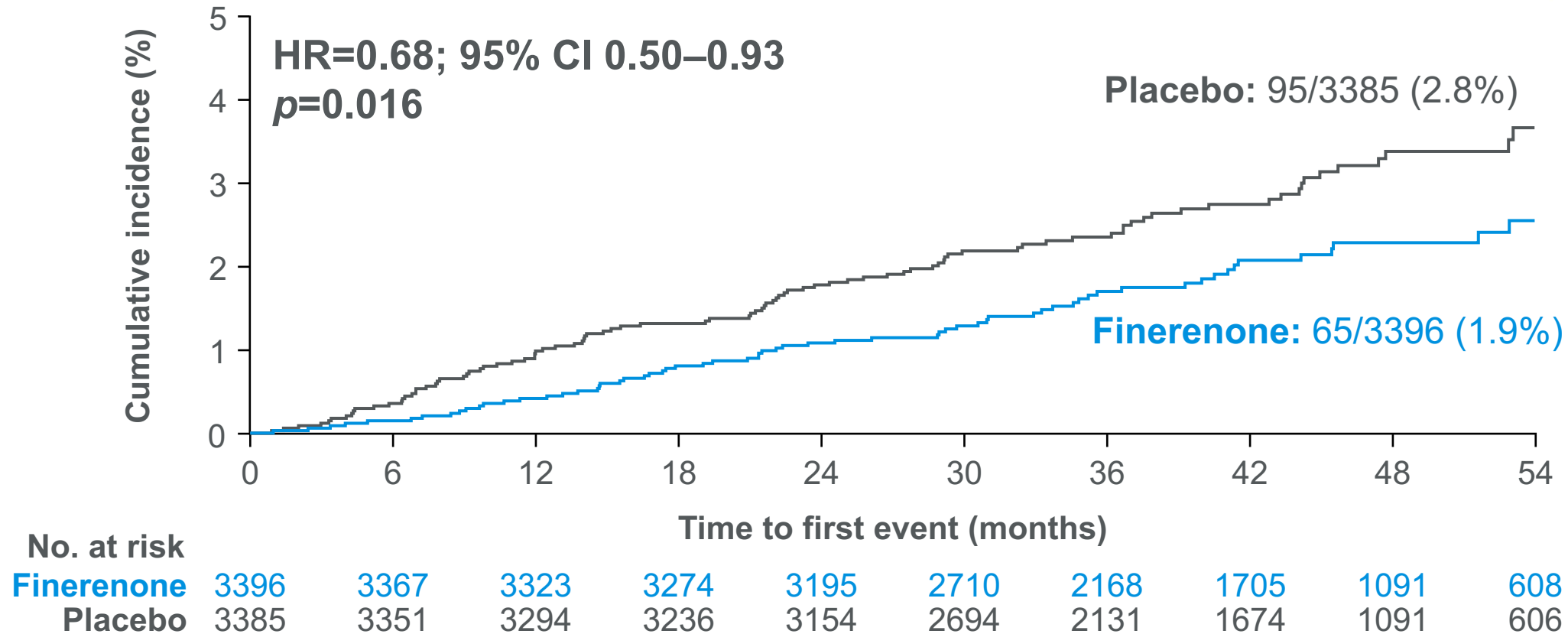
Patient characteristic*	With history of HF n=571	Without history of HF n=6781
Age, years	65.6	64.0
Sex, male, %	61.3	70.1
Duration of diabetes, years	15.1	14.4
BMI, kg/m ²	32.8	31.3
SBP/DBP, mmHg	135/77	136/77
HbA1c, %	8.0	7.7
eGFR, ml/min/1.73 m ² ≥60 ml/min/1.73 m ² , %	52.0	62.6
UACR, mg/g, median ≥300 mg/g, %	46.4	51.1
History of CV disease, [#] %	68.7	43.3
Serum [K ⁺], mmol/l	4.4	4.3

Medication use, %	With history of HF n=571	Without history of HF n=6781
ACEi	52.0	41.9
ARB	47.8	58.1
Beta blockers	71.1	46.2
Diuretics	63.6	46.2
Statins	72.5	70.3
Glucose-lowering therapies		
Metformin	59.2	69.7
Insulin and analogues	63.6	53.5
DPP-4 inhibitors	17.0	24.5
GLP-1RA	4.2	7.8
SGLT-2 inhibitors	5.6	8.6

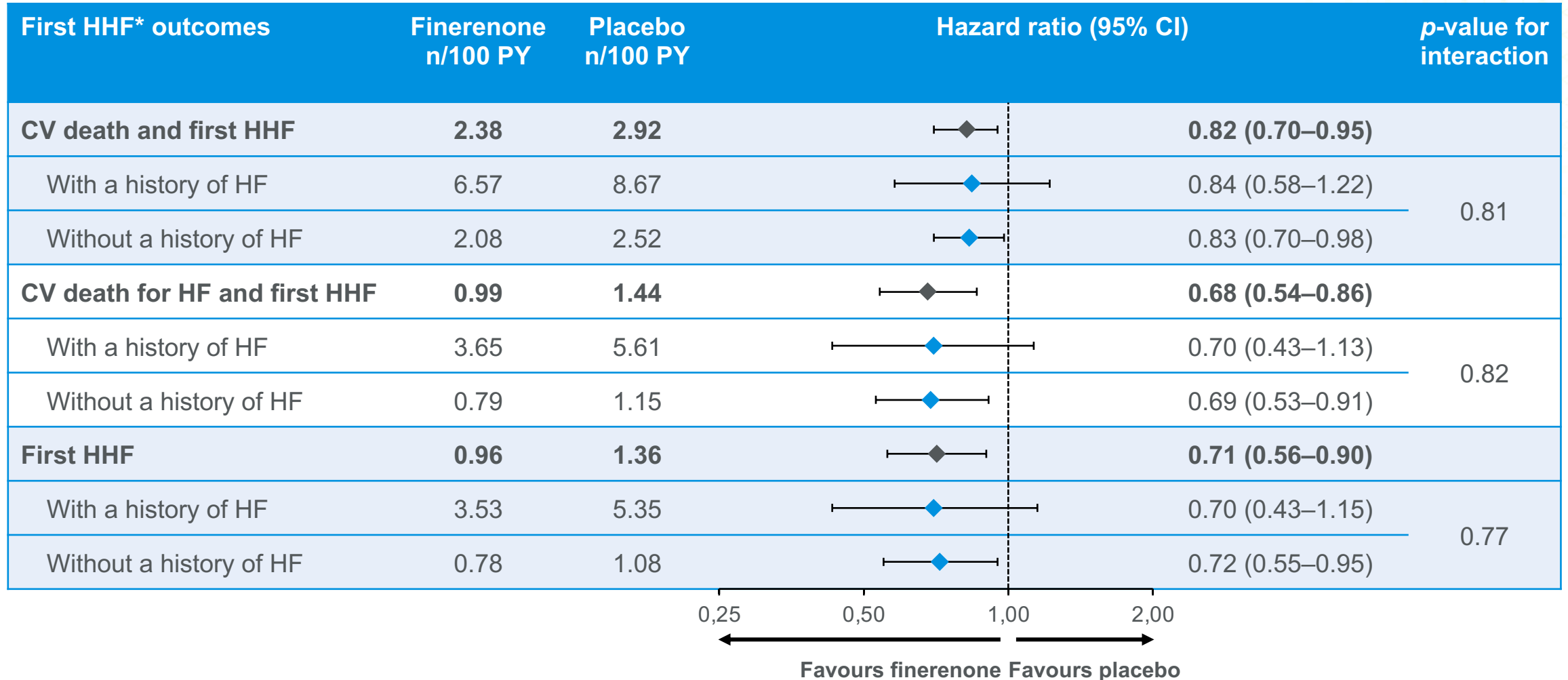
*Values are mean unless otherwise stated; [#]history of CVD defined as investigator-reported medical history of CAD (coronary revascularisation, or angiography-proven stenosis ≥50% in at least one major coronary artery), ischaemic stroke or PAD
 BMI, body mass index; CAD, coronary artery disease; DPP-4, dipeptidyl peptidase-4; GLP-1RA, glucagon-like peptide-1 receptor agonist; HF, heart failure; PAD, peripheral artery disease; SGLT-2i, sodium-glucose co-transporter-2 inhibitor
 Filippatos G, *et al.* AHA 2021; abstract 17138

On top of optimised RAS blockade, finerenone significantly reduced the risk of new-onset HF by 32%

Finerenone reduced new-onset HF in patients without a history of HF at baseline by 32%

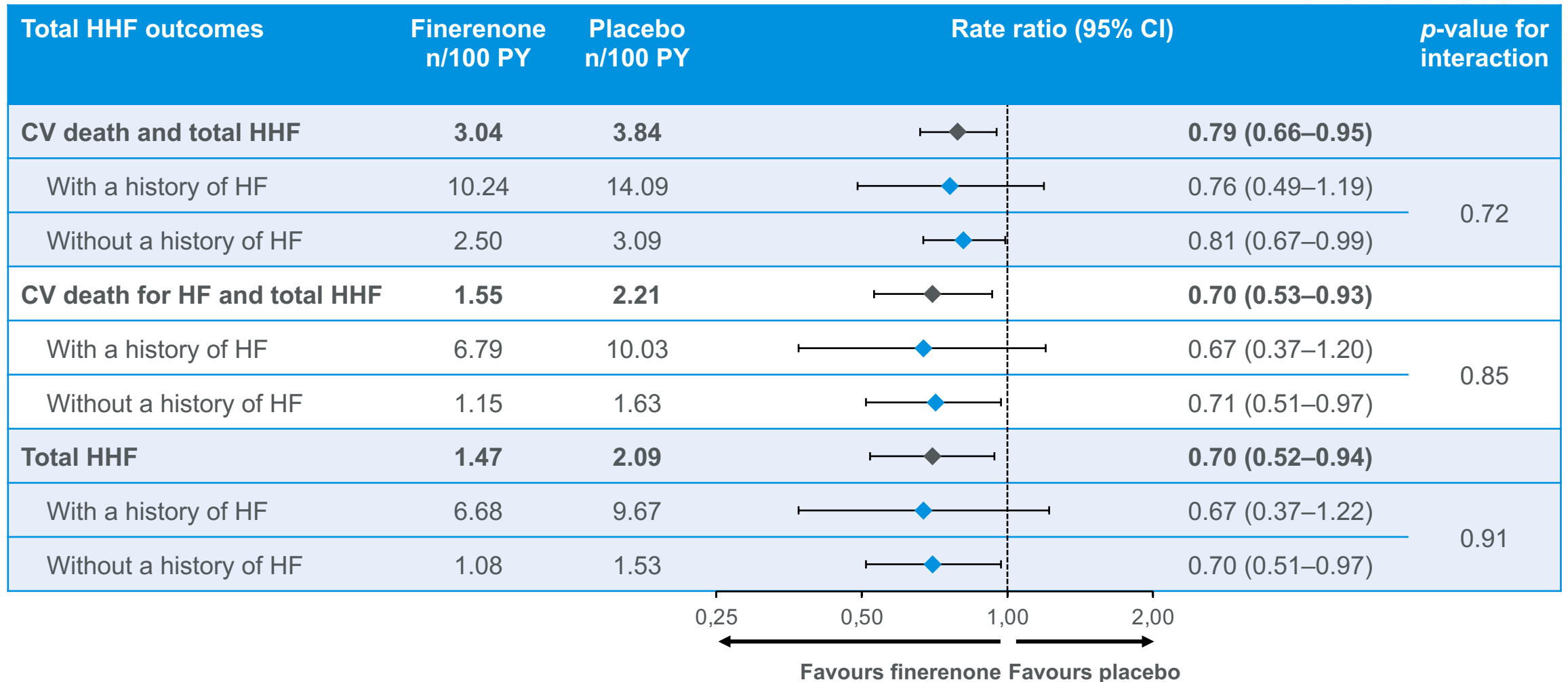


Finerenone reduced CV death and first hospitalisation for HF vs placebo irrespective of history of HF



*First hospitalisation for HF defined as first event after randomisation
 PY, patient-years
 Filippatos G, *et al.* AHA 2021; abstract 17138

Similarly, finerenone reduced CV death and total hospitalisation for HF vs placebo irrespective of history of HF



Irrespective of HF history, finerenone increased the incidence of hyperkalaemia, but the clinical impact was minimal

Treatment-emergent AE,* n (%)	With history of HF		Without history of HF	
	Finerenone (n=289)	Placebo (n=281)	Finerenone (n=3394)	Placebo (n=3377)
Any AE	230 (79.6)	241 (85.8)	2904 (85.6)	2888 (85.5)
Leading to discontinuation	8 (2.8)	13 (4.6)	199 (5.9)	170 (5.0)
Any SAE#	100 (34.6)	89 (31.7)	1058 (31.2)	1126 (33.3)
Leading to discontinuation	3 (1.0)	3 (1.1)	67 (2.0)	73 (2.2)
AE with outcome death	6 (2.1)	8 (2.8)	73 (2.2)	92 (2.7)
Hyperkalaemia‡, n (%)				
Any AE	24 (8.3)	13 (4.6)	372 (11.0)	180 (5.3)
Leading to discontinuation	1 (0.3)	2 (0.7)	45 (1.3)	11 (0.3)

*AEs that started or worsened after the first dose of study drug up to 3 days after any temporary or permanent interruption of study drug were considered as treatment-emergent AEs; #SAEs were defined as treatment-emergent events that: (1) resulted in death; (2) were life-threatening; (3) required inpatient hospitalisation (or prolongation of existing hospitalisation); (4) caused persistent or significant disability/incapacity; (5) were congenital abnormalities or birth defects; or (6) were judged by the investigator to be a serious or important medical event; ‡hyperkalaemia refers to MedDRA preferred terms hyperkalaemia and blood potassium increase AE, adverse event; SAE, serious adverse event
Filippatos G, *et al.* AHA 2021; abstract 17138

FIGARO-DKD secondary analysis of HF: Summary and conclusion

In patients with CKD stage 1–4 with moderate-to-severely elevated albuminuria (UACR ≥ 30 mg/g), well-controlled SBP and HbA1c, treated with a maximum tolerated dose of RAS blockade:

Finerenone reduced new-onset HF by 32%
(HR 0.68;
95% CI 0.50–0.93)

Finerenone reduced hospitalisation for HF and CV death irrespective of history of heart failure

Finerenone was generally **well tolerated**; as anticipated, the incidence of **hyperkalaemia** was higher with finerenone than placebo, but the **clinical impact was minimal**



Finerenone in mild to severe chronic kidney disease and type 2 diabetes: a FIDELITY subgroup analysis in patients with heart failure

[Speaker name]

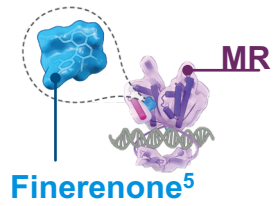
[Affiliation]



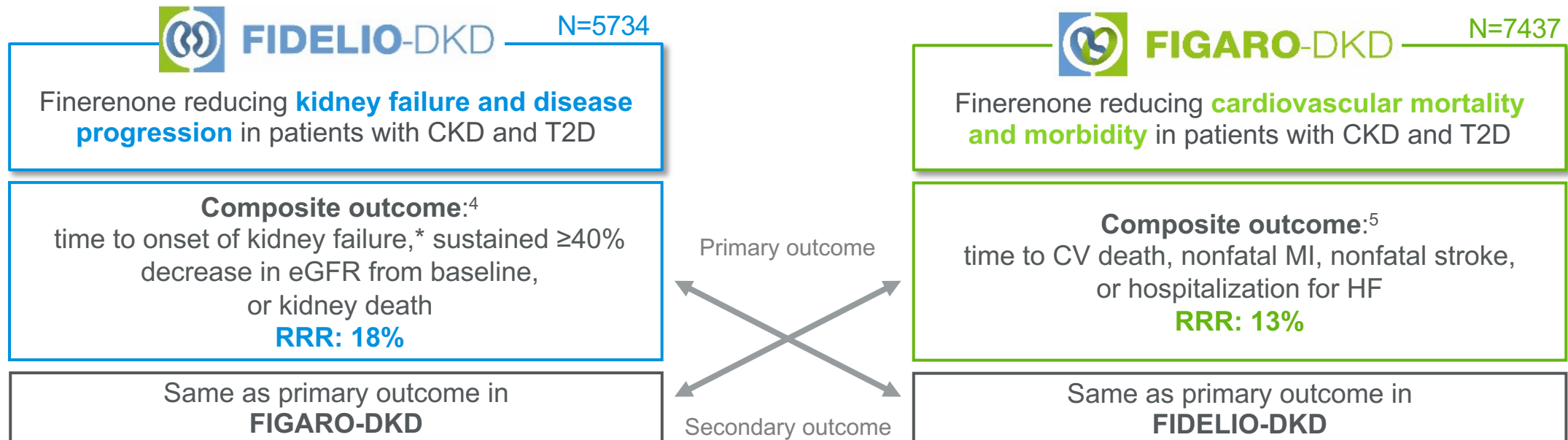
13 November 2021

Approval code: MA-M_FIN-ALL-0582

Finerenone targets MR overactivation, which may contribute to CV disease progression in patients with CKD associated with T2D



Finerenone is a novel, selective, nonsteroidal MRA that inhibits MR overactivation, which is thought to contribute to inflammation and fibrosis leading to kidney and CV damage^{1–5}



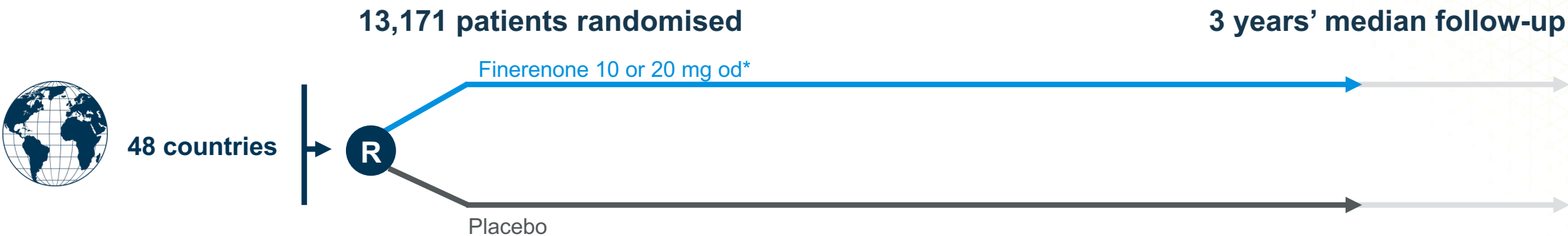
*Kidney failure defined as occurrence of ESKD (initiation of chronic dialysis for ≥90 days or kidney transplantation) or sustained eGFR <15 ml/min/1.73 m²

CKD, chronic kidney disease; CV, cardiovascular; eGFR, estimated glomerular filtration rate; ESKD, end-stage kidney disease; HF, heart failure; MI, myocardial infarction; MR, mineralocorticoid receptor; MRA, mineralocorticoid receptor antagonist; RRR, relative risk reduction; T2D, type 2 diabetes

1. Agarwal R, et al. *Nephrol Dial Transplant* 2020; doi: 10.1093/ndt/gfaa294; 2. Agarwal R, et al. *Eur Heart J* 2021;42:152–161;

3. Khan NUA & Movahed A. *Rev Cardiovasc Med* 2004;5:71–81; 4. Bakris GL, et al. *N Engl J Med* 2020;383:2219–2229; 5. Pitt B, et al. *N Engl J Med* 2021; doi: 10.1056/NEJMoa2110956

FIDELITY is a prespecified pooled analysis of FIDELIO-DKD¹ and FIGARO-DKD²



Key eligibility criteria

- ✓ T2D
- ✓ CKD
- ✓ On single RASi
- ✓ Serum [K⁺] ≤4.8 mmol/l
- ✗ Symptomatic HFrEF

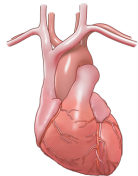
Key outcomes

CV composite

Time to CV death, non-fatal MI, non-fatal stroke, or HHF

≥57% eGFR kidney composite

Time to kidney failure[#], sustained ≥57% decrease in eGFR from baseline, or renal death



	UACR (mg/g)		
	0–29	30–299	≥300–≤5000
≥90			
60–89			
45–59			
30–44			
15–29			

GFR (ml/min/1.73 m²)

*10 mg if screening eGFR 25–<60 ml/min/1.73 m²; 20 mg if ≥60 ml/min/1.73 m², up-titration encouraged from month 1 if serum [K⁺] ≤4.8 mEq/l and eGFR stable; [#]kidney failure defined as either ESKD (initiation of chronic dialysis for ≥90 days or kidney transplant) or sustained decrease in eGFR <15 ml/min/1.73 m²

GFR, glomerular filtration rate; HHF, hospitalisation for heart failure; HFrEF, heart failure with reduced ejection fraction; [K⁺], potassium concentration; od, once daily; RASi, renin–angiotensin system inhibitor

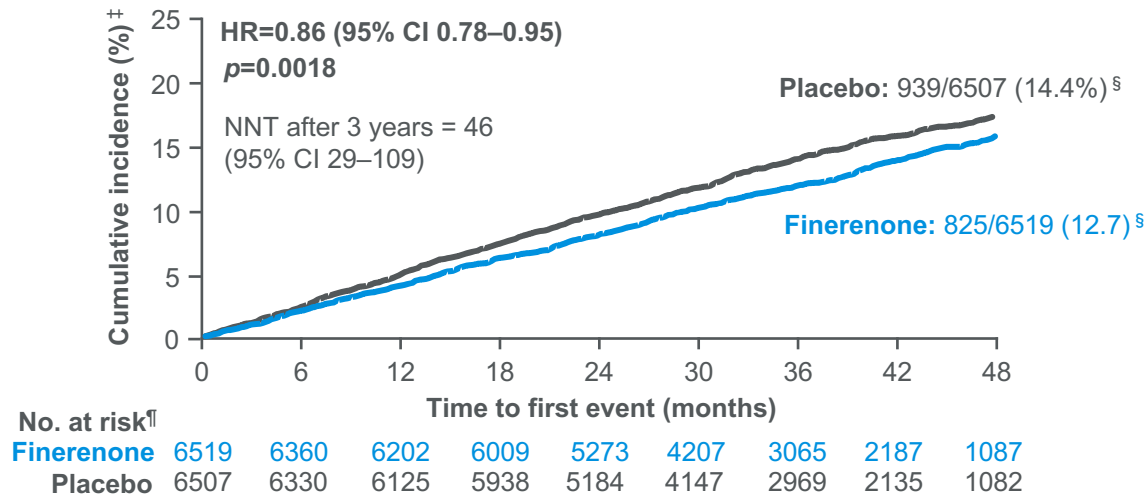
1. Bakris GB, et al. *N Engl J Med* 2020;383:2219–2229; 2. Pitt B, et al. *N Engl J Med* 2021; doi: 10.1056/NEJMoa2110956

FIDELITY results overview

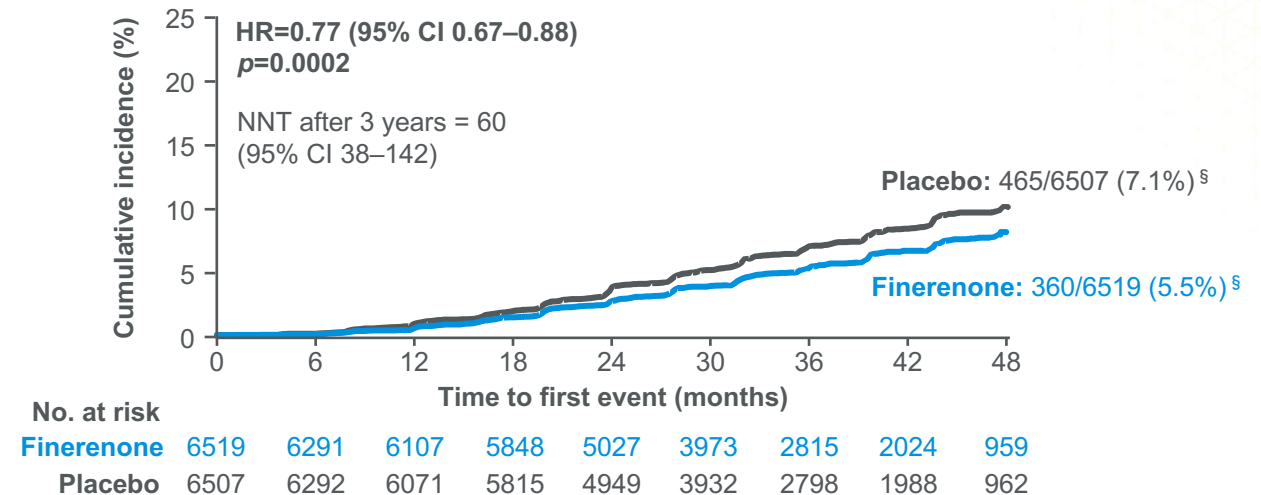


To evaluate the **efficacy and safety of finerenone across the spectrum** of patients with CKD associated with T2D and to provide insights into the relationship between CKD stage and the **effects of finerenone on composite cardiovascular- and kidney-specific endpoints**

Time to CV death, non-fatal MI, non-fatal stroke, or hospitalisation for HF



Time to kidney failure,* sustained ≥57% decrease in eGFR from baseline, or renal death[#]



FIDELITY showed significant risk reductions of 14% in the risk of CV morbidity and mortality vs placebo (HR=0.86; 95% CI 0.78–0.95) and 23% reduction in the risk of CKD progression[#] vs placebo (HR=0.77; 95% CI 0.67–0.88)¹

*ESKD or an eGFR <15 ml/min/1.73 m²; [#]events were classified as renal death if: (1) the patient died; (2) KRT had not been initiated despite being clinically indicated; and (3) there was no other likely cause of death; [‡]cumulative incidence calculated by Aalen–Johansen estimator using deaths due to other causes as competing risk; [§] number of patients with an event over a median of 3.0 years of follow-up; [¶]at-risk subjects were calculated at start of time point

CI, confidence interval; HR hazard ratio; KRT, kidney replacement therapy; NNT, number needed to treat

At baseline, patients had well-controlled blood pressure and HbA1c, and CV medications were used by most patients

Characteristic	Total (n=13,026)
Age, years	65
Male, %	70
Duration of T2D, years	15.4
HbA1c, %	7.7
SBP/DBP, mmHg	137/76
History of CV disease, n (%)	5935 (46)
History of HF, n %	1007 (7.7)
Serum [K ⁺], mmol/l	4.4

Medications, n (%)	Total (n=13,026)
CV medications	
RASi	13,003 (100)
Statins	9399 (72)
Beta-blockers	6504 (50)
Calcium antagonists	7358 (57)
Diuretics	6710 (52)
Glucose-lowering therapies	12,720 (98)
Metformin	7557 (58)
Insulin	7630 (59)
GLP-1RAs	944 (7.2)
SGLT-2is	877 (6.7)

The aim of this subanalysis was to evaluate the effect of finerenone on HF-related outcomes in FIDELITY in the overall population, and across eGFR and UACR subgroups

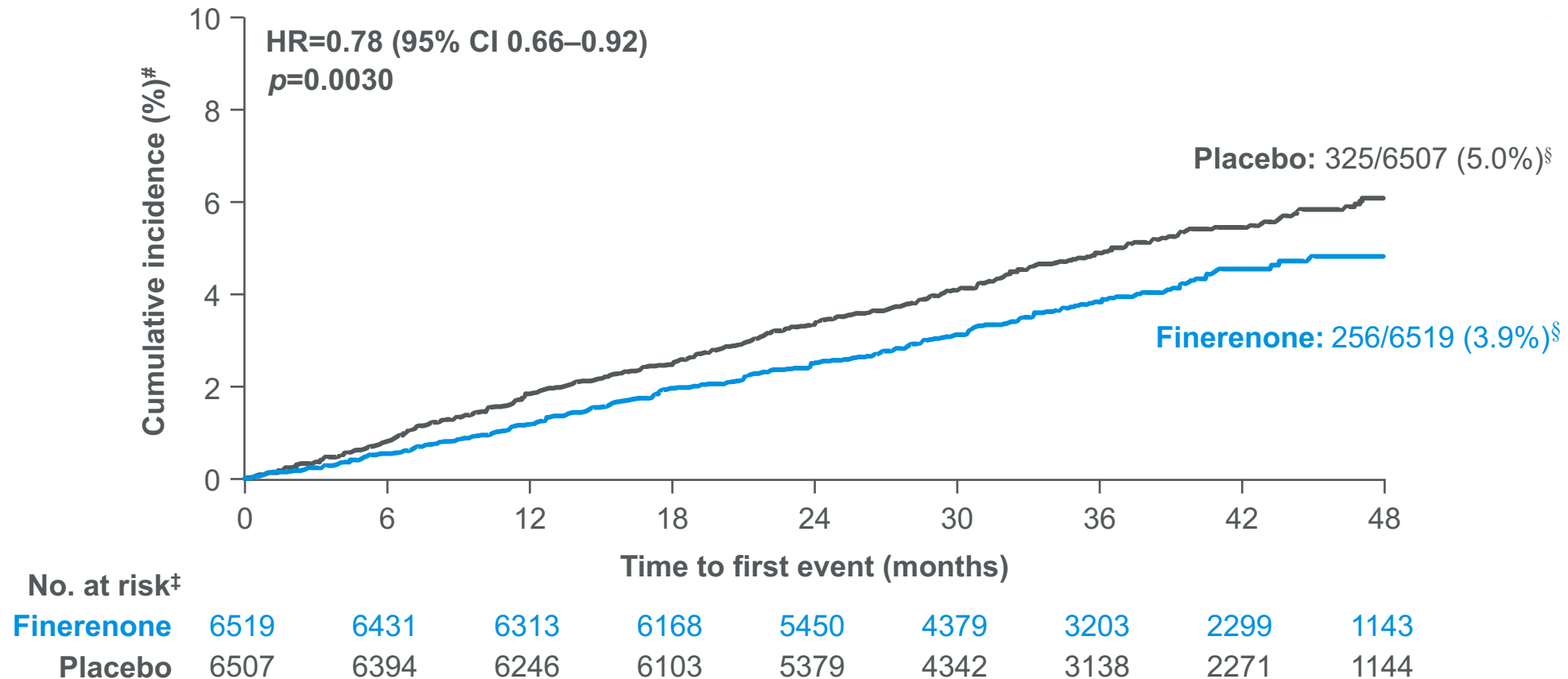
Data are mean unless otherwise stated

DBP, diastolic blood pressure; GLP-1RA, glucagon-like peptide-1 receptor agonist; HbA1c, glycated haemoglobin; SBP, systolic blood pressure; SGLT-2, sodium-glucose co-transporter-2 inhibitor

Filippatos G, *et al.* AHA 2021; abstract 17139

In FIDELITY, finerenone significantly reduced the risk of first hospitalisation for HF* by 22% vs placebo

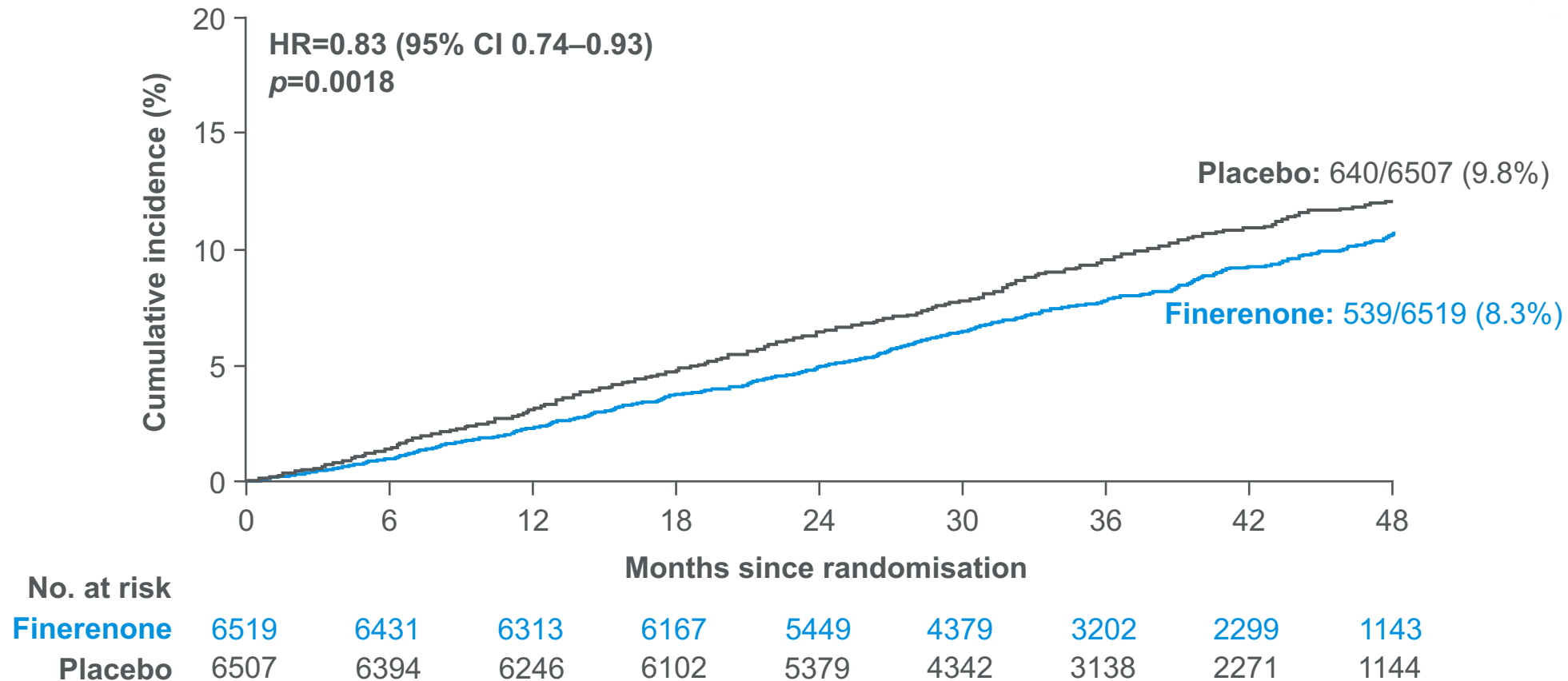
Time to first hospitalisation for HF



*First hospitalisation for HF defined as first event after randomisation; #cumulative incidence calculated by Aalen–Johansen estimator using deaths due to other causes as competing risk; ‡at-risk subjects were calculated at start of time point; §number of patients with an event over a median of 3.0 years of follow-up
Filippatos G, *et al.* AHA 2021; abstract 17139

In FIDELITY, finerenone reduced the risk for CV death and first hospitalisation for HF* by 17% vs placebo

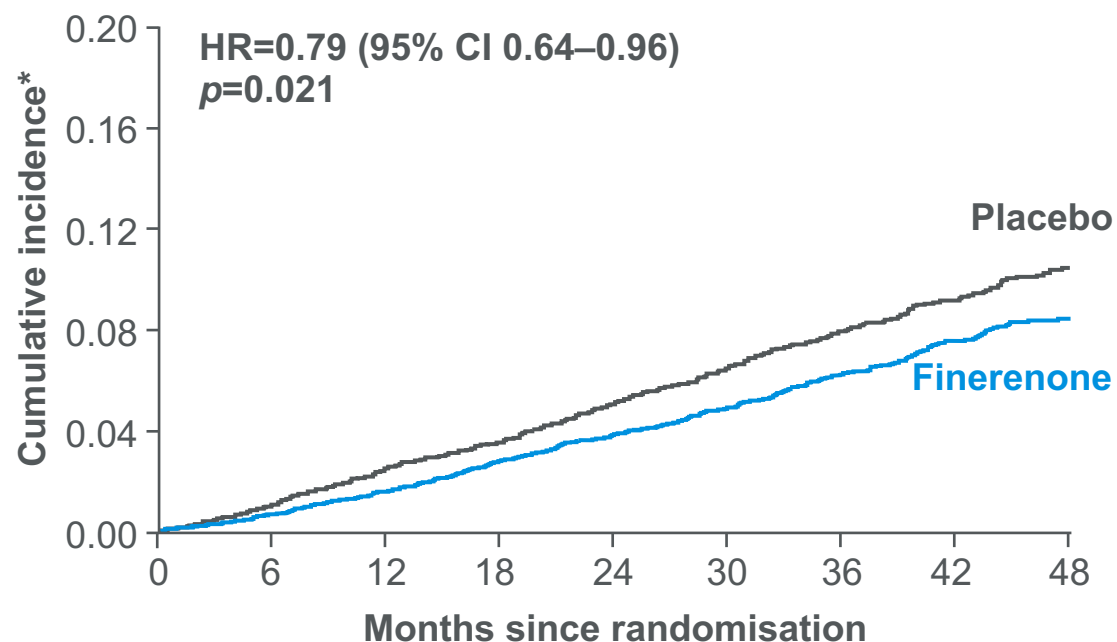
Time to CV death and first hospitalisation for HF



*First hospitalisation for HF defined as first event after randomisation
Filippatos G, et al. AHA 2021; abstract 17139

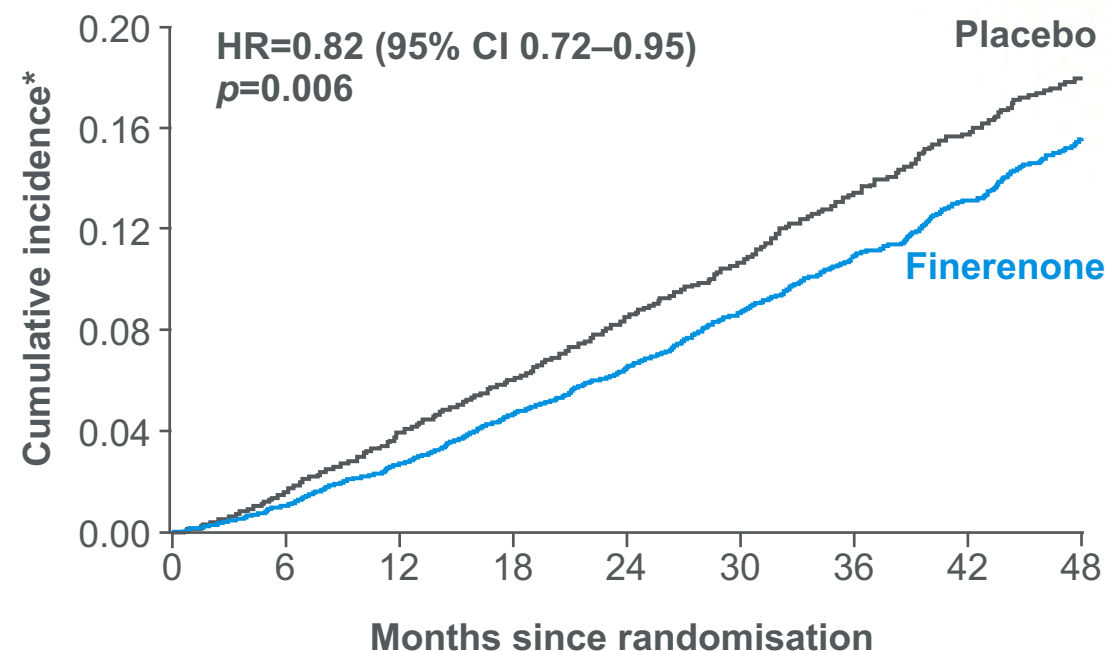
In FIDELITY, finerenone reduced risk of total hospitalisation for HF and CV death and total hospitalisation for HF

Time to total HHF (first and recurrent)



No. at risk									
Finerenone	6519	6464	6385	6280	5573	4507	3312	2395	1182
Placebo	6507	6444	6351	6240	5542	4495	3259	2364	1184

Time to CV death and total HHF (first and recurrent)

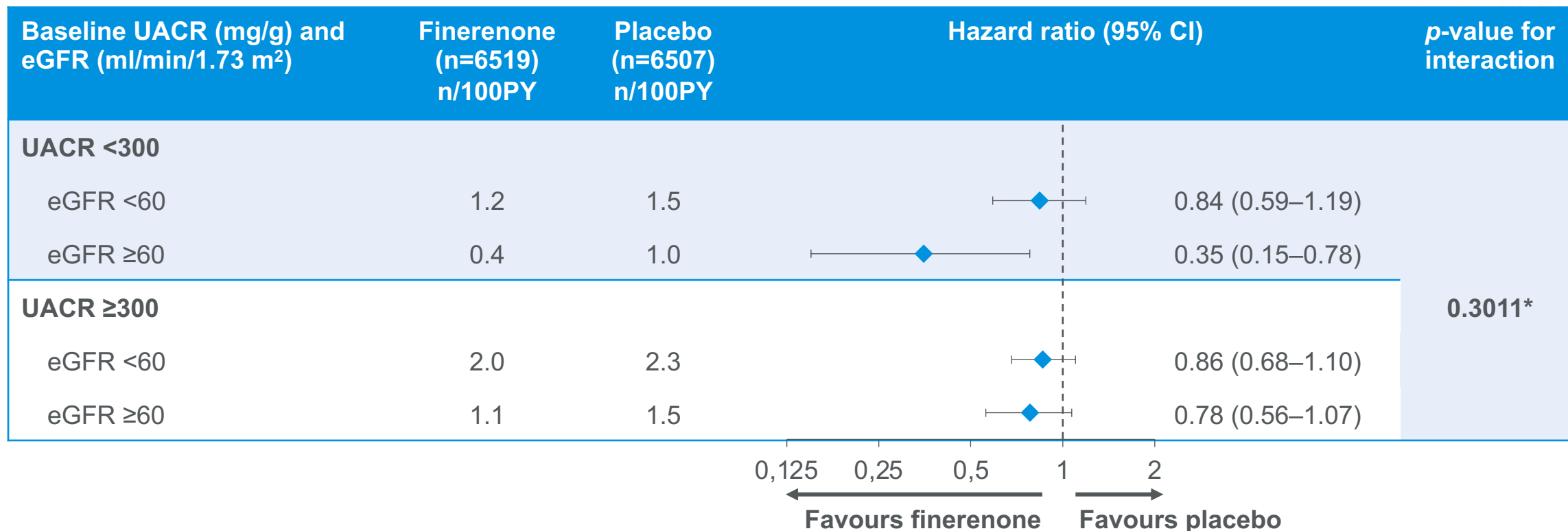


6519	6464	6385	6280	5573	4507	3312	2395	1182
6507	6444	6351	6240	5542	4495	3259	2364	1184

*Cumulative incidence based on mean cumulative function
Filippatos G, et al. AHA 2021; abstract 17139

In FIDELITY, finerenone reduced the risk of first hospitalisation for HF vs placebo across the eGFR and UACR spectrum

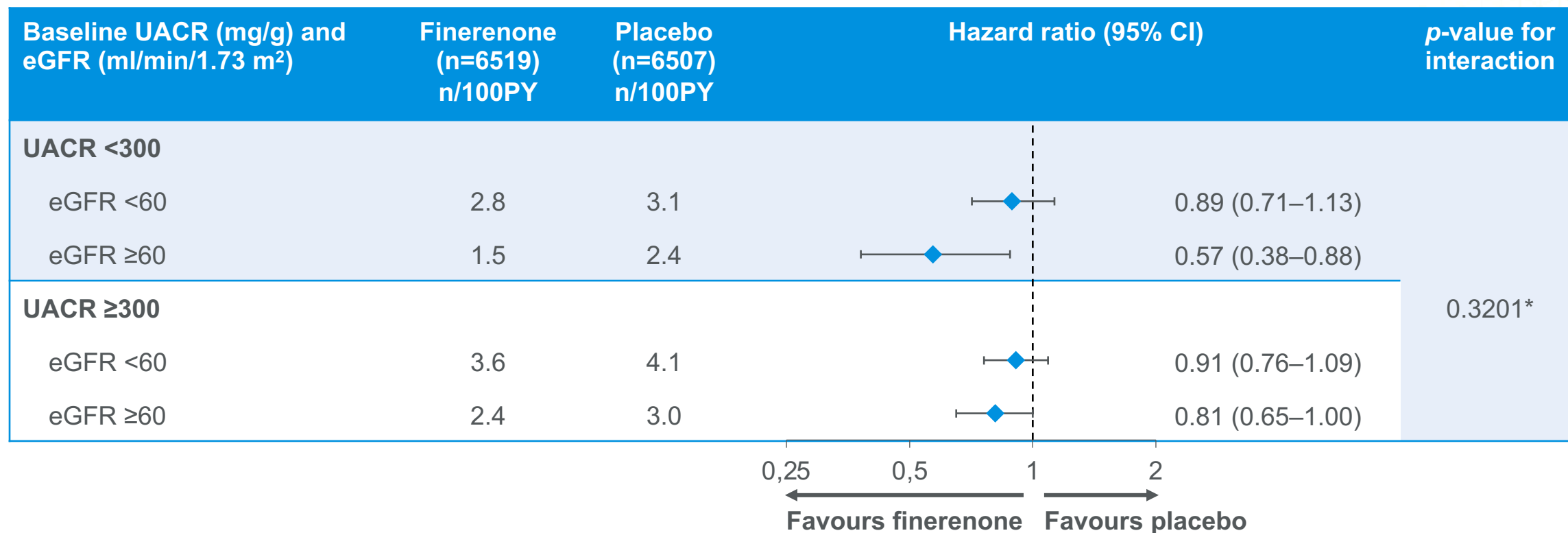
Time to first hospitalisation for HF



*Typically, a *p*-value <0.1 indicates a statistically significant subgroup effect
 UACR, urine albumin-to-creatinine ratio
 Filippatos G, *et al.* *AHA* 2021; abstract 17139

In FIDELITY, finerenone also reduced the risk of CV death and first hospitalisation for HF vs placebo across the eGFR and UACR spectrum

Time to CV death and first hospitalisation for HF



Summary and conclusion

In the FIDELITY prespecified pooled analysis,
in patients with CKD stage 1–4 with moderate-to-severely elevated albuminuria (UACR ≥ 30 mg/g),
well-controlled SBP and HbA1c, treated with optimised RAS blockade:

**Finerenone reduced
the risk of first
hospitalization for HF
by 22%
(HR 0.78;
95% CI 0.66–0.92)**

**Finerenone reduced
the risk of
hospitalization for HF
and CV death by 17%
(HR 0.83;
95% CI 0.74–0.93)**

**Finerenone reduced
hospitalization for HF
and CV death,
irrespective of eGFR
and UACR category**