

# A retrospective cohort study examining the real-world healthcare resource utilization (HCRU) and costs among patients with type 2 diabetes (T2DM) with newly diagnosed chronic kidney disease (CKD) stage III or IV with and without finerenone use

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## BACKGROUND

- Chronic Kidney Disease (CKD) is a prevalent comorbidity in patients with Type 2 Diabetes (T2DM), leading to increased healthcare resource utilization (HCRU) and costs.<sup>1</sup>
- Finerenone, a non-steroidal mineralocorticoid receptor antagonist, has demonstrated efficacy in reducing the risk of kidney and cardiovascular events in patients with CKD associated with T2DM, as shown in the FIDELIO-DKD and FIGARO-DKD studies.<sup>2-4</sup>
- Understanding the real-world impact of finerenone on HCRU and costs is important for healthcare decision-making.

## RESEARCH OBJECTIVE

- To characterize the HCRU, and costs in T2DM patients with a new diagnosis of CKD stage III or IV, describing outcomes with and without finerenone.

## METHODS

- Study Design:** A retrospective cohort study.
- Data Source:** Optum Clinformatics Database, which includes administrative health claims data from large commercial and Medicare Advantage health plans.
- Study Cohort:** The study included patients aged 18 years or older with T2DM and a new diagnosis of stage III or IV CKD. Patients were excluded if they had a prior CKD diagnosis, had used finerenone in the previous six months, had less than three months of finerenone exposure, or did not have continuous enrollment for one year before and after the index date. A 12-month continuous lookback and follow-up period were utilized to assess HCRU and costs.
- Statistical Analysis:** Proportions and means with standard deviations (SD) were reported for total HCRU and costs. Finerenone users and non-users were described using unadjusted data. Sensitivity analyses were conducted across different definitions and patient cohorts, and yielded results consistent with the primary analysis, supporting the robustness of finerenone’s impact on HCRU and costs.

Table 1. Key Baseline Characteristics

Characteristic	Finerenone 3-12 months use (n=424)	Non-finerenone (n=161,880)
Age, years		
Median	70.9	75.4
IQR	66.1, 75.7	69.6, 81.1
Gender		
Female, %	54	52.8
Male, %	46	47.2
CKD Stage		
III, %	93.2	93.7
IV, %	6.8	6.3
Cardiovascular disease		
HF, %	18.4	20.3
AF, %	13.2	16.3
Time to Finerenone Rx		
Median, days	118.5	-
IQR	43.5, 185.5	-
Medication		
ACEi/ARB, %	77.1	60.3
SGLT2i, %	30	8.2
GLP-1 RA, %	28.3	8.2
sMRA, %	7.3	7
nsMRA, %	0	0
Insulin, %	30	16.3
ARNI, %	2.1	1.8
Charlson Comorbidity Index (CCI)		
Score	1.93	1.88

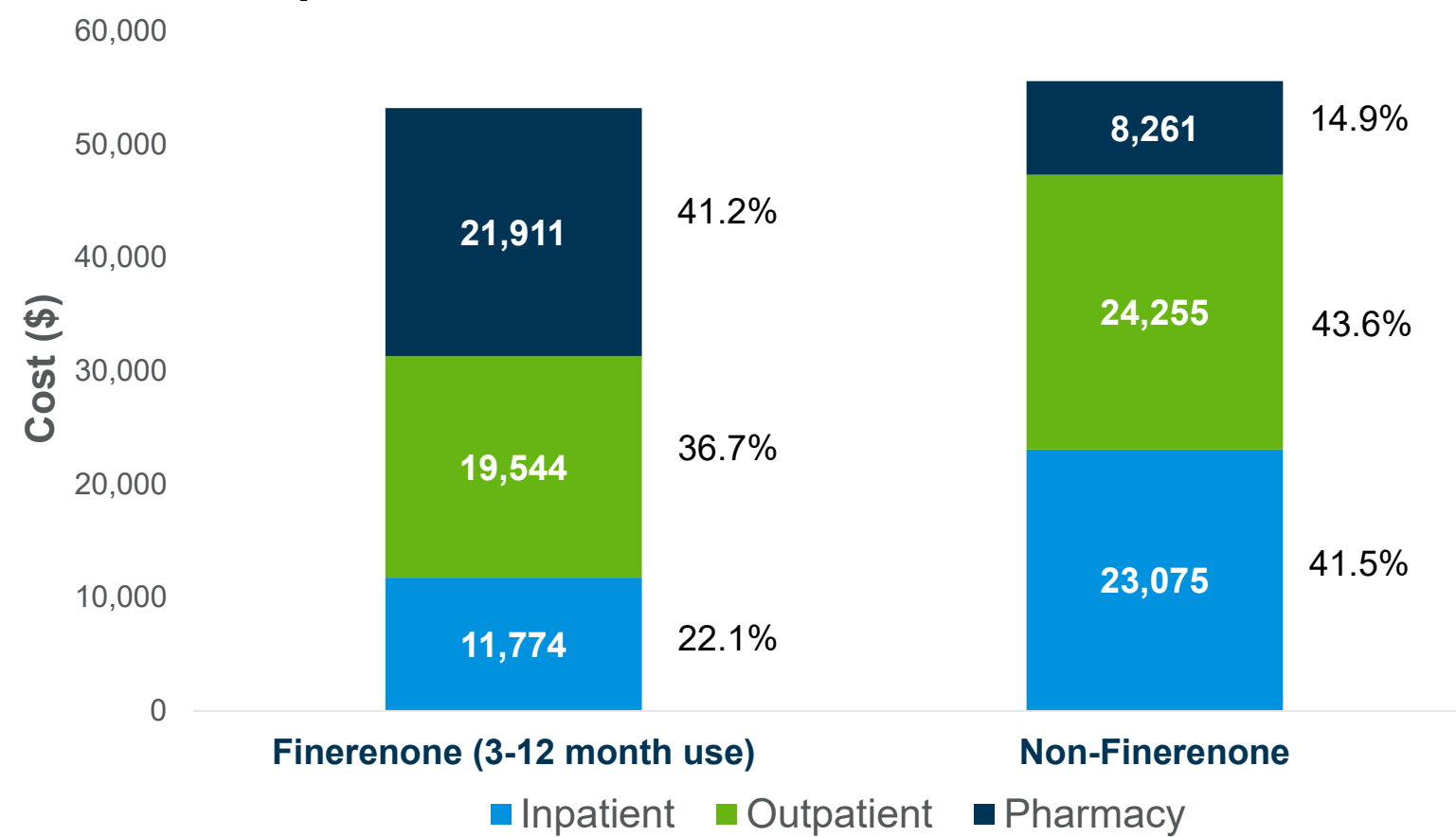
Table 2. Time to Finerenone Prescription

Time on Treatment	Patients, n (%)	Median Time to Prescription, days
0-12 months	666 (100%)	167.5
<3 months	242 (36.3%)	290
9-12 months	103 (15.5%)	31

Table 3. HCRU and Cost Analysis

Characteristic	Finerenone 3-12 months use (n=424)	Non-finerenone (n=161,880)
HCRU (unadjusted)		
Outpatient Visits, mean (SD)	24.9 (15.8)	23.6 (18.6)
ED Visits, mean (SD)	0.9 (1.9)	1.3 (2.3)
Inpatient Visits, mean (SD)	2.5 (7.5)	4.9 (12.3)
Cost (unadjusted)		
Outpatient, mean (SD)	\$19,544 (21,779)	\$24,255 (40,534)
Inpatient, mean (SD)	\$11,774 (37,907)	\$23,075 (54,591)
Pharmacy, mean (SD)	\$21,911 (18,673)	\$8,261 (18,880)
Total, mean (SD)	\$53,229 (54,567)	\$55,592 (81,037)

Figure 1. Healthcare Cost Proportions



## RESULTS

- Finerenone users exhibited a lower mean number of inpatient visits (2.5) compared to non-users (4.9), indicating potentially reduced hospitalizations.
- The total healthcare costs for finerenone users were approximately \$2,363 lower than non-users, suggesting a trend towards lower total cost.
- The three sensitivity analyses indicated that finerenone consistently leads to lower HCRU and costs across different definitions and patient groups.
  - All Finerenone User Group Analysis:** Finerenone users demonstrated lower HCRU with a mean of 26 outpatient visits and reduced total costs compared to non-users.
  - HCRU Outcomes Algorithm Variations:** When applying an alternative algorithm for HCRU, finerenone users continued to show lower outpatient and inpatient visits.
  - Age-Weighted Means Adjustment:** After adjusting for age, the finerenone group had lower HCRU and costs compared with non-users, despite being younger and having received more baseline treatments.

## LIMITATIONS

- Inclusion of unmatched cohorts and reliance on claims data, which may contain coding errors and lack laboratory results, introduces uncertainty in diagnoses and descriptive analyses.
- Uncertainty exists in RWE studies regarding the appropriate prescription and administration of medications, including finerenone.
- The study population was limited to insured patients, affecting the generalizability of findings to uninsured populations, and data were restricted to the Optum Dataset, which may not represent the broader patient population.

## CONCLUSIONS

- Finerenone is associated with lower average HCRU and lower total costs in patients with T2D and newly diagnosed CKD stage III or IV.**
- Sensitivity analyses yielded consistent results, indicating that finerenone may provide both HCRU and cost advantages in managing CKD associated with T2DM.**

## Acknowledgments

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## Disclosures

JE, BH, SS, JG, EP, AK, MF, and YW are employees of Bayer Healthcare Pharmaceuticals Inc. DB is a paid consultant for Sanofi and Tandem and has a research grant through the University of Utah with Dexcom.

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