Utilization and Equity Gaps in Kidney-Protective Therapies among a Diverse CKD Cohort at Columbia Irving Medical Center (CUIMC)

Luis Despradel, MD, Ian Chiu, DNP, MS, FNP-BC, Eunji Choi, Sarath Krishna Murthy, MS, Heedeok Han, MD

Division of Nephrology, Department of Medicine, Columbia Irving Medical Center, Manhattan, NY

COLUMBIA
COLUMBIA UNIVERSITY IRVING MEDICAL CENTER

Introduction

Racial and socioeconomic disparities in chronic kidney disease (CKD) care persist, particularly in the prescription of newly recommended, guideline-directed therapies. We aimed to identify patterns and disparities in CKD patients and prescribers at CUIMC in relation to kidney-protective therapies to inform future equity-focused interventions.

Methods

We retrospectively analyzed adult CKD patients seen from January to December 2024 across four CUIMC nephrology clinics. CKD was defined as eGFR 20–59 mL/min/1.73m² or eGFR 20–90 with albuminuria >30 mg/g or trace protein. Demographic, clinical, and prescription data—including age, race/ethnicity, insurance, language, comorbidities, labs, and use of angiotensin-converting enzyme inhibitors (ACEi), ARBs, Sodium Glucose Transporter 2 inhibitors (SGLT2i), and Mineral Corticoid Receptor Agonist (MRAs)—were obtained from the electronic health record.

Discussion

This analysis reveals substantial underutilization of kidney-protective medications in a diverse CKD population. Understanding sociodemographic variations in prescribing is critical to designing interventions that promote pharmacoequity in CKD care. Lower prescribing rates among female patients and Medicare beneficiaries remain unexplained and warrant further study. Despite a high burden of diabetes and proteinuria, overall SGLT2i and MRA use remains below expected levels. Equity-focused, system-level strategies are essential to close treatment gaps and ensure that kidney-protective therapies reach all eligible patients. Future work will investigate the structural and clinical factors underlying these disparities to inform the equitable implementation of CKD therapies.

Disclosure

Funding: Supported by the Columbia University Division of Nephrology and the Bright Award by Bayer.

Conflicts of Interest: The authors declare no conflicts of interest.

IRB Statement: Approved by the CUIMC Institutional Review Board (IRB#AAAV5045).

Results

Characteristic	Total (n=2499)
Age, mean ± SD	67.00±14.30
Sex, n (%)	
Male	1383 (55.34)
Female	**1116 (44.66)**
Race, n (%)	
Asian	85 (3.40)
Black or African American	504 (20.17)
White	875 (35.01)
Other	753 (30.13)
Decline/Unknown	282 (11.28)
Ethnicity, n (%)	
Hispanic	892 (35.69)
Non-Hispanic	1300 (52.02)
Decline or Other	307 (12.28)
Preferred Language, n (%)	
English	1638 (65.55)
Spanish	706 (28.25)
Other	155 (6.20)
Primary Insurance, n (%)	
Commercial	1052 (42.10)
Medicaid	155 (6.20)
Medicare	**1288 (51.54)**
Other/Missing	4 (0.16)
Active Portal Status, n (%)	2054 (82.19)

Table 1. Descriptive Table of Patients at the Chronic Kidney Disease Clinic

Characteristic	Total (n=2499)
Last eGFR, mean ± SD	44.18 ± 14.19
Comorbidities	
Diabetes, n (%)	1055 (42.22)
CHF, n (%)	273 (10.92)
Proteinuria, n (%)	1735 (69.43)
uACR Stage	
Not available	1336 (53.46)
A1: <30	422 (16.89)
A2: 30-300	449 (17.97)
A3:>300	292 (11.68)
Medication List	
SGLT2, n (%)	823 (32.93)
GLP_1, n (%)	413 (16.53)
ACE/ARB	1397 (55.90)
MRA, n (%)	
Non-Steroidal	60 (2.40)
Steroidal	315 (12.61)

Table 2. Clinical Characteristics and Use of Medications at the Chronic Kidney Disease Clinic

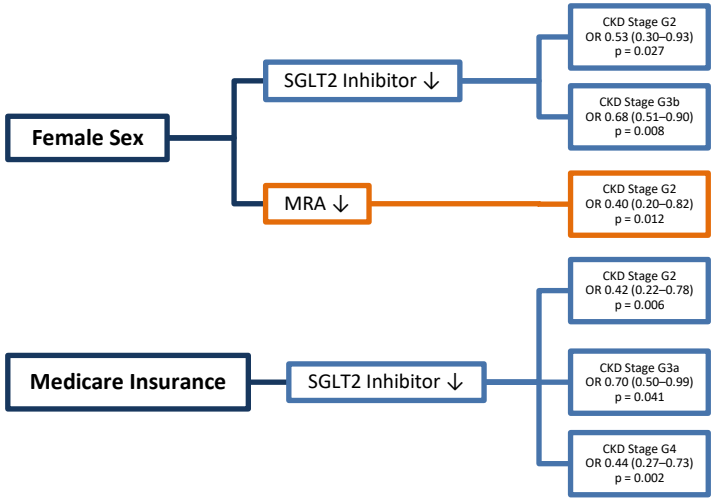

Figure 1. Sex- and Insurance-Based Disparities in CKD Prescribing

A cohort of 2,499 patients with CKD from the CUIMC Clinic was analyzed; patients were predominantly older, with a mean age of 67 years. The population was racially diverse (35% White, 20% Black, 36% Hispanic), and more than half (52%) had Medicare coverage. Comorbid conditions were common, including diabetes (42%) and heart failure (11%). Proteinuria was present in nearly 70% of patients, with 12% meeting criteria for albuminuria stage A3. Medication use largely reflected current CKD treatment guidelines: 33% received SGLT2 inhibitors (SGLT2i), 56% were prescribed ACE inhibitors or ARBs, 2% used non-steroidal mineralocorticoid receptor antagonists (MRA), and 13% received steroidal MRAs.

In adjusted analyses, diabetes remained the strongest predictor of SGLT2i and MRA use across CKD stages ($p < 0.001$). Race, ethnicity, and preferred language were not significantly associated with differences in prescribing. However, female sex and Medicare coverage were linked to lower odds of SGLT2i prescription, with a similar disparity observed for MRA use.