

# SGLT2i Prescribers Among Chronic Kidney Disease (CKD) Patients: Trends in Real-World Data (RWD)

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## 1. Introduction/Background

Sodium-Glucose Cotransporter-2 Inhibitors (SGLT2i) have demonstrated cardiorenal disease protection (approved 2021), in addition to established anti-glycemic effects (approved 2013). Early health care provider (HCP) adoption of new SGLT2i formulary drug indications is variable due to prescription costs, payer approval and prescriber type, particularly when the label is broad, as in the case of SGLT2i. Real World Data (RWD) of early adopter HCP use of SGLT2i use may offer insights into understanding practice trends for CKD management and health economics.

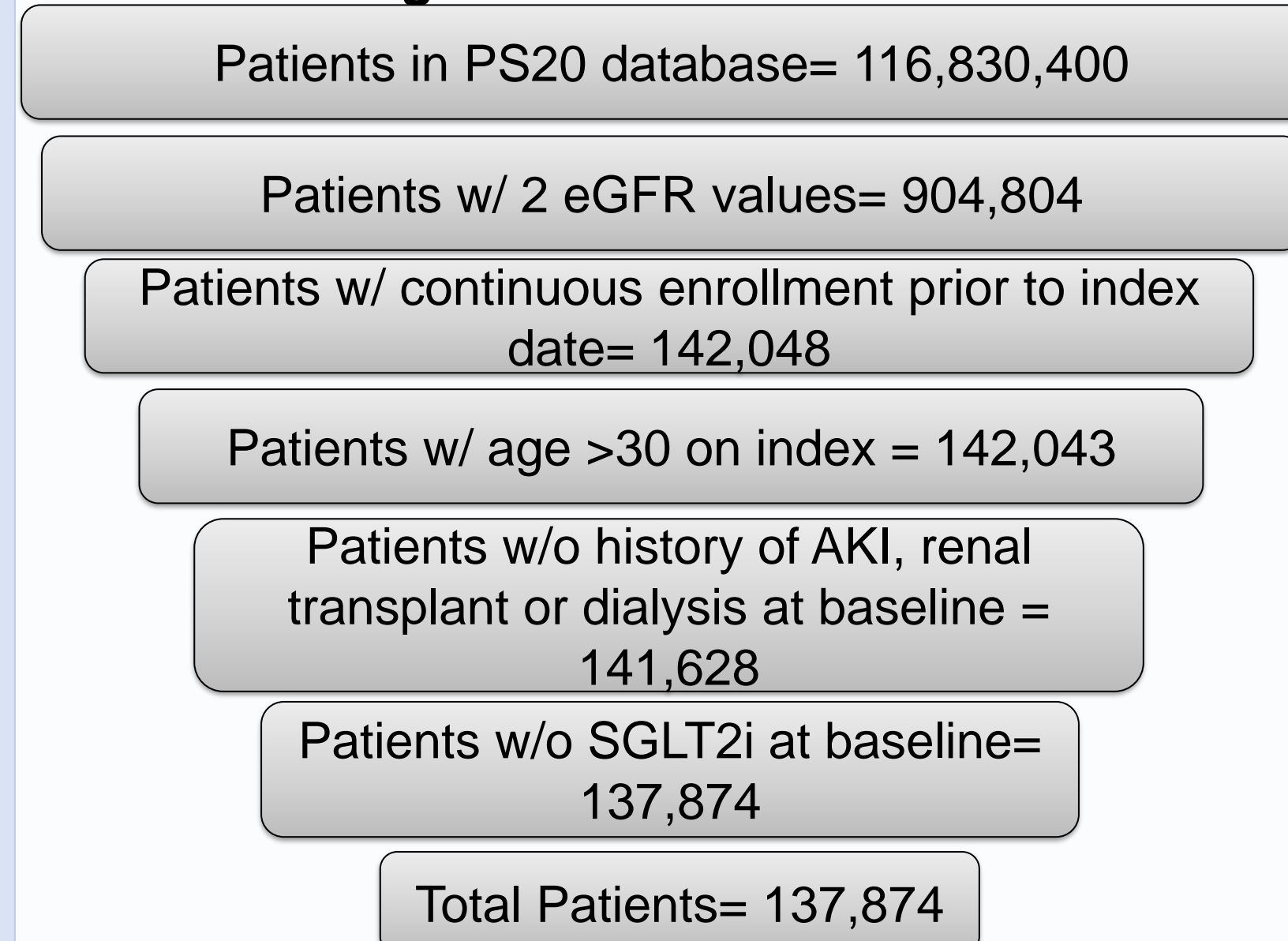
## 2. Goal

Describe patterns in new initiation of SGLT2i among patients with CKD stages 2-4.

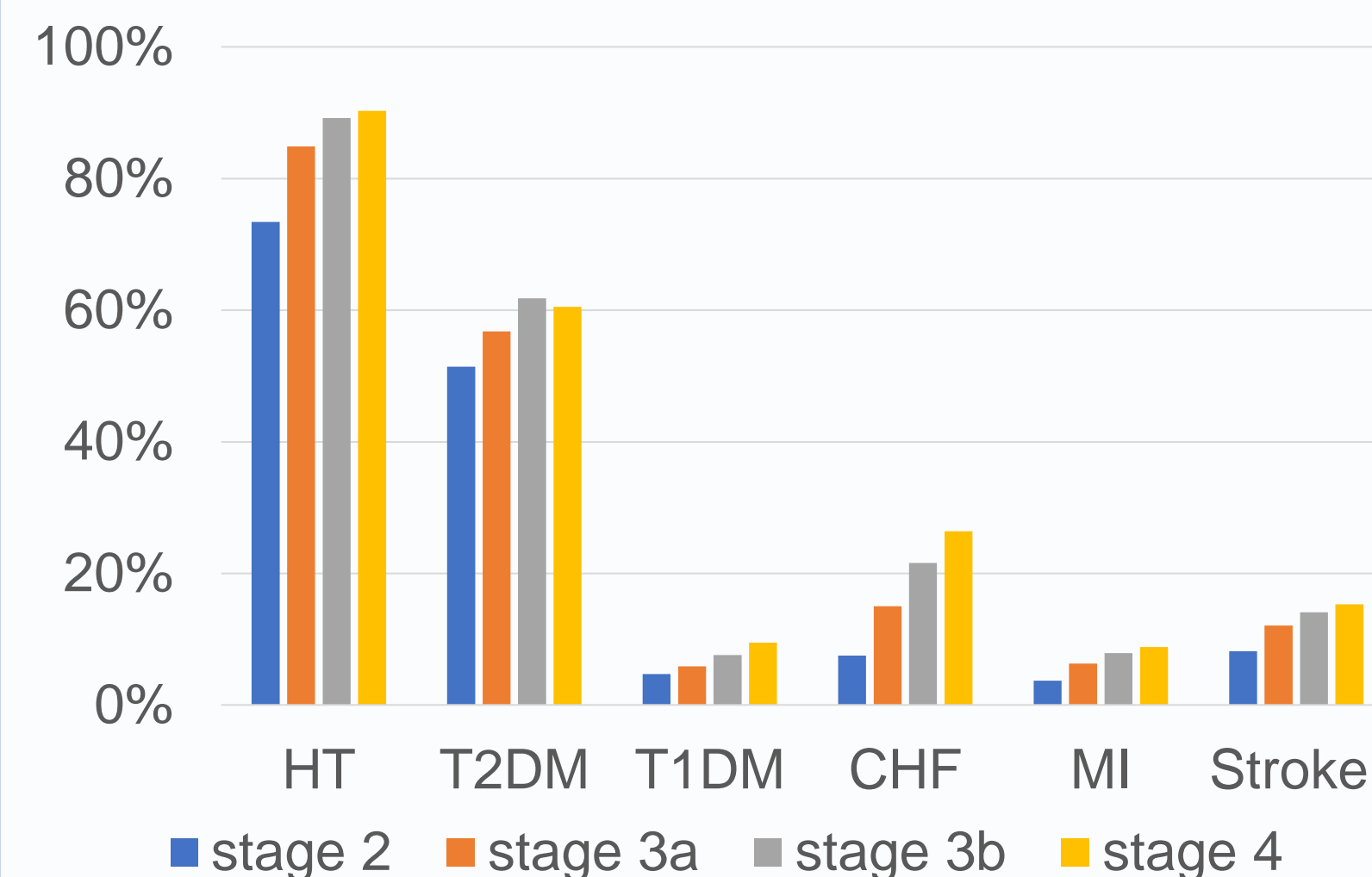
## 3. Methods

- Study population was identified in the HealthVerity PrivateSource20 (PS20) closed claims linked with integrated Veradigm Health Insights EHR and Quest laboratory data (2018-2021).
- The first eGFR test date was the index date, patients were followed for initiation of SGLT2i, end of continuous enrollment or end of data
- The provider type on the prescription claim was identified.
- Patients with AKI & SGLT2i prescriptions during baseline were excluded. Figure 1 depicts the attrition when patient selection criteria are applied.
- Comorbidity conditions shown by CKD stage in Figure 2.
- Baseline Characteristics:
  - Mean age 63 years, 54.3% female
  - Payer type: 38.7% commercial, 50.0% Medicaid/Medicare, 11.3% unknown

**Figure 1: Attrition Table**



**Figure 2: Comorbidities at Baseline by CKD Stage**

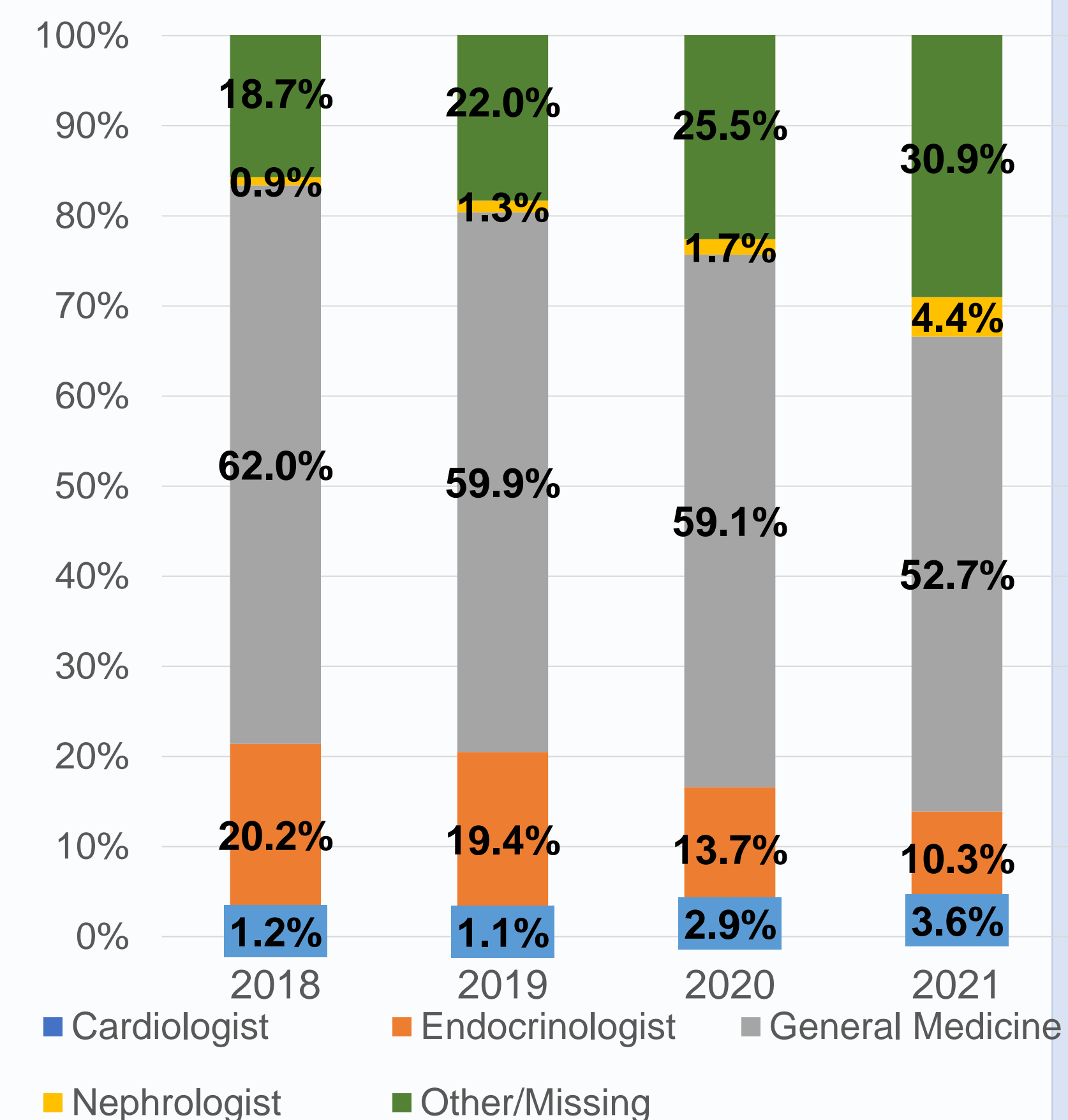


## 4. RESULTS

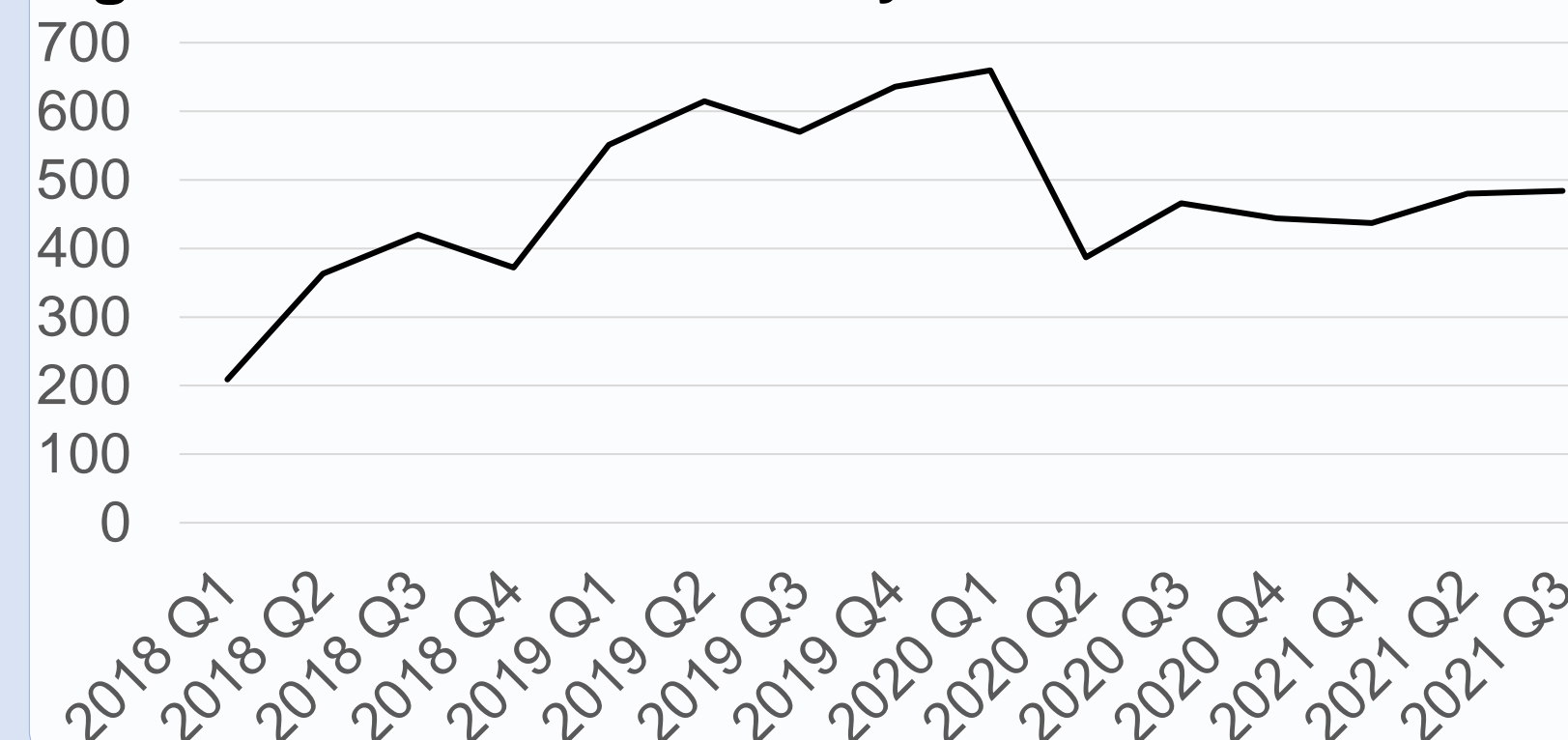
- 5.1% of CKD patients (7094/137,874) Stages 2-4 started SGLT2i therapy.
- 94.0% of new SGLT2i use was among T2DKD. SGLT2i initiation was highest in Stage 2 and 3 (5.7%, 4.1%) respectively.
- Prescriptions increased until Q1 2020 (Fig 4)
- 4 specialty groups comprised 79.0% of prescribers overall; General Medicine-GM (59.0%) and Endocrinologists (16.0%)

- As CKD stage increased, the proportion of prescriptions initiated by nephrologists increased (0.7% Stage 2 vs. 19.7% Stage 4).
- The proportion of Nephrologists and Cardiologists was low in 2018 (1.2%) but grew to 3.6% by 2021 (Fig. 3).

**Figure 3: SGLT2i Initiation by Year and Prescriber**



**Figure 4: SGLT2i Initiators by Calendar Year Quarterly**



## 5. Discussion

- Limitations of RWD include large attrition across inclusion requirements and inconsistent eGFR sampling.
- SGLT2i use was limited when first approved but increased over time due to expansion of uses and declined in 2020 due to COVID-19.
- SGLT2 prescriptions were greatest in Primary Care Providers, likely related to initial anti-glycemic indications.
- Prescriptions by Cardiologists and Nephrologist increased, possibly related to familiarity of cardiorenal benefits.
- The proportion of new SGLT2i prescription prescribed by Nephrologist increased with more severe CKD stage possibly related referral patterns, newer renal protective label and familiarity of complex therapeutic options.

## 6. Conclusions

- RWD indicates sparse initiation of SGLT2i in CKD patients.
- GM and Endocrinology were the most common prescribers
- Nephrology prescriptions increased among patients with more advanced CKD stage
- Additional SGLT2i evaluation is necessary to align with updated payer reimbursement, practice patterns and newer indications for reduction in cardiovascular and renal risk.

## References

1. FDA U.S Department of Human and Health Services (2018). Framework for FDA's Real-World Evidence Program.
2. Miller T, Stocker S, Baysari M. Prescribing of SGLT2 inhibitors: A qualitative study of general practitioners and endocrinologists. Diab Res Clin Prac. Li J, et al. Decision Algorithm for Prescribing SGLT2 Inhibitors and GLP-1 CJASN 2020, 15 (11)

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