Medication use following nephrologist vs. other prescriber visit during the transition to end-stage renal disease (ESRD)

Wendy St. Peter, Pharm D, FASN, FCCP, Chongchun Wang, MS, David Gilbertson, PhD, Allan Collins, MD, FACP
United States Renal Data System, Minneapolis Medical Research Foundation, University of Minnesota, Twin Cities

Introduction
- There is evidence to support the need for nephrologist care in chronic kidney disease (CKD) patients to initiate and guide treatment to prevent kidney disease.
- It is unclear whether nephrologist versus other prescriber visits influences the prescription of key medications during the transition from CKD to end-stage renal disease (ESRD).
- Our study objective was to evaluate the cumulative percentage of CKD patients receiving various oral antihypertensives, diuretics, active vitamin D, and phosphate binders after a first nephrologist visit as compared with visits to other prescribers in the 12-month period before ESRD.

Methods
- Two employer group health plan (EGHP) databases were used: Medstat and Ingenix.
- Included were incident ESRD patients in USRDS Coordinating Center, aged ≥20 years old, with medical and medication insurance 12 months before their incident ESRD date.
- The first nephrologist or first other prescriber visit in that 12-month period was identified. Other prescribers included primary care physicians, internists, cardiologists, nurse practitioners, and other prescribers who might reasonably prescribe chronic medications in CKD patients.
- Patients receiving a key identified drug within 3 months before the first visit were excluded.
- Prescription claims were searched for each key drug after the first visit. Follow-up time was censored at the end of enrollment or the ESRD date, and the cumulative percentage of patients receiving each medication was calculated.
- Comorbidities were identified by having either one Part A or two Part B claims.

Results
- There were 1,940 incident ESRD patients in the Medstat dataset, and 866 in the Ingenix dataset in 2006.
- There were 1,112 and 1,777 Medstat and 736 and 786 Ingenix patients had 3 months of insurance coverage before the first visit, respectively.
- Within each data source (Medstat & Ingenix), distribution of age, gender and comorbidities were similar between two cohorts: nephrologist visit versus other prescriber visit.
- A lower percent of patients received an ACEI/ARB and beta-blocker after the 1st nephrologist visit vs. other visit.
- A higher percent of patients received phosphate binders and active vitamin D agents after a first nephrologist as compared to other prescriber visit, regardless of the database used.
- The proportions of patients receiving ACEI/ARB, beta blockers, calcium channel blockers and diuretics after a first nephrologist visit vs. other visit were not consistent between databases.
- Nephrologist visits seem to consistently impact that percentage of patients receiving specialty nephrology medications (phosphate binders and active vitamin D), but not other medications commonly used in CKD patients.

Conclusions
- Patient demographic and comorbidity characteristics were similar between those having a first nephrologist vs. other visit.
- There were 1,112 and 1,777 Medstat and 736 and 786 Ingenix patients who received at least one nephrologist or other prescriber visit, respectively.
- There were 1,096 and 1,748 Medstat and 722 and 786 Ingenix patients who had 3 months of insurance coverage before the first visit, respectively.
- Comorbidities were identified by having either one Part A or two Part B claims.