In this study, we evaluated the use of stage-specific codes for chronic kidney disease (CKD) prior to 2002, however, the disease has emerged as a major public health issue. Since the introduction of the new NKF classification system for CKD in February, 2002, however, the disease has become more clearly defined, and awareness of CKD is associated with better management and whether coding is accurately performed.

**Introduction**

- Prior to 2002, the disease now defined as chronic kidney disease (CKD) had multiple designations, including chronic renal failure, pre-ESRD, renal failure, renal damage, and kidney disease.

- Since the introduction of the new NKF classification system for CKD in February, 2002, however, the disease has emerged as a major public health issue.

- In October 2005, the new 585.X ICD-9-CM codes were introduced to indicate CKD stages.

- In this study, we evaluated the use of stage-specific ICD-9-CM codes in three administrative databases in 2006: the Medicare 5% sample, the MarketScan® Research Database (Medstat), and the UnitedHealth Group (Ingenix/i3) data.

**Methods**

- Medicare 5% sample:
  - Medicare enrollees survived through 2006, were continuously enrolled with Medicare both Parts A and B, and were not enrolled in an HMO in 2006. Dialysis patients were excluded.
  - Medstat & Ingenix/i3 data:
    - Prevalent patients survived through 2006 and were enrolled in a fee-for-service plan. Dialysis patients were excluded.
    - Subjects with evidence of CKD and not on dialysis were identified from claims using ICD-9-CM codes (016.0, 095.4, 189.0, 189.9, 223.0, 236.91, 250.4, 271.4, 274.1, 275.4, 283.11, 403.X1, 404.X2, 404.X3, 440.1, 442.1, 447.3, 572.4, 580-588, 591, 642.1, 646.2, 646.4, 753.12-753.17, 753.19, 753.2, and 794.4).
- We examined the distribution of the number of different stage-specific codes a patient had in 2006. CKD stage was defined according to the stage-specific code on the claim for patients with only one stage-specific claim, or on the last claim for those with ≥2 claims with different stage codes in 2006.
- The percent of patients with CKD and CKD stage distribution were examined.
- We identified 1.5 million Medicare Part A and B enrollees, 10.4 million fee-for-service enrollees in Medstat, and 7.7 million in Ingenix/i3.

**Results**

- The proportion of patients with CKD was higher in the Medicare 5% sample (5.94%) and much lower in the Medstat (0.89%) and Ingenix/i3 data (0.65%).
- 40.6% of Medicare CKD patients had at least one stage-specific claim. The proportion was the same in the Medstat data, but a bit lower in Ingenix/i3 data (33.1%).
- Among those with ≥1 stage-specific claim, a majority had one stage code (ranging from 64.3%-69.9%), followed by those with two different stage codes (25.5%-28.1%) and those with 3 different codes (4.7%-7.6%).
- We found a very similar distribution of CKD stages between CKD patients enrolled in Medicare and Medstat, but relatively smaller proportions of CKD patients with stage 3 or higher in the Ingenix/i3 data.

**Conclusions**

- The results of this study show that stage-specific CKD codes (585.1-585.6) are substantially underutilized by health care professionals.
- About 60% to 67% of CKD patients did not have claims with stage-specific CKD codes.
- Further studies are needed to evaluate whether increased awareness of CKD is associated with better management and whether coding is accurately performed.