patients who recover to their pre-hospitalization EPO dose, post-hospitalization ESA dose decreases frequently persist for several months, possibly due to missed ESA doses, lower Hb from hospital-related gastrointestinal bleeding, and increased inflammatory states post-hospitalization. Strategies to address the causes of this should be evaluated.

**PUK30**

**ONCE MONTHLY ERYTHROPOIESIS STIMULATING AGENT (ESA) DOsing MAY REDUCE ESA UTILIZATION COMPARED TO THREE-WEEKLY ESA DOsing**

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**OBJECTIVES:** US dialysis centers typically dose ESA at every session (3x/wk), enabling frequent titrations. A once-monthly ESA is currently under FDA consideration. We recently demonstrated that more frequent Hb measurements and dose titrations are associated with higher ESA utilization. We developed an economic model to quantify the potential impact of switching from a 3x/wk ESA to a once dosed monthly ESA. This model incorporates ESA costs, ESA utilization, and other efficiencies (e.g., reduced administrations).

**METHODS:** A cost-offset model estimated total ESA utilization and cost for monthly vs. 3x/wk dosing. Utilization inputs were derived from a retrospective study of prevalent (≤ 120 days), adult (> 18 years old) hemodialysis patients (n=78,730), dialyzing at a large dialysis organization between 01/01/09-12/31/10. Patients dosed 3x/wk experience 1.1 dose titrations and 2.9 Hb measurements on average per patient-month. Each additional monthly dose titration is associated with a 24.1% (95% CI: 21.5%-26.4%) increase in total ESA dose. Based on once-monthly ESA vs. 3x/wk ESA data (Provenzano et al., ASN 2011), we projected patients on a once-monthly ESA would experience 0.8 titrations and 1 Hb measurement per month, and projected savings-based reductions of mean titrations and tests. Price (derived from published sources), dose and clinical equivalence were assumed across ESAs. Model outcomes include incremental utilization and incremental cost. RESULTS: The model predicts that switching patients to monthly ESA could result in a 7.95% (95% CI: 7.10%–8.73%) reduction in per-patient/month ESA utilization. This translates into savings of $5,322 (95% CI: 4,748–5,839) U.S. dollars/month/patient and $52.37 (95% CI: 46.72-58.47) U.S. dollars/month/patient for monthly ESA utilization (96% sensitivity), we estimated ESA savings of $510,934 U/month and cost savings of $5,028/month. CONCLUSIONS: The model predicts that increasing the interval between ESA dose adjustments, based on the FDA approval and administration of a once monthly ESA, could decrease ESA utilization.

**PUK31**

**HOW COMMON IS CO-OCCURRING ED AND BPH IN A HEALTH CARE CLAIMS DATABASE?**

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**OBJECTIVES:** The Clinical Modification (CM) of International Classification of Diseases, Ninth Revision (ICD-9-CM) codes was implemented January 2011. We conducted a retrospective analysis of adult (≥ 18 yrs old) hemodialysis patients (n=61,052) who had stage 3-5 CKD based on the “gold standard”. ICD-9-CM codes with a positive predictive value whose lower CI bound was ≥ 80% were considered valid.

**METHODS:** Patients meeting the following criteria were included: 1) diagnosis of type 2 diabetes (ICD-9-CM codes A18, A19); 2) at least 90 days apart, with an estimated glomerular filtration rate (eGFR) < 60 mL/min. eGFR was calculated using the CKD Epidemiology Collaboration equation and the Modification of Diet and Renal Disease (MDRD) equation. We calculated sensitivity, specificity, positive predictive value (PPV) and negative predictive value for the selected codes. Exact binomial 95% confidence intervals (CIs) were derived, and codes with a PPV whose lower CI bound was ≥ 80% were considered valid.

**RESULTS:** The study sample consisted of 383,970 patients. Approximately 16% of the sample (N=61,052) had stage 3-5 CKD based on the “gold standard”. ICD-9-CM codes for chronic renal failure, stage 3 (583.5-3), had a PPV of 84.2% (CI: 83.7% - 84.7%). ICD-9-CM code 585.6, used to describe anemia in CKD, had a PPV of 84.7% (CI: 83.6% - 85.7%). ICD-9-CM code 285.21, used to describe anemia in CKD, had a PPV of 84.5% (CI: 84.6% - 86.2%). For the remaining code groups, PPV ranged from 50% to 78%, with CIs of ≥ 2 percentage points. Similar results were obtained when eGFR was calculated using the MDRD equation. CONCLUSIONS: This cross-sectional validation study suggests that diabetic patients with stage 3-5 CKD can be accurately identified in administrative claims data using selected ICD-9-CM codes.

**PUK32**

**LOWER CASE MIX ADJUSTERS ARE ASSOCIATED WITH LOWER ERYTHROPOIESIS-STIMULATING AGENT (ESA) AND OTHER BUNDLED COSTS**

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**OBJECTIVES:** The CMS dialysis payment system (PPS) uses patient characteristics and comorbidities to calculate payments. The final list of multipliers (or case-mix adjusters; CMAs) was effective January 2011. We assessed how CMAs and their relationship to ESA and resource utilization covered by the PPS.

**METHODS:** We conducted a retrospective analysis of adult (≥ 18 yrs old) hemodialysis patients at a large dialysis organization from 1/1/2011-6/30/2011. Patients were compared in 30,281,186 sessions in the lowest CMA group vs. 10,16 in the highest; p < 0.001. CMA values were inversely associated with number of attended sessions (11.75 attended sessions in the lowest CMA group vs. 10.16 in the highest; p < 0.001). ESA use was associated with higher ESA utilization and cost, respectively. Break-even success rates for second dextranomer/hyaluronic acid injections are 29% and 77% per ureter for patients with unilateral reflux and 75% per ureter for bilateral reflux. If increasing grades of reflux require increasing volumes of dextranomer/hyaluronic acid, success rates of 73% for unilateral reflux and 94% for bilateral reflux represent the break-point for cost-effectiveness. In models where dextranomer/hyaluronic acid injection is repeated if VUR does not resolve after initial injection, break-even success rates are 11% and 60% with unilateral reflux if success rates of initial injections were 70% and 55%, respectively. Break-even success rates for second dextranomer/hyaluronic acid injections are 9% and 77% per ureter with bilateral reflux, if success rates of initial injections are 70% and 55%, respectively. Based on 2011 epidemiologic estimates of 598,699 children who are candidates for VUR treatments, dextranomer/hyaluronic acid injection endoscopic injections and clinical outcome success rates as reported in recent studies, potential annual savings with dextranomer/hyaluronic acid range from $1.5 million to $23 million. CONCLUSIONS: A nonsurgical approach is potentially associated with higher initial reflux rates but lower cost.

**References:**

**PUK33**

**VALIDATION OF ICD-9 CODES FOR THE IDENTIFICATION OF PATIENTS WITH STAGE III-IV CHRONIC KIDNEY DISEASE IN ADMINISTRATIVE CLAIMS DATA**

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**OBJECTIVES:** Testing the validity of ICD-9-CM codes to identify diabetic patients with stage 3-5 chronic kidney disease (CKD) in administrative claims data is essential. We conducted a cross-sectional study using claims from a large commercial health plan. Patients meeting the following criteria were included: 1) diagnosis of type 2 diabetes; 2) ≥ 12 months of continuous health plan eligibility, and 3) ≥2 non-zero serum creatinine claims. We derived test characteristics, at least 90 days apart, between January 1, 2004 and June 30, 2011. We identified 12 ICD-9-CM code groups potentially indicative of CKD stage 3-5 and validated them against a “gold standard”, defined as two laboratory claims, at least 90 days apart, with an estimated glomerular filtration rate (eGFR) < 60 mL/min. eGFR was calculated using the CKD Epidemiology Collaboration equation and the Modification of Diet and Renal Disease (MDRD) equation. We calculated sensitivity, specificity, positive predictive value (PPV) and negative predictive value for the selected codes. Exact binomial 95% confidence intervals (CIs) were derived, and codes with a PPV whose lower CI bound was ≥ 80% were considered valid.

**RESULTS:** The study sample consisted of 383,970 patients. Approximately 16% of the sample (N=61,052) had stage 3-5 CKD based on the “gold standard”. ICD-9-CM codes for chronic renal failure, stage 3 (583.5-3), had a PPV of 84.2% (CI: 83.7% - 84.7%). ICD-9-CM code 585.6, used to describe anemia in CKD, had a PPV of 84.7% (CI: 83.6% - 85.7%). ICD-9-CM code 285.21, used to describe anemia in CKD, had a PPV of 84.5% (CI: 84.6% - 86.2%). For the remaining code groups, PPV ranged from 50% to 78%, with CIs of ≥ 2 percentage points. Similar results were obtained when eGFR was calculated using the MDRD equation. CONCLUSIONS: This cross-sectional validation study suggests that diabetic patients with stage 3-5 CKD can be accurately identified in administrative claims data using selected ICD-9-CM codes.