OBJECTIVES: To evaluate the cost of anemia management according to hemoglobin level variability in hemodialysis (HD) patients. **METHODS:** This was a retrospective study based on computerized medical files, (Hemodial® software database), which included 636 HD patients in 5 dialysis centers in 2009. Patients were evaluable if they were regularly hemodialyzed, had at least one Hb recorded per month and were monitored for at least 4 months. "Annual Hb values" were categorized according to their monthly mean Hb (Ideal [10 ≤ Hb ≤ 12 g/dL; n=119]; High [Hb >12 g/dL; n=61] and Low [Hb < 10 g/dL; n=18] if >75% of time in respective category, otherwise categorized in Fluctuating; n=438). **RESULTS:** Out of 636 evaluable patients (mean age, 67 y; male, 59.4%) underwent 144 HD sessions (median); 16.8% were new dialysis patients. The cost of anemia management was mainly related to erythropoiesis-stimulating agents (68% of total cost for Low category and approximately 90% for other categories). Adjusted predictive factors for higher costs of anemia management (p<0.0001) were: dialysis center (from 2518 to 5617€), age (4911€ ≤ 55 y vs. 5378€ 65–75 y), female gender (4911€ vs. 4398€ for male), serum ferritin (5102€ for 200–500 μg/mL vs. 4646€ for ≥500 μg/mL) and dialysis vintage (4911€ if ≤ 2 y vs. 2952€ if 4–6 y). The cost for patients in the Low Hb category (13 005€) was significantly higher compared to the others categories: Ideal (5034€), Fluctuating (4911€) and High (2418€). **CONCLUSIONS:** Predictive of higher costs of anemia management in HD patients were the dialysis center, Low Hb category and patients starting dialysis. Different treatment strategies led to acceptable Hb levels but showed substantially different costs.

PUK15

A MANAGED CARE COST-OFFSET MODEL FOR FERRIC CITRATE, AN EXPERIMENTAL PHOSPHATE BINDER THAT CAN REDUCE THE USE OF ERYTHROPOIESIS-STIMULATING AGENTS AND INTRAVENOUS IRON IN HEMODIALYSIS PATIENTS WITH HYPERPHOSPHATEMIA

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OBJECTIVES: According to 2009 figures from the US Renal Data System, 17% of all patients received their first dialysis with private insurance coverage. Ferric citrate (FC) is a phosphate binder (PB) in clinical development for the treatment of hyperphosphatemia in ESRD patients. Patients receiving FC in clinical studies experienced reductions in serum phosphorus, and increases in serum ferritin and saturated transferrin (TSAT). In an observational study analyzing data of a large dialysis provider, similar increases in ferritin and TSAT in patients with stable hemoglobin were associated with reduced doses of intravenous (IV) iron and erythropoiesis-stimulating agents (ESAs) such as epoetin alfa. Reduced IV iron and ESA use could lower costs of ESRD treatment for insurers. **METHODS:** We created a managed care cost-offset model that considered annual treatment costs of ESRD patients prescribed FC versus alternative PBs. The model assumed similar efficacy and cost neutrality between FC and other PBs. Baseline input values were derived from published sources as well as a database analysis from a large US dialysis provider. Monte Carlo simulations were performed using varying model inputs such as the number of patients insured, proportion of ESRD patients on PBs, number of dialysis sessions, estimated cost for dialysis, and ESA and iron costs from observed dose ranges. **RESULTS:** Results of the simulation were used to derive a 90% confidence interval for the potential annual cost savings realized with FC use. Simulations show a 90% probability that an insurer serving 500 dialysis patients could save between $389,000 and $829,000 annually with the use of FC. The model was most sensitive to the number of dialysis sessions per month, health plan size, ESA cost, and proportion of ESRD patients receiving PBs. **CONCLUSIONS:** The use of FC over alternative PBs could create a meaningful cost-offset savings and help reduce the economic burden of treating patients with ESRD.

PUK16

REDUCED USE OF ERYTHROPOIESIS-STIMULATING AGENTS AND INTRAVENOUS IRON WITH USE OF THE PHOSPHATE BINDER FERRIC CITRATE: A FACILITY-LEVEL COST-OFFSET MODEL UNDER THE MEDICARE BUNDLE

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OBJECTIVES: The United States Renal Data System reported that of $2.78 billion spent on injectable drugs for patients with end-stage renal disease (ESRD) during 2009, $1.89 billion was for erythropoiesis-stimulating agents (ESAs), such as epoetin alfa. These costs were reimbursed to dialysis providers under the Medicare Prospective Payment System, where dialysis payment is bundled with injectable drugs payment. Oral ferric citrate (FC) is a phosphate binder in clinical development for hyperphosphatemia treatment in ESRD patients. Clinical trials demonstrated that FC lowers patients' serum phosphorus levels with the added benefit of increasing patients' serum ferritin and saturated transferrin (TSAT) levels. In an observational study analyzing data of a large dialysis provider, similar increases in ferritin and TSAT in patients with stable hemoglobin were associated with reduced doses of intravenous (IV) iron and ESAs. **METHODS:** We created a facility-level Medicare cost-offset model that considered annual costs of ESRD treatment for patients prescribed FC versus other phosphate binder medications (PBs). The model assumed equal price and efficacy between FC and competitor PBs. Model inputs included the Medicare average sales price of iron and ESAs, proportion of ESRD patients on PBs, facility-level cost, and Medicare reimbursement rates with case-mix adjusters. Margin was calculated as the difference between reimbursement and cost. We assessed the effects of FC use to dialysis providers by comparing margin for patients on FC versus those taking other PBs. **RESULTS:** With FC use versus other PBs, annual facility-level reductions in ESA and IV iron administration were 9.60% and 11.9%, respectively. These decreases translated to an annual cost savings of approximately 2.56% of the facility's total annual bundled Medicare reimbursement. **CONCLUSIONS:** A 2% potential cost savings with FC use in patients taking PBs would be an important opportunity for dialysis providers to reduce patients' treatment costs under Medicare's Prospective Payment System.

PUK17

ECONOMIC BENEFITS OF SLOWING PROGRESS TO END STAGE RENAL DISEASE (ESRD) IN PATIENTS WITH DIABETES-RELATED CHRONIC KIDNEY DISEASE (DKD), COMPARED WITH STANDARD OF CARE (SOC)

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OBJECTIVES: DKD is the primary cause of ESRD in the US, with ~45% of ESRD associated with diabetes. A cost-effectiveness model was created to evaluate the long-term costs and benefits of a therapeutic intervention that slows the progress to ESRD in DKD patients. **METHODS:** The model is a Monte Carlo microsimulation of a semi-Markov structure with a lifetime patient perspective. Kidney disease is modeled as normal, Stages 1 through 5, and ESRD. Proteinuria is modeled as none, microalbuminuria, and macroalbuminuria. The model incorporates cardiovascular disease (CVD) events and mortality along with non-CVD mortality. Modeled costs are therapy costs, regression-equation supplied annual medical costs, and ESRD costs. Analyses were performed for diabetic males receiving ACEi or ARB therapy, age 60, macroalbuminuria, and estimated glomerular filtration rates (eGFR) of 30 (Stage 3/4 breakpoint) and 40 (Stage 3b) mL/min/1.73m2. The intervention was modeled as a chronic pharmaceutical therapy to be administered through kidney disease Stage 4. We assume this confers a 28% reduction in annual eGFR degradation; this is in addition to the base case ARB-attributed reduction in eGFR degradation. Separate economic analyses were performed for annual intervention costs of $2500 and $7500. **RESULTS:** Compared with SOC (i.e., ACEi or ARB treatment), and respectively in patients at eGFRs of 30 and 40, the intervention increased QALYs (+0.29, +0.51) and life years (+0.30, +0.66) and also resulted in fewer patients reaching ESRD (-74/1,000; -104/1,000). For the intervention cost of $2500, cost savings were realized for both eGFR cohorts. For the $7,500 cost, cost-per-QALY ICERs were calculated to be $79,965 for the eGFR 30 and $75,052 for the eGFR 40 cohorts. **CONCLUSIONS:** Use of an effective therapeutic intervention to slow progression to ESRD in high risk DKD patients can result in medical benefits (i.e., ESRD cases avoided) and can be cost-effective or even cost saving.

PUK18

COST-EFFECTIVENESS OF PHARMACOLOGIC TREATMENT OF OVERACTIVE BLADDER

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OBJECTIVES: To determine the cost-effectiveness of pharmacologic treatments for overactive bladder. **METHODS:** A decision model was constructed based on studies of effectiveness, adverse consequences, comorbid conditions, and medical costs for the treatment of overactive bladder. The model was based on a previously published cost-effectiveness model. The 3 month model classifies patients to 1 of three states after treatments including: 1) complete continence; 2) treatment failure; and 3) discontinuation of treatment. Estimates of complete continence were obtained from trials involving products on the US market as of February 2011. These products included darifenacin, fesoterodine, oxybutynin immediate release (IR), oxybutynin extended release (ER), oxybutynin topical gel, oxybutynin transdermal patch, solifenacin, tolterodine IR, tolterodine ER, trospium IR, and trospium ER. A systematic search of MEDLINE and Embase was conducted to identify relevant studies. Costs were derived from the literature and updated to 2011 values using the medical components of the consumer price index. Medication costs were based on wholesale acquisition cost. Probabilistic sensitivity analysis was conducted using a Monte Carlo simulation. **RESULTS:** A total of 51 studies were identified, of which 11 studies reported complete continence rates. Complete continence rates ranged from 19.0% for darifenacin to 51.0% for solifenacin. The lowest cost treatment was oxybutynin IR ($752 per patient) and the highest cost was trospium IR ($1,223 per patient). The product with the lowest ICER relative to oxybutynin was solifenacin at $1,405 per additional continent patient. The cost-effectiveness acceptability curve indicated oxybutynin IR was most cost-effective with willingness-to-pay (WTP) values less than $10,000, and solifenacin was most cost-effective at higher WTP values. **CONCLUSIONS:** Compared with generic oxybutynin IR, only solifenacin was more cost-effective and had an ICER below $1,500 per successfully treated patient. Only oxybutynin IR and solifenacin had a non-zero probability of being cost-effective as compared to other therapies.

PUK19

INCREMENTAL COST-EFFECTIVENESS OF PHARMACIST-MANAGED ERYTHROPOIESIS-STIMULATING AGENTS CLINICS FOR NON-DIALYSIS CHRONIC KIDNEY DISEASE PATIENTS

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OBJECTIVES: Pharmacists successfully manage patients with anemia and chronic kidney disease (CKD), but these programs' cost-effectiveness is unknown. This analysis examines the cost-effectiveness of pharmacist-managed erythropoiesis-stimulating agents (ESAs) clinics compared to usual physician-based care in patients with non-dialysis (ND) CKD. **METHODS:** A Markov model estimated the incremental cost-effectiveness of pharmacist-managed ESA clinics compared with usual care in outpatients receiving ESAs for ND-CKD at ten VA Medical Centers