parameters with $p < 0.001$. Compared to MMF, reduced-dose of CsA with everolimus decreased the one-year total direct medical cost due to major clinical events by HF 1,373,254 and HF 1,387,057 for everolimus 1.5 mg and 3.0 mg, respectively (see table) . Adjusted for patient characteristics, the cost savings become HF 940,380 for everolimus 1.5 mg and HF 838,570 for everolimus 3.0 mg. **CONCLUSION:** The use of reduced-dose CsA with everolimus 1.5 mg in de novo kidney transplant recipients improves transplant outcomes and reduces one-year total direct medical cost compared to an MMF based strategy.

PUK6

ECONOMIC IMPACT OF EXTENDED-RELEASE TOLTERODINE VERSUS IMMEDIATE- AND EXTENDED-RELEASE OXYBUTYNIN AMONG COMMERCIALLY-INSURED PERSONS WITH OVERACTIVE BLADDER

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OBJECTIVES: To examine the economic impact of extended-release tolterodine (TOL-ER) versus immediate- (IR) or extended-release (ER) oxybutynin (OXY) in patients with overactive bladder (OAB). **METHODS:** This retrospective cohort study used the PharMetrics Patient-Centric Database to identify patients diagnosed with OAB who newly started therapy with TOL-ER, OXY-IR, or OXY-ER between January 2001 and December 2002. 12-month pretreatment and follow-up periods were established from the first prescription date. TOL-ER patients were matched to OXY-IR and OXY-ER patients based on an estimated propensity score for TOL-ER therapy (i.e., probability of TOL-ER use based on multiple logistic regression). Use of OAB pharmaceuticals and related medications; use of outpatient and inpatient services related to OAB, infection, depression, and other conditions; and all corresponding costs were compiled for 1 year. Costs were compared using Wilcoxon rank-sum tests, and total health care costs were validated in a multivariate context using a generalized linear model. **RESULTS:** A total of 7257 TOL-ER/OXY-ER (80% female) and 5936 TOL-ER/OXY-IR (72% female) matched pairs were created (mean age, 54 y). Because of matching, demographic and clinical characteristics between cohorts were not significantly different. Costs for services related to OAB, infection, and depression were significantly lower for TOL-ER vs. OXY-ER. Total health care costs were also significantly reduced for TOL-ER (mean [SD], $8303 [$18,802]) vs. OXY-ER ($8862 [$18,864], $p = 0.0109$). Medication costs were significantly higher for TOL-ER ($2791 [$4997]) than for OXY-IR ($2204 [$3944], $p < 0.0001$). However, this increase was offset by reductions in expenses related to conditions including infection and depression. Total costs did not differ significantly between TOL-ER and OXY-IR. After adjustment for between-group differences, costs were significantly reduced for TOL-ER patients versus OXY-ER and OXY-IR ($p < 0.01$). **CONCLUSION:** Patients with OAB initiating therapy with TOL-ER incurred lower annual health care costs, including nonpharmacologic costs related to OAB, infection, and depression compared with those receiving OXY-IR or OXY-ER.

PUK7

DELIVERING TREATMENT EFFECTIVENESS: COSTS AND PERSISTENCE OF TOLTERODINE IN THE MANAGEMENT OF OAB IN FIVE EUROPEAN COUNTRIES

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OBJECTIVES: Overactive bladder (OAB) is associated with both an economic and quality of life burden. Current management involves antimuscarinic agents. Extended release formulations are expected to improve treatment compliance and persistence. This study explored persistence and impact on OAB related comorbidities with two therapies: tolterodine extended release (TER) and oxybutynin immediate release (OIR) compared to no active drug treatment (NONE) and associated costs across five European countries. **METHODS:** A decision-analytic model estimated costs and outcomes associated with treatment. A large case-controlled study was used to estimate the percentage of patients achieving persistent control, defined as patients still on therapy after six months. Resource use included drug costs, physician visits, incontinence pads and the cost of urinary tract and skin infections. The model estimated the cost per patient achieving persistent control of OAB. Costs were estimated from the perspective of health service payers over six months. Sensitivity analyses included variation of the resource use frequency assumptions, cost inputs, and the time horizon of the analysis. **RESULTS:** After six months, the proportion of patients achieving persistent control was 39% on TER and 9% on OIR. Costs per patient for TER ranged between €349 (Germany) and €772 (Sweden) and between €177 (Germany) and €693 (Sweden) for OIR. Compared against NONE, the Incremental Cost-Effectiveness Ratios (ICERs) for TER were much lower than for OIR. ICERs of TER vs. OIR ranged between €351 (Sweden) and €822 (Spain). Sensitivity analysis highlighted the model's sensitivity to the time horizon, physician costs and persistency rates. Differences in costs largely reflect variation in the proportion of patients in each country using incontinence pads. **CONCLUSION:** In this model more than twice as many patients achieve persistent control with TER than with OIR. The model estimated the cost per patient achieving persistent control would be lower with TER than with OIR.

PUK8

COST-EFFECTIVENESS OF SCREENING FOR ALBUMINURIA AND SUBSEQUENT TREATMENT WITH AN ACE-INHIBITOR; A PHARMACO-ECONOMIC ANALYSIS

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OBJECTIVES: Studies showed secondary prevention of cardiovascular (CV) events to be cost-effective, but only few reports proved cost-effectiveness in primary prevention, in particular with respect to nephrologic markers such as urinary albumin excretion (UAE). Our objective was to conduct cost-effectiveness analysis of screening for albuminuria in general population and subsequent ACE-inhibitor treatment to prevent CV-events. **METHODS:** Data is derived from the PREVEND-IT (Prevention REnal and Vascular ENdstage Disease Intervention Trial) and the PREVEND observational-cohort study. The PREVEND-IT was a randomised placebo-controlled trial to assess the effects of fosinopril 20 mg on CV-events in 864 subjects with UAE 15–300 mg/24 hr, blood pressure <160/100 mmHg and plasma cholesterol <8.0 mmol/L. Evaluation of treatment was based on the PREVEND-IT; the screening part was primarily based on the observational data (PREVEND) gathered among trial participants and beyond. Cost-effectiveness was estimated for the Dutch population. Cost-effectiveness was expressed in net costs per life-year gained (LYG) with a 4% discounting rate and (stochastic) sensitivity analysis. Bootstrapping analysis was used to derive 95% CI for the cost-effectiveness ratio (CER) and threshold probabilities. **RESULTS:** Patients treated with fosinopril

showed a strong trend for less CV-events (p = 0.098). Cost-effectiveness of screening for elevated albuminuria was. €16,559/LYG (from €7,030 to €24,125 in sensitivity analysis). Stochastic analysis indicated that the probability of cost-effectiveness below the suggested Dutch threshold for cost-effectiveness of €20,000 per LYG is 60% in the baseline analysis, increasing to 91% if only those subjects are treated with fosinopril showing a UAE >50 mg/24 hr. Also, limiting screening to only those aged greater or equal than 50; improved cost-effectiveness considerably. **CONCLUSION:** Primary prevention by screening the general population for the risk marker albuminuria greater or equal to 15 mg/24 hr and subsequent treatment with fosinopril of those found positive to reduce the incidence of CV events may well be cost effective.

PUK9

COST-EFFECTIVENESS OF PARICALCITOL IN THE TREATMENT OF SECONDARY HYPERPARATHYROIDISM: THE EXPERIENCE IN ITALY

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OBJECTIVES: To evaluate short-term (12 months) cost-effectiveness (CE) of intravenous (iv) vitamin D preparations (paricalcitol and calcitriol) to control hyperparathyroidism in hemodialysis patients. **METHODS:** A decision analytic model was constructed and analysed from the hospital and the Italian National Health System (INHS) perspectives. Following the indications of the Italian Nephrology Society on the use of iv Vitamin D analogues, patients were simulated to start a 12-month iv Vitamin D treatment when parathormone (PTH) plasmatic level was >700 pg/ml. Starting doses were 27 µg/week for paricalcitol and 9 µg/week for calcitriol; subsequent maintenance dose was adjusted assuming decreasing PTH levels over time. Model parameters were derived from multiple published sources. Clinical course of treatment and efficacy in controlling hyperparathyroidism were based on a RCT (Sprague SM. Kidney Int 2003); effect on survival, hospitalisation rate and length-of-stay (LOS) were based on retrospective studies (Teng M. NEJM 2003; Dobrez DG. Nephrol Dial Transplant 2004). Cost included drug costs (hospital prices excluding taxes), cost per hospitalization (national mean DRG value, 2002), in the INHS perspective, or cost per day of hospitalization (general medical ward, Lucioni C. et al. Treat Endocrinol 2003), in the hospital perspective. **RESULTS:** Per patient one-year drug acquisition costs were €3364.74 for paricalcitol and 1883.25 for calcitriol. Calcitriol patients had an average of 0,846 hospitalizations/year more than paricalcitol at an incremental cost, in the INHS perspective (DRG tariffs), of €2868.69. Calcitriol patients had an average of 9.17 hospitalization/days more than paricalcitol at an incremental cost, in the hospital perspective (LOS), of €2249.58. Paricalcitol strategy resulted dominant in both perspectives. Robustness of these findings was demonstrated in multiple sensitivity analyses. **CONCLUSIONS:** In Italy, paricalcitol greater acquisition costs are offset by reduction in hospitalizations and LOS both from an NHS perspective and from the hospital perspective.

PUK10

COST-EFFECTIVENESS OF MIMPARA AMONG DIALYSIS PATIENTS IN BELGIUM USING A MARKOV SIMULATION MODEL

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OBJECTIVES: To demonstrate cost-effectiveness (ICER) of Mimpara (MIM), a drug against secondary hyperparathyroidism (sHPT) in dialysis, compared to standard treatment of care (SOC). **METHODS:** A Markov model operates in $^1/_2$ year cycles and runs over 16 years until the starting cohort reaches 70 years. Mortality risk per cycle was calculated from a 2-year cohort dialysis database (n = 13,000)[1]. The model uses specific distributions for parathyroid hormone (PTH), Calcium (Ca) x Phosphor (P), age, vintage and MIM dosages (30–120 mg/day) from phase III trials. Patients withdrawing from MIM were treated with SOC. Average drug costs were €3109/year first cycle and €2617/year subsequent cycles as only drug responders (85%) remained on study drug. Other treatment costs were taken from a retrospective cost study in Belgium[2] using average daily cost of €214 per dialysis patient plus €50/day for sHPT-sufferer. Annual 3% discount rate was applied to cost and outcome data. **RESULTS:** Running the model in Monte-Carlo simulation (10,000 iterations) over 16 years, delivered a mortality difference of 0.17 years favoring MIM-use for an extra cost of €8027 (+ dialysis cost) resulting in an ICER of €47,218 per Life Year Gained. Excluding dialysis costs the ICER was €36,970. Sensitivity analyses ranging discount rates from 0% to 6% independently for both outcome and cost data showed ICERs of €36,970 and €59,459 for outcome and €64,517 and €35,088 for cost results, respectively. Evaluating the ICERs over time indicates that cost-savings may appear early in MIM-treatment (first 2 to 3 years) due to reductions in co-morbidities without observable survival benefit. **CONCLUSION:** Including dialysis costs in the ICER-equation maintained a reasonable CE-result (<€50,000/LYG) favoring the use of Mimpara for sHPT.

PUK11

COST ANALYSIS OF RENAL REPLACEMENT THERAPIES IN LATVIA

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OBJECTIVES: Kidney transplantation (KT) is generally acknowledged as the most clinically effective and cost-effective option in managing ESRD patients. The objective of our study was to identify costs and estimate cost-effectiveness of various ESRD treatment modalities in Latvia. **METHODS:** We retrospectively analysed files of 250 patients in an in-center hemodialysis treatment mode (HD), 60 patients in continuous ambulatory peritoneal dialysis treatment mode (CAPD) and 51 patients after successful KT for the first 3 years of treatment. All direct medical costs were registered. Cost-effectiveness was estimated by costs per 3 life-years gained. **RESULTS:** Mean direct costs (in 2003 €) for one patient for the first year and all three years of treatment were: for CAPD 16,250.0 + €1,577.4 and 48,327.7 ± 1, €162.2 respectively, for HD 14,131.7 ± €1,212.4 and 42,052.4 ± €1,203.2 respectively, and for KT 15,880.0 ± €4,744.7 and 25,460.0 ± €2,994.4 respectively. Average treatment costs per patient over the 3 years were the highest in the CAPD group ($P < 0.05$ vs. HD, $P < 0.001$ vs. KT) and KT was the least expensive (as expected). The initial higher costs of KT were fully recouped within 15 months after surgery. Probability of life expectancy for CAPD, HD and KT for the first and third year were: 77.3%, 84.1% and 91.3% respectively, and 45.0%, 43.1% and 83.7% ($P < 0.001$ vs. CAPD and HD), respectively. The cost of 3 life-years gained by KT was significantly less ($P < 0.001$) than the cost associated with CAPD and HD (€29,598.5 vs. €106,661.1 and €97,798.5 respectively). **CONCLUSIONS:** Compared to CAPD and HD, KT provided greater survival ben-