ity analyses were performed. RESULTS: Compared to standard treatment, cinacalcet incurs average additional lifetime costs of £21,167 per person and confers an additional 0.34 quality-adjusted life years, resulting in an incremental cost-effectiveness ratio of £61,890/QALY. This figure is beyond current UK willingness-to-pay thresholds. Probabilistic sensitivity analysis showed that at a threshold of £30,000/QALY there was only a 0.5% probability that cinacalcet could be considered cost-effective. CONCLUSION: Cinacalcet can reduce levels of serum biomarkers in the treatment for people with SHPT, however our model suggest that the long term clinical impact of this is small. Unless drug costs are considerably reduced, it is unlikely to be considered cost-effective in the UK setting.

PUK15
MODELLING COST-EFFECTIVENESS USING A DYNAMIC PRICE PATH WITH GENERIC SUBSTITUTION SCENARIOS: COST-EFFECTIVENESS OF CINACALCET IN UK PATIENTS WITH END-STAGE RENAL DISEASE (ESRD) ON HEMODIALYSIS

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OBJECTIVES: To evaluate the effect of patent expiry and subsequent market liberalization, with generic substitution and price decline, on CE ratios of cinacalcet in patients with ESRD on dialysis. METHODS: Cinacalcet plus standard of care was compared to standard of care alone in the prevention of complications associated with uncontrolled mineral metabolism in patients with ESRD in the UK (National Health Service). Relative reductions (HRR; 95% CI) in the rates of fractures (0.46; 0.22–0.95), cardiovascular hospitalizations (0.61; 0.43–0.86), parathyroidectomy (0.07; 0.01–0.55) and all-cause mortality (0.81; 0.45–1.45), as observed in the pooled analysis of phase 3 trials in 1184 patients were used to build a decision analysis model. CE ratios of cinacalcet (GBP0.145 per mg, 71.6 mg/day) were estimated over the lifetime of a 55-year old patient with ESRD, assuming UK mortality rates and national tariffs for the diagnosis related group of each complication. Combinations of price decline and market substitution upon generic market entry were modeled to start in 2015. CE ratios (2005 GBP per QALY) were calculated for ten cohorts of 55-year olds, starting in 2006. A discount rate of 3.5% was used for both costs and clinical benefits; all CE-ratios were discounted to the year 2006. RESULTS: Baseline (no patent expiry) CE ratio of cinacalcet was GBP35,600 per QALY gained. CE ratios declined over time as a function of generic discount and market share. CONCLUSIONS: CE ratios decline over time as a function of patient-expiry and subsequent market liberalization. CE calculations should account for the likely market dynamics associated with time-limited intellectual property rights. Market-adjusted CE ratios may influence funding decisions contingent upon predetermined thresholds.

PUK16
COST-EFFECTIVENESS ANALYSIS OF SOLIFENACIN FLEXIBLE DOSING IN PATIENTS WITH OVERACTIVE BLADDER SYMPTOMS IN FOUR NORDIC COUNTRIES

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OBJECTIVE: The objective was to analyse the cost-effectiveness of solifenacin succinate flexible dosing for the relief of overactive bladder symptoms (OAB) such as urinary frequency and urgency with or without incontinence in Norway, Finland, Sweden and Denmark. METHODS: A decision analytic model was used to simulate the results for a group of patients with OAB. The model was built with a 1 year time horizon and compared the cost and effectiveness of solifenacin flexible dosing (5 mg and 10 mg) vs. tolterodine 4 mg SR and placebo. The analysis was based on two large randomised controlled trials. Resource-use was based on clinical guidelines in the Nordic countries as well as published literature. Pad use was collected prospectively in the trials. Unit costs were obtained from official sources in each of the Nordic countries. Medication, treatment costs and indirect costs were included in the analysis. Effectiveness was measured as a reduction in OAB symptoms (urge incontinence episodes, incontinence episodes, urgency episodes and micturitions) and quality-adjusted life years (QALYs). RESULTS: For almost all effectiveness parameters, solifenacin flexible dosing was significantly more effective compared to tolterodine 4 mg SR and placebo. Moreover, solifenacin flexible dosing was less costly compared to tolterodine 4 mg in all Nordic countries (dominant strategy). Compared to placebo, solifenacin was also considered a cost-effective treatment strategy, e.g. with a cost per QALY gained of €27,000 in Sweden. An analysis using solifenacin split data for patients taking 5 mg and 10 mg compared to tolterodine 4 mg SR also showed, that solifenacin was a cost-effective treatment strategy. CONCLUSION: Solifenacin flexible dosing is a cost-effective treatment strategy for patients with OAB in the Nordic countries. A sensitivity analysis using solifenacin split data supported this conclusion, which revealed that the results were robust.

PUK17
USE OF SIMULATION TO CAPTURE THE MULTIFACTORIAL ASPECTS OF RENAL DISEASE

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OBJECTIVES: To demonstrate the need for simulation modeling to account for the multifactorial aspects and interactions of factors intrinsic to estimating the cost-effectiveness of treatment strategies in end-stage renal disease (ESRD). A model of hyperphosphataemia treatment was built to predict long-term morbidity, mortality and cost-effectiveness of sevelamer relative to calcium based binders. METHODS: A discrete event simulation (DES) was developed based on a published model that predicts outcomes in dialysis patients through several equations using coronary artery calcification scores. The new model utilizes data and regression equations from two trials comparing outcomes of sevelamer and calcium treatments, one among incident dialysis patients as well as the Dialysis Continued Outcomes Revisited (DCOR), to predict morbidity and mortality directly based on disease history and other patient characteristics including: age, gender, time since initiation of dialysis, race, diabetes, heart failure, peripheral vascular disease, cerebrovascular disease, and other cardiovascular disease. Outcomes include deaths and hospitalizations due to CVD, fracture, infection, vascular access complications, and other causes. A US perspective is taken and costs are reported in 2006 US dollars. RESULTS: Simulations were run over a lifetime comparing treatment with sevelamer to calcium-based phosphate binders. A set of 10 replications takes less than one minute to simulate 10,000 patients. Events are output by type; incremental cost per life year gained and cost per event avoided are also generated with the corresponding cost-effectiveness acceptability curves. The model demonstrates that sevelamer reduces hospitalisation and would be predicted to be cost-effective in the long-term. CONCLUSIONS: Discrete event simulation demonstrates the intricacy of factors required to reflect the complicated ESRD pathway, as they provide more flexibility.
and precision over previously used models. DES is an essential approach to capturing these factors and using them to accurately portray the health and economic consequences of binder therapy.

**PUK18**

A MULTICENTRE STUDY OF RENAL TRANSPLANT PATIENTS USING THE SF-36 AND THE END STAGE RENAL DISEASE SYMPTOM CHECK-LIST (ESRD-SCL)

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OBJECTIVES: The aim was to study the changes in the HRQoL during the first year following renal transplant. METHODS: A total of 508 patients from fifteen transplant centres in Spain were included in a kidney waiting list and 200 were prospectively studied. QoL over time (before, at three and six months after transplantation) was obtained using the SF-36 and the End-Stage Renal Disease Symptom Checklist (ESRD-scl). Clinical and socio-demographic records were searched. RESULTS: Some clinical variables (haemoglobin and serum creatinine) improved 3 months after transplantation. Comparison of SF-36 dimensions before and three months after transplantation, all domains, as well as physical (PCS) and mental component summaries (MCS) (p < 0.01), showed significant improvement except in Bodily Pain and Physical Functioning. Comparison of SF-36 between three and six months after transplantation, only role-physical showed significant improvement and the rest of physical dimensions showed similar scores, but mental functioning was a little worse than at three months post transplant. For ESRD-scl before and three months after transplantation, the symptoms were better (Limited Physical Capacity, Limited Cognitive Capacity, Cardiac and Renal Dysfunction and Transplantation-associated Psychological Distress, except for Increased Growth of Gum and Hair) (p < 0.01). Comparing three and six months post-tx, only Side Effects of Corticosteroids dimension showed significant improvement. Females significantly more often showed the worst HRQol (MCS, Vitality, Mental Health and Role-emotional; p < 0.001). Age, educational level, dialysis modality before transplantation, time on dialysis and comorbidity index did not affect the HRQol after transplantation. However, variables that were not significant in the overall score reached significance in some symptoms. CONCLUSIONS: The most important finding in this study is that all domains showed a significant improvement in HRQol. There were no significant differences between males and females. The elderly seem to show a worse HRQol when compared to the general population. The SF-36 and the End-Stage Renal Disease Symptom Checklist are valid tools for assessing HRQol in this population.

**PUK20**

PATIENTS UNDER 65 YEARS OF AGE ON RENAL TRANSPLANT WAITING LISTS SHOW A WORSE PERCEIVED STATE OF HEALTH THAN OLDER ONES

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OBJECTIVES: The aim was to evaluate the perceived state of health (PSH) on kidney transplantation (n = 359). METHODS: The differences in PSH according to age (under or over 65 years) are presented here. The analysis corresponds to the base moment, when they are on the transplant waiting list. A generic PSH profile, the SF-36 Health Questionnaire and an index, EQ-5D are applied to each patient. To evaluate the differences with respect to sex in both measurements the Student-t test was used for independent samples and the chi-squared test for contingency tables. RESULTS: For the whole sample the PSH score was 42.09 (6.78) vs 43.37 (6.78). The differences in PSH according to age (under or over 65 years) are presented here. The analysis corresponds to the base moment, when they are on the transplant waiting list. A generic PSH profile, the SF-36 Health Questionnaire and an index, EQ-5D are applied to each patient. To evaluate the differences with respect to sex in both measurements the Student-t test was used for independent samples and the chi-squared test for contingency tables. CONCLUSIONS: Among these patients, the elderly seem to show a better PSH than the younger ones, the opposite of what is the case in the general population, probably due to positive selection of patients in better conditions in that age group. At the same time, the need for standardisation with respect to sex of scores on PSH questionnaires is demonstrated.

**PUK19**

OPEN MULTICENTER STUDY OF HEALTH RELATED QUALITY OF LIFE BEFORE AND AFTER SOLID ORGAN TRANSPLANTATION (KIDNEY, LIVER, HEART AND LUNG)

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OBJECTIVES: The aim was to describe HRQoL before and after solid organ transplantation. METHODS: A prospective study was carried out in 17 Spanish hospitals. The HRQoL (before, at 3 and 6 months after Tx) was obtained using the Short Form-36 (SF-36, with 6 dimensions and 2 summary scores: physical-PCS and mental-MCS). Sociodemographic and clinical data were also collected. Mean postoperative scores were compared with mean preoperative scores to determine the effect of Tx. RESULTS: Five hundred eight kidney (Kd), 389 liver (Lv), 79 heart (Ht) and 143 lung (Lg) pts and 173 Kd, 200 Lv, 57 Ht and 46 Lg pts who received a transplant were studied. Mean age atTx was 51 years; 70% were males. Different types of transplants start at different levels of HRQoL. Lg and Ht start out the worst, Lv in the middle, and Kd recipients the best. Comparison of SF-36 before and 3 months after Tx showed significant improvement, except Bodily Pain (BP) for Kd, Ht and Lg transplants. Six months of Tx, the HRQoL was considerably improved with respect to 3 months. The variations of SF36 were different between organs at 6 months post-Tx: for Kd transplant physical functioning (PF) showed similar scores but mental functioning (MF) was a little worse than at 3 months, for Lv all except General Health (GH) showed significant improvement, for Ht and Lg transplant social and MF showed a significant improvement and PF was a little better. Compared with the general population, all these pts were much worse before transplant. The Lg transplant express the best HRQoL on MCS. CONCLUSIONS: After Tx, improvement was clear with MF being the same as the general population, but there was still a significant physical deficit.

**PUK21**

RESEARCH NETWORK ON TRANSPLANTATION: FEMALES ON THE WAITING LIST FOR RENAL TRANSPLANT SHOW A POORER PERCEIVED STATE OF HEALTH THAN MALES

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OBJECTIVES: The aim was to study the changes in the HRQoL in the waiting list for renal transplantation. METHODS: The differences in PSH according to age (under or over 65 years) are presented here. The analysis corresponds to the base moment, when they are on the transplant waiting list. A generic PSH profile, the SF-36 Health Questionnaire and an index, EQ-5D are applied to each patient. To evaluate the differences with respect to sex in both measurements the Student-t test was used for independent samples and the chi-squared test for contingency tables. METHODS: Among these patients, the elderly seem to show a worse PSH than the younger ones, the opposite of what is the case in the general population, probably due to positive selection of patients in better conditions in that age group. At the same time, the need for standardisation with respect to sex of scores on PSH questionnaires is demonstrated.