cians were asked if they considered that the patient had CGD and also objective criteria (serum creatinine ≥ 2 mg/dl or MDRD ≤ 50 ml/min), were applied. **RESULTS:** A total of 872 patients were analyzed 62% male, mean (SD) age 54 (13) years. Ethiology of end stage renal failure: 32.7% chronic glomerulonephritis, 19.8% unknown, 12.4% polycystic disease, 7.6% chronic pielonephritis, 8% diabetes, 5.9% hypertension, 15.7% other. Mean (SD) transplant evolution 8.2 (5.1) years. Mean donor age 42 years. CGD was diagnosed in 35% of the patients according to the investigators' criteria and in 55.5% according to objective criteria. In 40% of the patients that were diagnosed of CGD by objective criteria the clinician had not considered this diagnosis. Graft biopsy was performed in 31% of patients with investigators' criteria of CGD. The presence of proteinuria conducted to a biopsy more than a rise in serum creatinine. Time from transplant to biopsy was greater in patients with antiproteinuric treatment ($p = 0{,}032$). Immunosuppressive treatment changes were not associated to biopsy histological data. The creatinine slope showed a direct relationship with the total number of treated acute rejections (Pearson's r: 0,12; $p < 0.001$). **CONCLUSIONS:** This study shows an existing difference between the clinician's perception of CGD and its objective presence. Nephrologists are more sensitive to glomerular disease than to renal impairment itself. Changes in the immunosuppressive treatment due to presence of CGD are performed late and with poor results.

URINARY/KIDNEY DISORDERS—Cost Studies

PUK2

IN GREECE, INCREASING THE UTILIZATION OF PERITONEAL DIALYSIS THERAPY MAY REDUCE OVERALL DIALYSIS EXPENDITURES

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OBJECTIVES: The number of prevalent patients with end-stage renal disease (ESRD) in Greece has grown nearly 13% since 2003. Approximately 83% of prevalent ESRD patients are on dialysis, the rest have a functioning kidney transplant. For ESRD patients needing dialysis, two treatment options are available, hemodialysis (HD) and peritoneal dialysis (PD). Both have been shown to have similar outcomes yet most (91%) dialysis patients in Greece receive HD. The objective of this evaluation is to project a five-year impact on total direct dialysis costs if utilization of the less expensive equally, effective PD were increased to 15% of all dialysis. **METHODS:** An Excel-based budget impact model was used to estimate the impact of a shift in modality utilization. The model takes into account dialysis modality shares, annual average cost of treating patients per modality, annual ESRD growth rate, patient years at risk and years to reach new dialysis modality distribution. Cost data from a recent Greek study were used. At baseline (2007) there were 8189 patients undergoing dialysis therapy, 91% using HD and 9% using PD. Annual direct cost per patient were €36,247 for in-center HD and €30,719 for PD. We applied a 2% annual ESRD growth rate; set the target PD modality share at 15%, and that this target would be achieved in the fifth year. Total costs included equipment/infrastructure, diagnostic services, drugs and consumables, staff salaries, and operational costs/overheads. **RESULTS:** If PD utilization gradually increases to 15% by 2012, the cumulative 5-year cost would be reduced by €6.5 million. Alternatively, the savings could provide an additional 258 patient-years of dialysis treatment. **CONCLUSIONS:** In Greece, an increased use of PD can reduce the direct costs of dialysis treatment which then provides an opportunity to use scarce health care resources on other pressing needs.

PUK3

THE COST ADVANTAGE OF INCREASING THE USE OF PERITONEAL DIALYSIS IN TURKEY

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OBJECTIVES: The number of prevalent patients with end-stage renal disease (ESRD) in Turkey has grown nearly 36% from 2001 to 2005. Approximately 90% of prevalent ESRD patients are on dialysis, the rest have a functioning kidney transplant. For ESRD patients needing dialysis, two treatment options are available, hemodialysis (HD) and peritoneal dialysis (PD). Both have been shown to have similar outcomes yet most (87%) dialysis patients in Turkey receive HD. The objective of this evaluation is to project a five-year impact on total direct dialysis costs if utilization of the less expensive equally effective PD were increased to 20% of all dialysis. **METHODS:** An Excel-based budget impact model was used to estimate the impact of a shift in modality utilization. The model takes into account dialysis modality shares, annual average cost of treating patients per modality, annual ESRD growth rate, patient years at risk and years to reach new dialysis modality distribution. Cost data from a recent Turkish study were used. At baseline (2005) there were 39,161 patients undergoing dialysis therapy, 13% using PD. Annual costs per patient were US$23,342 for in-center HD and US$17,779 for PD. We applied a 6% annual ESRD growth rate; set the target PD modality share at 20%, and that this target would be achieved in the fifth year. Total costs included the costs of dialysis related supplies (e.g., dialysis solutions) and the cost of drugs (e.g., erythropoietin). **RESULTS:** If PD utilization gradually increases to 20% by 2010, the cumulative 5-year cost would be reduced by $38.8 million. Alternatively, the savings could provide an additional 2420 patient-years of dialysis treatment. **CONCLUSIONS:** In Turkey, an increased use of PD can reduce the dialysis and drug-related costs of dialysis treatment which then provides an opportunity to use scarce health care resources on other pressing needs.

PUK4

PHARMACOECONOMIC EVALUATION OF SOLIFENACIN IN THE TREATMENT OF OVERACTIVE BLADDER SYNDROME IN ITALY

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OBJECTIVES: To investigate the pharmacoeconomic performance of the treatment with solifenacin, a bladder-selective muscarinic receptor antagonist, as compared to tolterodine and placebo, in Italian patients with overactive bladder (OAB). **METHODS:** A simple Markov model simulates 52-weeks clinical and economical outcomes associated with the treatment with solifenacin (5 mg/die), tolterodine ER (4 mg/die), and no treatment, in a cohort representative of the Italian OAB population, relying on RCT efficacy and national cost data, and using 1-week cycles. Only direct health care costs were considered. The main analysis is conducted from the point of view of the patient, as drugs for OAB are not currently reimbursed in Italy, whereas incontinence medical devices are only to few selected patients. A complementary scenario was elaborated to explore the consequences of a hypothetical reimbursement decision by the Italian NHS at half of the current retail price and only to incontinent and responding OAB patients. **RESULTS:** Both active treatments produce significant improvements in symptoms and quality of

life, with an increase in costs of about €540–640 and €680–780/patient/year with solifenacin and tolterodine, respectively. Cost-utility analysis indicates that solifenacin dominates tolterodine and has an ICUR in the range €7,600—18,600/QALY compared to no treatment. In the subgroup of patients incontinent at baseline and who respond to the therapy, the increase in costs with solifenacin results in €100–400/patient/year. The expected incremental expenditure of the theoretical reimbursement decision is about €23 millions/year, with an ICUR of about €600–2,400/QALY. **CONCLUSIONS:** Solifenacin has the potential to improve current clinical outcomes of many Italian OAB patients, at a mean net cost of €540–640/year. The ICUR of the hypothesized reimbursement decision can expected to be very favourable.

PUK5

COST-BENEFITS ANALYSIS OF DIET VERSUS DIALYSIS IN ELDERLY CKD5 PATIENTS

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OBJECTIVES: Recent clinical data show that a supplemented very low protein diet (sVLPD) allows to postpone dialysis (HD/PD) of about one year without increasing risk of death or hospitalization in CKD5 elderly patients; here we compared benefits and costs of sVLPD vs dialysis in these patients. **METHODS:** A cost-benefit analysis technique was applied. Direct medical and non-medical benefits and costs were analysed, from the perspective of the Italian National Health Service (NHS). We quantified resource adsorption for dialysis, keto-amino acid supplements, hospitalizations, pharmacological therapy, blood and instrumental tests, medical visits, reimbursement for transportation of patients in HD and for home treatment of patients in PD. Prices and tariffs applied in 2007 were used. Results are expressed as mean € per patient-year. **RESULTS:** Data from a subgroup of patients with GFR of 5–7 ml/min/1.73 m^2 BSA, participating in a RCT were analysed. Thirty patients were randomized to dialysis (age = 77.2 4.6 years; 23 HD, 7 PD); 27 to sVLPD (age = 78.6 6.5 years): during the follow up 19 switched to HD and 2 to PD. Follow-up was, in mean, 3.24 years in dialysis, and 3.27 years in sVLPD group, including both diet and following period on dialysis. Erythropoietin (EPO) dose was on average 7,160 IU/patient-week in sVLPD patients, and 8,104 IU/patient-week in dialysis patients. Patients cost €45,209/patient-year on dialysis; €10,786/patient-year during sVLPD and €40,900/patient-year when shifted to dialysis. Dialysis was the cost driver (€26,000/patient-year, 60% of costs), main benefit to NHS derived from saving this costs in the first year (mean period in sVLPD) of treatment. **CONCLUSIONS:** to our knowledge this is the first study analysing benefits and costs of initiating sVLPD whereas dialysis in CKD5 patients. sVLPD allows to save 1 year per patient of dialysis and to gain €34,000/patient-year on the NHS's perspective.

PUK6

COST-EFFECTIVENESS ANALYSIS OF SACRAL NEUROMODULATION (SNM) FOR PATIENTS WITH OVERACTIVE BLADDER (OAB) IN THE NETHERLANDS

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OBJECTIVES: Overactive bladder is a dysfunction of the lower urinary tract which causes significant impairment to patients' quality of life and affects a relatively large portion of the population. Patients who have failed all conservative treatment options are faced with managing their incontinence symptoms through the daily use of incontinence pads, or their retention by frequent clean intermittent self catheterization. Patients with severe symptoms may be offered a highly invasive surgical procedure, such as myectomy, urinary diversion or bladder augmentation but these are all associated with serious complications and morbidity. The objective is to assess cost-effectiveness of sacral neuromodulation as a second line treatment option for patients with OAB in the Dutch setting. **METHODS:** An economic model comparing sacral neuromodulation with optimal medical treatment was developed. Health states were defined in terms of 'cure' defined as no incontinence or a clinical improvement > 90%, or 'improvement' defined as 50% or greater reduction in main continence or urgency frequency symptoms. Associated clinical effectiveness and utility values were taken from published international clinical studies, and treatment costs were based on national sources. Analyses from the health care payer's perspective were performed for a 10 year time-horizon. **RESULTS:** The results of the deterministic cost-effectiveness analysis showed that sacral neuromodulation provides an additional 1.53 QALY's against extra cost of €8222 per patient over a 10 year period. The corresponding cost-effectiveness ratio was €5732 per QALY gained. Probabilistic sensitivity analysis showed the robustness of these results. **CONCLUSIONS:** Use of sacral neuromodulation as a treatment option for patients with OAB in The Netherlands will improve patients' outcomes at a reasonable cost.

PUK7

A TEN-YEAR HORIZON COST-EFFECTIVENESS ANALYSIS OF THE SPANISH INTEGRATED RENAL REPLACEMENT THERAPY PROGRAM

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OBJECTIVES: Performing a 10-year horizon (2007/2016) cost-effectiveness analysis of the integrated Spanish Renal Replacement Therapy (RRT) program, from the National Health System perspective. **METHODS:** A deterministic Markov chain model, allowing for incident patients, was designed to predict transitions between four states (hemodialysis (HD), peritoneal dialysis (PD), renal transplant (TX), and death (D)) for the period 2007/2016, providing future incidence, prevalence, and survivability estimates. Transition and mortality probabilities were calibrated using data from the Spanish Nephrology Society (SEN) and the Spanish National Statistics Institute (INE) for the period 1996/2006. Information on direct and indirect costs was gathered from several sources, including OBLIKUE database, regional official bulletins, literature review, and expert judgment. Data on utilities were obtained from a proprietary database (FIS 96/1327 Project). A sensitivity analysis on the main parameters of the model was performed in order to ensure that results were consistent. **RESULTS:** For the 2007/2016 period, average patients per year (HD, PD, and TX) were, respectively: 29,981; 3,348; 26,301. Average costs per patient and year (in 2007 discounted Euros) were: 39,026; 26,971; and 13,085. Average QALYs per patient and year were: 0.51; 0.55; and 0.68. Therefore, average cost-effectiveness was: 75,927; 49,478; and 19,253. TX was the optimal treatment, regarding cost-effectiveness estimates. Consequently, it was considered as the gold standard. Incremental Cost-Effectiveness Ratios were: –103,233 (TX vs. HD) and –156,636 (TX vs. PD). Net Health Profits were: 1.03 (TX vs. HD) and 0.60 (TX vs. PD). Consistency of these findings was supported by the sensitivity analysis. **CONCLUSIONS:** As