

## Abstracts

A79

incontinence, total incontinence, and micturitions. Using Z-scores, the percentage of effectively treated patients was calculated for both fesoterodine and generic oxybutynin ER. Costs included a physician visit for patients failing treatment and the average wholesale price of each medication in 2009 US dollars. Data and costs associated with each treatment arm were entered into TreeAge Pro 2008 to obtain the cost-effectiveness ratios for both therapies. **RESULTS:** Overall cost-effectiveness ratios obtained were \$375.27 (\$297.59/0.793) per effectively treated patient with oxybutynin ER compared to \$641.67 (\$435.01/0.678) per effectively treated patient with fesoterodine. Due to the greater effect and lower cost of oxybutynin ER, an incremental cost-effectiveness ratio was not necessary. Sensitivity analyses revealed the results to be most sensitive to changes in the probability of oxybutynin ER resulting in an effectively treated patient. **CONCLUSIONS:** Based on this decision model, oxybutynin ER is the dominant treatment. Third-party payers may want to consider making oxybutynin ER a preferred option for their formularies, rather than fesoterodine.

PUK16

#### COST-EFFECTIVENESS ANALYSIS IN TREATING OVERACTIVE BLADDER WITH URGE INCONTINENCE IN WOMEN: A COMPARISON BETWEEN OXYBUTYNNIN AND TOLTERODINE WITH EXPLORATORY ANALYSIS OF FESOTERODINE

Schwartz EL, Hay JW

University of Southern California, Los Angeles, CA, USA

**OBJECTIVES:** Overactive bladder (OAB) disease with urinary incontinence is a prevalent disorder among millions of women reaping both high burdens in treatment costs and in health-related quality of life. Oxybutynin ER and tolterodine ER are two anticholinergic therapies that have demonstrated efficacy, but have significant adverse event profiles contributing to long-term discontinuation. No current cost-effectiveness analysis has compared these two therapies to the recent release of an additional anticholinergic medication, fesoterodine. With three drugs and numerous possible drug regimens involving switching between medications, there exists need for economic analysis of the costs and QALYs for OAB treatment. The objective of this study was to conduct CE analysis using a backwards induction model to compare costs and quality-adjusted life years (QALYs) for the following drug regimens: oxybutynin ER, tolterodine ER, fesoterodine, oxybutynin switch tolterodine, tolterodine switch oxybutynin, and fesoterodine switch tolterodine. **METHODS:** The CE model costs were derived using a societal perspective. The analysis was conducted in women with OAB over the age of 45 years old experiencing urinary incontinence and used valued literature sources of clinical, cost and compliance data. **RESULTS:** Based on the model inputs, the ICER comparing fesoterodine to tolterodine is \$65,880/QALY indicating that at the current branded price and base case data on clinical effectiveness and compliance, fesoterodine is the most cost-effective treatment. Sensitivity and threshold analysis indicate that these results are sensitive to changes in the following inputs: utility values for adverse events and medication discontinuation rates. With changes in these values of 15% and 25 % respectively, tolterodine ER is the most cost-effective treatment. **CONCLUSIONS:** Drug treatment for OAB with urinary incontinence in this population with fesoterodine is most cost-effective when compared to other anticholinergics and switching regimens. Limitations of this study include data on compliance and utility values, which the model is sensitive to.

PUK17

#### THE VALUE OF HYPERTENSION CONTROL TO CHRONIC KIDNEY DISEASE PREVENTION

Zhuo X<sup>1</sup>, Keeler E<sup>2</sup>, Wu S<sup>2</sup>, Vargas R<sup>2</sup><sup>1</sup>RAND Graduate School, Atlanta, GA, USA, <sup>2</sup>RAND Corporation, Santa Monica, CA, USA

**OBJECTIVES:** We assessed the potential health and economic benefits of reducing the main chronic kidney disease risk factor-hypertension. **METHODS:** A chronic kidney disease microsimulation model tracked a nationally representative cohort to project their chronic kidney disease outcomes over thirty years in a hypothetical scenario that hypertension could be effectively reduced among the cohort. **RESULTS:** An effective hypertension control saved both cost and lives. Relative to status quo, the gain in quality adjusted life years from the improved hypertension adherence would be 1.28 QALYs within 30 years. The total medical cost saving was estimated to be \$789 per capita, largely due to the substantial savings from the downstream spending on end stage renal disease. A total of 224 thousand cases of ESRD, 368 thousand cases of renal transplant and 248 thousands cardiovascular events could be avoided due to the better hypertension control. **CONCLUSIONS:** Effective hypertension control reduced the incidence of chronic kidney disease and adverse outcomes of End Stage Renal Disease. The strategy both improves health outcomes of CKD and saves money. More public health efforts should be directed to improve the hypertension awareness and control as one effective chronic kidney disease prevention strategy.

PUK18

#### RENAL TRANSPLANTATION VS HEMODIALYSIS-COST EFFECTIVENESS ANALYSIS

Perovich S

Serbian Medical Society-Health Management Committee, Belgrade, Serbia and Montenegro

**OBJECTIVES:** Dialysis treatments are performed in 4100 patients in Serbia. At end-stage renal disease (ESRD) the only correct selection is kidney transplantation. The basic aim of research was to compare ratio of costs and effects (CEA) of hemodialysis and kidney transplantation in patients at ESRD. It is assumed, that in spite of that kidney transplantation is being more desirable than hemodialysis from aspect of lower costs and better quality of patient's life, number of transplantations in Serbia is still modest

with respect to requirements. **METHODS:** The life quality was measured by validated McGill Questionary. Research has included 150 patients totally, divided in two groups: 1) Study group including 50 patients having kidney transplantation performed at Clinical Centre of Serbia; and 2) Control Group including 100 patients on hemodialysis at six different Clinical Centres, comparable with respect to sex, age and length of treatment with Study group. **RESULTS:** Effect of kidney transplantation in relation to hemodialysis being selection of treatment is expressed in form of incremental ratio of costs and effects (ICER). It is clearly evident that the strategy of kidney transplantation is far more profitable considering the fact that it represents saving of €132,256.25 per one year of contribution QALY within the period of 10 years. According to all aspects of live quality (physical symptoms and problems, physical well-being, psychological symptoms, existential well-being and support), difference is statistically important in favour of transplant patents. **CONCLUSIONS:** Out of the effected cost calculation it is evident that the costs of patient treatment therapy by hemodialysis at end-stage renal disease is far greater than by performing therapy of transplantation and maintenance, by almost three and a half times (3.38). Difference in total aspects of human life (physical, emotional, social, spiritual and financial) between dialysed and transplant patients is statistically important and by 18.12% greater in transplant patients than in patients being on hemodialysis.

PUK19

#### ECONOMIC EVALUATION OF PERITONEAL DIALYSIS COMPARED WITH HEMODIALYSIS IN PATIENTS WITH CHRONIC KIDNEY DISEASE SECONDARY TO DIABETES OR HYPERTENSION IN COLOMBIA

DeAntonio R<sup>1</sup>, Calderón C<sup>1</sup>, Sanabria M<sup>2</sup>, Rosselli D<sup>3</sup><sup>1</sup>Independent consultant, Bogota, DC, Colombia, <sup>2</sup>Baxter RTS, Bogota, DC, Colombia,<sup>3</sup>Universidad Jorge Tadeo Lozano, Bogota, DC, Colombia

**OBJECTIVES:** We compare, through cost-effectiveness and cost-utility analyses, two main components of kidney replacement therapy (KRT): hemodialysis (HD) and peritoneal dialysis (PD) (including under PD both continuous ambulatory peritoneal dialysis [CAPD] and automated peritoneal dialysis [APD]). **METHODS:** We used a simple decision-tree model, a third payer perspective with only direct costs included, and a one-year timeline (with no discount). The model incorporated 20 variables, including costs obtained from local sources (databases of more than ten thousand patients) and epidemiological data both from international published literature, and Colombian databases (particularly for treatment-related complications). Utilities (in QALY) were obtained from Tufts CEA Registry and discussed with local experts and patient panels (for an average of 0.6375 QALY for PD and 0.5950 for HD). **RESULTS:** We estimate that the average annual cost of PD in Colombia in 2008 was US\$16,747 (at September 2009 official exchange rate of Col\$2066 per dollar) while HD costs on average US\$18,199 per year, including in both cases direct costs of treatment-related complications but not other disease-related events. Average cost of each QALY gained in a dialysis patient in Colombia ranges from US\$26,300 in PD to US\$30,600 in HD. In our sample, PD was also associated with a reduced frequency of hospitalization and shorter hospital stays than HD (on average, 5.2 and 6.5 hospital days per year, respectively). **CONCLUSIONS:** In Colombia, costs of KRT are around two times the suggested cost-effectiveness threshold of three times the per capita GDP. On average, and perhaps in part attributable to different case mix, PD is dominant over HD. The model is highly sensitive to patients preferences (expressed in our case in QALYs), which suggest PD is particularly valued in independence seeking patients.

PUK20

#### ECONOMIC EVALUATION OF THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA IN COLOMBIA

Gómez P<sup>1</sup>, Plata M<sup>2</sup>, Carreño A<sup>2</sup>, Guzmán F<sup>2</sup>, Jiménez LA<sup>3</sup>, Calderón C<sup>4</sup>, Rosselli D<sup>5</sup><sup>1</sup>Universidad Nacional de Colombia, Bogota, DC, Colombia, <sup>2</sup>Fundación Santa Fe de Bogotá,Bogota, DC, Colombia, <sup>3</sup>GSK, Bogota, DC, Colombia, <sup>4</sup>Independent consultant, Bogota, DC,Colombia, <sup>5</sup>Universidad Jorge Tadeo Lozano, Bogota, DC, Colombia

**OBJECTIVES:** Benign prostatic hyperplasia has a high prevalence and represents an important burden on the quality of life of the affected patients. New medical interventions have been added to the more traditional surgical approach. This Markov cost-utility and cost-effectiveness model, adjusted to the Colombian health care environment, represents the decision to treat a hypothetical 60-year-old patient either with surgery (transurethral resection or TUR) or with either alpha blockers ( $\alpha$ B), 5 alpha reductase inhibitors (5ARI) or combined therapy (CT). **METHODS:** We used a third party payer perspective, as well as a 5-year timeframe. Effectiveness data were taken from international clinical trials, surgical complications were those of the AUA (American Urological Association) practice guidelines. All costs were local, combining Colombian Social Security Institute prices as well as real costs from a local private clinic. Utilities and disutilities were measured in QALY, obtained from Tufts CEA registry. Discount rate was 5% for costs and QALYs. **RESULTS:** The model shows that, over the 5-year timeframe, surgery has the lowest average overall cost (US\$1573 at September 2009 official exchange rate of Col\$2066 per US\$), compared with  $\alpha$ B (US\$3916), 5ARI (US\$3156) or CT (US\$5232). With respect to surgery, treatment with 5ARI is the most cost-effective (US\$8426 per additional QALY gained) followed by CT (US\$12099 per QALY) and  $\alpha$ B (US\$24,695). Cost per surgery averted was US\$1810 with 5ARI, US\$2531 with  $\alpha$ B and US\$3935 with CT. **CONCLUSIONS:** We conclude that treatment with 5ARI is "cost-effective" according to international standards (less than three times per capita GDP paid for each additional QALY gained). The incremental cost-utility ratio of CT is highly sensitive to price of therapy; if price of CT were equal to the price of 5ARI, the cost of each additional QALY gained would be US\$2733.