

## URINARY/KIDNEY DISORDERS – Health Care Use &amp; Policy Studies

## PUK28

## DOES OUT-PATIENT MEDICAL INSURANCE POLICY WORK AMONG CKD PATIENTS IN NON-DIALYSIS PHASES? EVIDENCE FROM TWO SAMPLE CITIES IN CHINA

Wu J, Liu J, Zhu B, Mao Y

<sup>1</sup>Xi'an Jiaotong University, Xi'an, China

**OBJECTIVES:** Chronic kidney disease (CKD) has become a major public health problem in China. Two sample cities, Qingdao, which has been providing out-patient service with CKD patients in non-dialysis phases, and Shenyang, which has not provided the service, are selected as samples to discuss the policy effect of out-patient medical insurance. **METHODS:** CKD patient data collected in medical insurance administrative agencies of two sample cities in 2009 and 2010 are analyzed through descriptive statistics and independent sample T-test. **RESULTS:** 1) For kidney dialysis (KD) patients, out-patient growth rates of Qingdao and Shenyang are 8.15% and 15.93% respectively, and average ages are 56.14 and 57.67 ( $P=0.516$ ); in-patient growth rates of Qingdao and Shenyang are -5.28% and 16.01% respectively, and average ages are 60.56 and 58.88 ( $p=0.000$ ). 2) For renal transplanted (RT) recipients, out-patient growth rates of Qingdao and Shenyang are 7.80% and 8.15% respectively, and average ages are 48.71 and 48.73 ( $p=0.172$ ); in-patient growth rates of Qingdao and Shenyang are -6.98% and 2.65% respectively, and average ages are 46.79 and 50.44 ( $p=0.000$ ). 3) On medical insurance fund expenditure, expenditure growth rates of KD out-patients and in-patients of Qingdao are -4.80% and -11.59% respectively, and those of Shenyang are 22.51% and 36.52%; expenditure growth rates of out-patient and in-patient RT recipients of Qingdao are -5.50% and -25.60% respectively, and those of Shenyang are 6.48% and -3.79%. **CONCLUSIONS:** 1) Out-patient insurance creates a positive effect on controlling the excessive growth of the number of KD patients, while the effect is not so significant on the number of RT recipients. 2) Out-patient insurance produces effective results on controlling the rapid growth of medical insurance fund expenditure scale of KD patients, while the effect is not so significant of RT recipients. 3) Average ages of KD patients have not been decreased effectively because of the short period of policy implementation.

## PUK29

## A CONCEPT FOR BEST-PRACTICE IN THERAPEUTIC DRUG MONITORING (TDM) FOR KIDNEY TRANSPLANT (K-TX): RESULTS FROM Q-PERIOR STUDY

Ossa D<sup>1</sup>, Becker G<sup>2</sup>, Bayer S<sup>2</sup><sup>1</sup>Novartis Pharma, Basel, Switzerland, <sup>2</sup>Q-Perior AG, Zurich, Switzerland

**OBJECTIVES:** The objective of this study was to establish current practice in TDM in K-Tx in a real-world clinical setting, and to develop a best-practice concept to improve patient care. **METHODS:** TDM processes for transplanted patients were collected at 13 centers in 5 countries between January 2015 and June 2015. More than 35 interviews with physicians, nurses and lab assistants were combined with observation of relevant steps during standard examination sessions. Duration of each main step to adjust the patient medication dose was recorded. Also dependencies from outside variables were recorded. **RESULTS:** Several process patterns were identified. Main observed differences among centers were process steps and inefficiencies in exam setup and time required getting test results. The time gap between taking blood samples and availability of results leads to long patient stay and/or multiple visits or contacts with the patient (blood test, examination, result communication). Average time for patients in a center was 2:12 hours with a large range from 0:49 hours to 6:22 hours. Process time for blood drawing, examinations and results communication (excluding lab processing) was on average 30 min ranging from 12 min to 52 min. Complexity and time to get the results could be improved if a near-patient-test (NPT) scenario would be available while others are subject to normal process improvements. **CONCLUSIONS:** Results suggest that improvements could be made in all types of scenarios. Especially fast availability of test results in a NPT scenario could reduce complexity and facilitate the development of an improved process setup.

## PUK30

## EXPERIENCES WITH PRICE COMPETITION OF BIOSIMILAR DRUGS IN HUNGARY IN CASE OF ERYTHROPOIETIN PRODUCTS

Nagy Z<sup>1</sup>, Hornyák L<sup>2</sup>, Tálósz Z<sup>2</sup>, Endrei D<sup>1</sup>, Ágoston I<sup>1</sup>, Csákvári T<sup>3</sup>, Boncz I<sup>1</sup><sup>1</sup>University of Pécs, Pécs, Hungary, <sup>2</sup>Csolnoky Ferenc Hospital, Veszprém, Hungary, <sup>3</sup>University of Pécs, Zalaegerszeg, Hungary

**OBJECTIVES:** The aim of our study is to analyse the biosimilar bids of the Hungarian National Health Insurance Fund Administration in case of erythropoietin (ESA) products. **METHODS:** Data derived from the nationwide pharmaceutical database of Hungarian National Health Insurance Fund Administration. We analysed how the number of patients treated by erythropoietin products changed before (01.07.2011.-30.06.2012.) and after (01.07.2012.-30.06.2013.) the first biosimilar bid performed in March 2012 in Hungary. **RESULTS:** In the 12 months before biosimilar bid 4,482 patients received erythropoietin treatment, while in the first 12 months after the bid 4,545 patients, resulting in a 1.4 % increase. The second 12 months after the bid 4,644 patients received erythropoietin treatment, resulting in a 3.6 % increase. Before the biosimilar bid, the NHIFA spent 2.33 billion Hungarian Forint (HUF) health insurance reimbursement for ESA products, which decreased by 47 % to 1.23 billion HUF in the first year after biosimilar bid. **CONCLUSIONS:** The analyses of the Hungarian price competition bid of biosimilar products showed a minimal decline in the number of patients under treatment by erythropoietin products while the health insurance reimbursement of these drugs significantly decreased.

## PUK31

## DISEASE BURDEN AND COSTS ASSOCIATED WITH URINARY TRACT INFECTIONS IN TYPE 2 DIABETES MELLITUS PATIENTS: AN ANALYSIS BASED ON A LARGE SAMPLE OF 456,586 GERMAN PATIENTS

Wilke T<sup>1</sup>, Boettger B<sup>2</sup>, Berg B<sup>3</sup>, Williams J<sup>4</sup>, Bottenman M<sup>5</sup>, Yu S<sup>4</sup>, Fuchs A<sup>6</sup>, Maywald U<sup>7</sup>

<sup>1</sup>Ingress Health, Wismar, Germany, <sup>2</sup>IPAM (in the past), Wismar, Germany, <sup>3</sup>IPAM, Wismar, Germany, <sup>4</sup>Merck Sharp & Dohme Co., Whitehouse Station, NJ, USA, <sup>5</sup>Pharmerit US Bethesda, Bethesda, MD, USA, <sup>6</sup>AOK PLUS, Dresden, Germany, <sup>7</sup>AOK Plus, Dresden, Germany

**OBJECTIVES:** We aimed to (1) describe the real-world treatment of UTIs in a T2DM population, (2) investigate UTI related healthcare resource use, (3) assess treatment costs associated with UTI, and (4) identify factors which may predict UTI-related treatment costs. **METHODS:** We analysed an anonymized dataset from a regional German healthcare fund (AOK PLUS) including all continuously insured T2DM-prevalent patients from 2010-2012. Health care resource use was reported per UTI episode. A UTI episode was identified through coded outpatient/inpatient UTI diagnoses (ICD-10 N39.0) and, in case of recurrent diagnoses, prescribed antibiotics for UTI treatment. **RESULTS:** A total of 456,586 T2DM patients (mean age of 73.8 years, 56.3% female, mean CCI of 7.3, mean observational period of 665.5 days) was included. We identified 48,337 UTI episodes. During an observed UTI episode, patients visited with a median/mean of 1.0/0.8 times a GP and 0.0/0.3 times an urologist. In 6.7% of the cases, an inpatient treatment was caused by a UTI with a median/mean length of stay of 7.0/8.7 days. In 74.8% of the observed UTI episodes, antibiotics labelled for this disease were prescribed (mean prescribed DDD 10.5 days). Mean/median costs directly associated with UTI treatment (bottom-up costs) were 315.90€/102.28€ per UTI episode. Factors significantly increasing UTI-related direct bottom costs were age, female gender, worse CKD status (5/5), CCI, and at least one previous UTI infection in the reference period. In an additional top-down cost analysis, annual all-cause cost per patient year were 5,519 € higher in the UTI group compared to T2DM patients not having experienced an UTI. This translated into a UTI-related marginal cost-increasing effect of 3,916€ per patient year in a multivariable Gamma regression analysis. **CONCLUSIONS:** Given that worldwide increasing prevalence of T2DM, the incidence of UTI infection in T2DM represents substantial resource use/cost burden for healthcare systems.

## PUK32

## AUTOSOMAL POLYCYSTIC KIDNEY DISEASE (ADPKD): COSTS AND RESOURCE UTILISATION IN THE NORDIC COUNTRIES

Eriksson D<sup>1</sup>, Karlsson L<sup>1</sup>, Eklund O<sup>1</sup>, Dieperink H<sup>2</sup>, Honkanen E<sup>3</sup>, Melin J<sup>4</sup>, Selvig K<sup>5</sup>, Lundberg J<sup>6</sup><sup>1</sup>Quantify Research, Stockholm, Sweden, <sup>2</sup>Odense University Hospital, Odense, Denmark, <sup>3</sup>Helsinki University Central Hospital, Helsinki, Finland, <sup>4</sup>Uppsala University Hospital, Uppsala, Sweden, <sup>5</sup>Vestre Viken Hospital Trust, Drammen, Norway, <sup>6</sup>Otsuka Pharma Scandinavia, Stockholm, Sweden

**OBJECTIVES:** There is limited real-world information on resource utilisation, costs and productivity in patients with ADPKD. The objective of this study was to estimate the annual direct and indirect costs of patients with ADPKD by severity of the disease [chronic kidney disease (CKD) stages 1-3, 4-5, dialysis, and transplant recipients], and describe the resource utilisation during the 12-month period around dialysis initiation and transplant procedure, respectively. **METHODS:** A cross-sectional study of ADPKD patients was undertaken April-December 2014 in Denmark, Finland, Norway and Sweden. Data on medical resource utilisation were extracted from medical charts and patients were asked to complete a self-administered survey, which included the Work Productivity and Activity Impairment Questionnaire. **RESULTS:** A total of 266 patients were contacted, 243 (91%) of whom provided consent to participate in the study. Average total annual costs amounted to €9,919 in CKD 1-3, €16,761 in CKD 4-5, €74,015 in dialysis patients and €31,496 in transplant recipients. Indirect costs were substantial in earlier stages of the disease, accounting for 72% and 73% of total costs in the CKD 1-3 and CKD 4-5 strata, respectively. Direct medical costs amounted to €60,514 in dialysis patients and €17,773 in transplant recipients. Among those who were employed, the overall work productivity loss ranged between 9% in CKD stage 1-3 to 42% in dialysis patients. An average of 16.5 hospital days and 10.4 outpatient visits were observed in the 12-month period around dialysis initiation. Around the transplant procedure, the average number of hospital days and outpatient visits were 29.9 and 16.9, respectively. **CONCLUSIONS:** ADPKD is a progressive disease associated with increasing costs as the patient progresses to CKD stage 4-5, dialysis and transplant. Substantial savings and productivity gains could be made by delaying the progression of ADPKD to end stage renal disease.

## PUK33

## HEALTHCARE RESOURCE CONSUMPTION AND COSTS BEFORE AND AFTER KIDNEY TRANSPLANTATION IN LOMBARDY, ITALY

Rogerri DP<sup>1</sup>, Rogerri A<sup>1</sup>, Zocchetti C<sup>2</sup>, Conte F<sup>3</sup><sup>1</sup>ProCure Solutions, Nembro (BG), Italy, <sup>2</sup>Lombardy Region, Milan, Italy, <sup>3</sup>S. Ubaldino Hospital, Cernusco sul Naviglio (MI), Italy

**OBJECTIVES:** Aim of the present study was to evaluate, through the analysis of administrative databases, healthcare resource consumption and costs in charge to the Regional Health Service (RHS) for patients receiving kidney transplantation. **METHODS:** All data recorded in the regional administrative databases regarding subjects resident in Lombardy (one of the Italian Regions, with about 9,700,000 inhabitants) who received kidney transplantation in 2011 were extracted. Direct healthcare costs in charge to the RHS for these subjects for the 12 months preceding and following transplantation were estimated (drugs, hospitalizations, diagnostic/therapeutic procedures). **RESULTS:** In 2011, 276 subjects received kidney transplantation, 268 of which survived for the following 12 months. Administrative data were available for 264 of these subjects (67.8% males, mean age 49.4). Among those patients who survived one year after transplantation, the per-patient yearly cost before transplantation amounted to 36,746€ (11.6% for drugs, 81.2% for diagnostic/therapeutic procedures and 7.2% for hospitalizations). Dialysis accounted for 91% of all costs for diagnostic/therapeutic procedures. In the year following transplantation, the per-patient cost amounted to 43,806€ (25.8% for drugs, 15.8% for diagnostic/therapeutic procedures and 58.4% for hospitalizations). The average per-patient cost of transplantation intervention was 21,183€ (82.7% of total cost of hospitalizations). The average cost of the last year of life of those patients who died within 12 months after transplantation was 79,362€/patient (68.1% of which