erelin (G) and triptorelin (T) for Russian health care system. METHODS: A review was conducted to collect available evidence of the clinical efficacy and safety of L in comparison with G and T. Cost-minimization analysis was performed. Direct costs of treatment with studied drugs were considered for each option: cost for 1-year hormonal therapy in a hypothetical cohort of 100 patients with FC. The calculation was based on costs of drugs’ prices from the list of Vital and Essential Drugs in Moscow for 2011. In all, we made an estimation of the number of cost patients who could have been treated if a less expensive alternative had been applied. One-way sensitivity analysis was made. RESULTS: According to available published data LH-RH agonists have similar clinical efficacy and safety that allowed us to use the cost-minimization method. Costs for the medications in a hypothetical cohort of 100 patients with FC were equal to 290,263, 332,690 and 391,595 USD per year for L, G and T respectively. When L is used instead of G and T extra 14 and 34 patients can be treated with LH-RH for 1 year respectively. Sensitivity analysis has shown that the incremental cost was less expensive if its price was no more than +14.6% and +94.9% from baseline when compared to G and T respectively. CONCLUSIONS: L-based therapy has a equal clinical efficacy comparing to the other LH-RH analogues and is on average a cost saving option when compared with G and T.

**PCN98**

**HEALTH OUTCOME GAINS AND COSTS OFFSET ASSOCIATED WITH EVEROLIMUS FOR THE TREATMENT OF HORMONE-REFRACTORY-POSITIVE (HR+) HER2-NEGATIVE (HER2-) ADVANCED BREAST CANCER (ABC)**

Tayler M1, Lewis L1, Vieira J2, Ricci J3, Chandwani D2, Salten J3, Sahnoud T4
1York Health Economics Consortium, York, UK, 2Novartis Pharmaceuticals UK Limited, GB- Framingham, 3Wellmera AG, Basel, Switzerland, 4Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

OBJECTIVES: This study analyzed the cost-utility of everolimus versus exemestane (EVE/EXE) versus placebo (PBO/EXE) in patients with HR+ HER2- metastatic breast cancer (MBC). METHODS: The phase III BOLERO-2 study evaluated the patients with HR+ HER2- and recurrence or progression during/after nonsteroidal aromatase inhibitor therapy to EVE/EXE or PBO/EXE. A subset analysis was developed to compare treatment with EVE/EXE versus PBO/EXE (UK health care perspective). Utilities, costs and quality-adjusted life years (QALYs) associated with health state. Background health state and adverse event (AE) costs were derived from the BOLERO-2 randomized controlled trial. RESULTS: From baseline when compared to G and T respectively. Sensitivity analysis has shown that the incremental cost was less expensive if its price was no more than +14.6% and +94.9% from baseline when compared to G and T respectively. CONCLUSIONS: L-based therapy has equal clinical efficacy comparing to the other LH-RH analogues and is on average a cost saving option when compared with G and T.

**PCN100**

**UTILITY ANALYSIS OF BORTEZOMIB IN A BIOMARKER POSITIVE SUBGROUP OF RELAPSED AND REFRACTORY FOLICULAR LYMPHOMA**

Vandekerckhove S1, Lamotte M2, Inanuzzo S2, Chitra O3
1IMS Health, Vilvoorde, Belgium, 2IMS HEOR, Milan, Italy, 3Janssen-Cilag Ltd., Buckinghamshire, UK

OBJECTIVES: Based on an exploratory biomarker analysis in the Phase 3 RCT LYM301 Study that evaluated bortezomib combined with rituximab against rituximab, in a biomarker positive population of relapsed/refractory follicular lymphoma (RFL) patients (Coiffier et al 2011, ASH), a cost utility analysis was conducted from the UK NHS perspective. METHODS: A lifelong Markov model with monthly cycles was designed in MS Excel 2007. Three health states were defined: progression free, progression and death. Patients received active treatment for the entire length of the progression free survival (PFS). Progression free survival (PFS) probabilities were extrapolated from the randomized controlled trial. In the PSMB1 P11A G/C heterozygote and low CD68 expression vs. rituximab alone. This subgroup was identified through laboratory tests. The total cost included the drug, administration, biomarker analysis, follow up, best supportive care, end of life care and adverse events per health state. Utilities were state dependent and disutilities were applied for adverse events. General mortality, unit costs and utilities were obtained from the literature. Annual discounting of 3.5% was applied on costs and health effects. The result measured the incremental cost ($1) per quality adjusted life year (QALY) gained. RESULTS: The combination bortezomib/rituximab yielded 9.76 QALYs vs. 8.41 for rituximab alone in biomarker positive RFL patients. The incremental cost effectiveness ratio (ICER) was $13,774/QALY gained. The probabilistic sensitivity analysis indicated that the cost-effectiveness probability exceeded 55% at $20,000/QALY. CONCLUSIONS: In RFL patients with positive biomarkers, PSMB1 P11A G/C heterozygote and low CD68 expression, bortezomib/rituximab was compared against rituximab and an ICER below $20,000/QALY gained. This analysis shows how personalized medicine may maximize cost-effectiveness.

**PCN101**

**COST EFFECTIVENESS OF EVEROLIMUS FOR SECOND LINE TREATMENT OF METASTATIC RENAL CELL CANCER IN SERBIA**

Matkovic P1, Pechalinavcic P2, Bajic M3, Vukelic S4, Sad, Novi Sad, Serbia and Montenegro, 2University of Groningen, Groningen, The Netherlands, 3University of Novi Sad, Novi Sad, Serbia and Montenegro, 4University of Novi Sad, Medical Faculty, Novi Sad, Serbia and Montenegro

OBJECTIVES: Metastatic renal cell cancer (mRCC) is becoming an important part of Serbian health care health expenditure due to its increasing incidence, inadequate prevention methods and expensive pharmaceutical options for disease control. All available treatment options, only sunitinib is currently reimbursed in Serbia. This study aims to assess the cost-effectiveness of everolimus in comparison to best supportive care in mRCC patients who failed to respond to treatment with sunitinib. METHODS: A Markov model was developed with respect to the Serbian treatment protocols and a health care perspective was taken. Transitions between health states were modeled using published Kaplan-Meier curves for progression-free (PFS) and overall survival (OS). The cohort was followed over 18 cycles, each cycle lasting 8 weeks, which covers the life-time horizon of mRCC patients. An annual discount rate of 1.5% for health and 4% for costs was applied. One-way and probabilistic sensitivity analyses (PSA) were performed to test the robustness and uncertainty around the base-case estimate. RESULTS: The incremental cost-effectiveness ratio (ICER) for everolimus was estimated at 64,028/QALY. Sensitivity analysis identified the probabilities of OS and PFS as the main drivers of the cost-effectiveness of everolimus. The cost of everolimus and the utilities estimates were also of significant influence. PSA revealed a wide 95% confidence interval around the base-case ICER estimate (36,147 - 186,053 €/QALY). Additionally, at a threshold of 14,400/QALY (three times the GDP per capita in Serbia) everolimus did not have probability of being cost-effective. CONCLUSIONS: Base-case ICER was significantly higher than the commonly used, GDP-based threshold, recommended by WHO, indicating that everolimus would most likely be a cost-ineffective treatment in Serbian setting. However, prior to a final decision on the acceptance/rejection of everolimus, reassessment of the whole therapeutic group might be needed to constitute reasonable treatment strategies within the mRCC field.

**PCN102**

**THE COST OF ABSENTEEISM AND SHORT-TERM DISABILITY ASSOCIATED WITH COLORECTAL CANCER: A CASE-CONTROL STUDY**

Jaffery MA1, Megahed H2, 2Bayer Healthcare Pharmaceuticals, Inc., Wayne, NJ, USA, 3Bayer Healthcare Pharmaceuticals, Inc., Pine Brook, NJ, USA, 4Health Metrics Outcomes Research, Delray Beach, FL, USA

OBJECTIVES: To quantify the incremental costs of absenteeism and short-term disability associated with colorectal cancer (CRC) in terms of cost per quality-adjusted years (QALY). METHODS: Case-control study. Costs were derived from Commercial Claims and Encounters (CCE) and Health and Productivity Management (HPM) databases used to identify patients age 18-64 diagnosed with CRC, with first such date identified as the index date. Patients were also required to have continuous insurance coverage and be included in the HPM database from 6 months prior through 12 months post index date. These cases were matched 1:1 without replacement based upon age, sex, and region of residence and controls
were assigned an identical index date as their matched case. Absenteeism costs in the 1 year post diagnosis of CRC. CONCLUSIONS: Results indicate that CRC is associated with significant work-related productivity loss costs in the first year post diagnosis.

OBJECTIVES: Oral chemotherapy agents are increasingly used for cancer treatment. The study objective was to quantify abandonment and reversal rates of oral oncolytics in patients filling prescriptions from traditional retail, Medco specialty, and other specialty pharmacies. Prescriptions are abandoned for different reasons including cost-sharing amounts and complexity of regimens prescribed. METHODS: Using a retrospective cohort design, we selected patients aged ≥18 years with a prescription for erlotinib, capecitabine, or imatinib during 2007-2011 from a Medco population of U.S. commercial and Medicare health plans. These agents represent widely available oral oncolytics. Patients were classified according to initial oncolytic received and pharmacy channel providing the mediation. Each treatment was defined as a reversal following initial approval of prescription with no additional paid claims for the agent within 90 days of reversal. Overall reversal rates representing potential challenges filling prescriptions were also examined. Reversals occur for various reasons including incorrect information on ability to pay, cost-sharing amount, reason for abandonment. Results indicate that CRC is associated with significant work-related productivity loss costs in the first year post diagnosis.

PCN103

HOW MUCH PRICE COMPONENT IS ACCOUNTED FOR IN STATE DRUGS PURCHASE DECISIONS IN UKRAINIAN ONCOLOGY? Mandziy J1, Zaliaka O2, Severus P3

1Danylo Hodytsky Lviv National Medical University, Lviv, Ukraine, 2Taras Shevchenko University of Kyiv, Kyiv, Ukraine, 3Faculty of Pharmacy, University of Latvia, Riga, Latvia

OBJECTIVES: To assess the cost of drugs for treatment of oncologic diseases (using the example of hematologic malignancies) in the Ukrainian market and to explore if there is a correlation between cost per daily-defined dose (DDD) and governmental purchase decisions. METHODS: A retrospective cohort study analysed 35 medical oncology centres, analyzed the following resources: hospital purchase data (to define the most frequently used drugs for treatment of hematologic malignancies and DDD), hospital purchases 2011 (to define the list, quantities, and prices of drugs purchased by the state), market prices by distributors and the state registered prices (to define the median, minimum and maximum prices possible for the market). RESULTS: Drugs that were frequently used and had the minimum price per DDD were corticosteroids (dexamethasone, prednisolone), thalidomide, lomustine, chlorambucil (used for elderly patients with CLL). The correlation between the amount of packs purchased by the government and cost per DDD pack was -0.310, indicating that there is a low correlation between price increase and the state purchased decrease. Several cases when the state purchased two brand names for one generic product with extreme difference in price/mg were observed. CONCLUSIONS: In Ukraine, the tendency to decrease in the amount of drugs in the higher amounts than more expensive ones. Though, not all of the decisions have only a price reasoning. The reasons for purchases of different brand names for one generic product should be provided.

PCN104

PROFILE OF PATIENTS AND HEALTH CARE COSTS ASSOCIATED WITH CANCER TREATMENT FROM A MEDICAL COOPERATIVE IN THE STATE OF SÃO PAULO, BRAZIL

Santos MCL, Maturana MS

OBJECTIVES: To assess the cost of drugs for treatment of oncologic diseases (using the example of hematologic malignancies) in the Ukrainian market and to explore if there is a correlation between cost per daily-defined dose (DDD) and governmental purchase decisions. METHODS: A retrospective cohort study analysed 35 medical oncology centres, analyzed the following resources: hospital purchase data (to define the most frequently used drugs for treatment of hematologic malignancies and DDD), hospital purchases 2011 (to define the list, quantities, and prices of drugs purchased by the state), market prices by distributors and the state registered prices (to define the median, minimum and maximum prices possible for the market). RESULTS: Drugs that were frequently used and had the minimum price per DDD were corticosteroids (dexamethasone, prednisolone), thalidomide, lomustine, chlorambucil (used for elderly patients with CLL). The correlation between the amount of packs purchased by the government and cost per DDD pack was -0.310, indicating that there is a low correlation between price increase and the state purchased decrease. Several cases when the state purchased two brand names for one generic product with extreme difference in price/mg were observed. CONCLUSIONS: In Ukraine, the tendency to decrease in the amount of drugs in the higher amounts than more expensive ones. Though, not all of the decisions have only a price reasoning. The reasons for purchases of different brand names for one generic product should be provided.

PCN105

IMPACT OF PHARMACY CHANNEL ON ABANDONMENT RATE OF ORAL ONCOLYTICS

Reyes L1, Stokes M2, Yu X1, Alas V3, Carr P3, Boulanger L3

1Columbia University, New York, NY, USA, 2United BioSource Corporation, Doral, QC, Canada, 3United BioSource Corporation, Lexington, MA, USA

OBJECTIVES: The pharmacy channel in which patients fill their index oral oncolytic appears to be potential on patient abandonment rates.

PCN106

PERSISTENCE IN PATIENTS WITH BREAST CANCER TREATED WITH TAMOXIFEN OR AROMATASE INHIBITORS: RESULTS OF A RETROSPECTIVE COHORT STUDY

Koster K1, Haas G2, Hadij P3

1IMS Health, Frankfurt am Main, Germany, 2IMS Health, Frankfurt/Main, Germany, 3Universityhospital of Giessen and Marburg GmbH, Marburg, Hessen, Germany

OBJECTIVES: High rates of compliance and persistence to medical treatments are essential to improve patient outcomes. Breast cancer survival has significantly increased, compliance with adjuvant treatment is very important to ensure optimal treatment outcome. In this analysis, persistence i.e. the extent to which patients continue treatments was estimated for breast cancer patients on tamoxifen (TAM) and aromatase inhibitors (AI) treatment in primary care practices in Germany. METHODS: This retrospective cohort study analyzed longitudinal routine claim data collected by gynaecologists and general practitioners in Germany (IMS® Disease Analyzer). Non-persistence was defined as a period of ≥180 days without prescriptions. The lack of persistence was compared using Cox regression models adjusting for age, gynecologist care, private health insurance, urban residency, practice in West-Germany, defined co-diagnoses and co-treatments (i.e. bisphosphonates). RESULTS: We included 12,412 patients diagnosed with breast cancer and first-time prescriptions of hormone therapy. A total of 7312 patients were treated with TAM (SD: 13.5), 4277 with AI (anastrozole, exemestane, letrozole) (mean age 66.4 (SD: 10.6) as first line treatment. After 3 years 42.1% of TAM-patients and 40.2% of AI-patients in German practices discontinued their treatment. In the adjusted Cox model treatment in gynaecologist practice (HR: 0.69, p<0.001), age over 70 (HR: 0.67, p<0.001), changing hormone therapy sub- stance (HR: 0.82, p<0.001), co-therapy with bisphosphonates (HR: 0.86, p<0.013) and diagnosis of diabetes mellitus (HR: 0.82, p<0.001) were associated with a lower risk of discontinuation of therapy. No significant effect was found for western Germany, urban residency, private insurance status and other age groups. CONCLUSIONS: Long-term persistence on hormonal treatment in women with endocrine-responsive breast cancer is low. Factors affecting treatment discontinuation need to be identified and properly addressed. Patients at high risk of non-adherence to the prescribed medication should be cared for in more individualised fashion to ensure optimal treatment outcome.

PCN107

PERSISTENCE IN FIRST LINE TREATMENT OF METASTATIC RENAL CELL CARCINOMA IN ROUTINE CARE IN GERMANY

Mergenthaler U1, Morawski E2, Wendschlag A1

1IMS Health, Frankfurt, Germany, 2BS Medizinprodukte, Berlin, Germany

OBJECTIVES: Metastatic renal cell carcinoma (mRCC) has a very high mortality rate with a 5 year survival of 5-15%. With the approval and use of a number of oral agents in the first line treatment, treatment options for mRCC patients have significantly improved. Objective of this study was to evaluate the persistence in the first line treatment of mRCC patients in Germany. METHODS: This retrospective analysis was based on the IMS LxR database containing 80% of all prescriptions reimbursed by the German statutory health insurance with an anonymized patient ID. The data base covers longitudinal information on patient level, such as age, gender, insurance correspondence as well as prescription of specialty, date and maximum package level. Persistence was defined as the number of days from the date of the first prescription until the date of the last prescription plus the number of days dosing prescribed. RESULTS: A total of 2779 patients starting first line treatment in mRCC between January 2010 and September 2010 were identified based on medication, co-medication and dosage. Median persistence in days was 84 for patients receiving Temsirolimus (T; n=384), 103 for Sorafenib (S; n=368), 117 for Pazopanib (P;