Groningen, Groningen, The Netherlands, [3]Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands

OBJECTIVES: Little is known about the use and effectiveness of new treatments for metastatic renal cell carcinoma (mRCC) in daily practice. In the Netherlands, this information is needed for expensive inpatient drugs to guarantee continued reimbursement. We evaluated the use and effectiveness of bevacizumab plus interferon alfa-2a (IFN) for patients with mRCC in Dutch daily practice. **METHODS:** A population-based registry was created to include patients newly diagnosed with mRCC from 2008-2010. These patients represent 55% of all patients in the Netherlands. Data were collected on patient and disease characteristics, treatments, dosages, treatment response, survival, adverse events and resource use. **RESULTS:** To date, data on 615 patients have been collected. Average age at diagnosis was 66.4 years (range: 23-93) and 66% was male. 53% of these patients received systemic therapy. The majority (83%) was treated with sunitinib, whereas sorafenib is most often used as second-line treatment. Data from 34 patients treated with bevacizumab plus IFN in the first line were collected. The dosage corresponded with the recommended dosage (10 mg/kg). Since the mean weight of patients in daily practice was higher than the mean weight seen in the phase III trial (87.5 vs 76.0 kg), the mean dosage was also higher. Of the 34 patients treated with bevacizumab plus IFN, median overall survival was similar to that seen in the phase III trial (23.0 vs 23.3 months). **CONCLUSIONS:** Feasibility issues come into play when evaluating the use and effectiveness of expensive inpatient drugs in daily practice. Since bevacizumab plus IFN is not regularly used in daily practice, future cost-effectiveness analyses will have to be based on a careful synthesis of evidence from daily practice, the phase III trial, quality of life studies and other sources.

PCN7

A SYSTEMATIC REVIEW OF THE HETEROGENEITY OF TREATMENT EFFECT IN OVARIAN CANCER (OC)—ARE THERE IMPLICATIONS FOR OUTCOMES RESEARCH?

Chawla A[1], Nellesen D[1], Yee K[1], Brown J[2], Boye ME[3]
[1]*Analysis Group, Inc., Menlo Park, CA, USA,* [2]*Eli Lilly and Company, Windlesham, Surrey, UK,* [3]*Eli Lilly and Company, Indianapolis, IN, USA*

OBJECTIVES: Clinical studies typically assess average treatment effect on outcomes, potentially ignoring heterogeneity of treatment effect associated with phenotypic and genotypic characteristics. A paradigm shift where drugs are targeted to disease subtypes based on molecular biomarkers, rather than phenotypic or histological characteristics alone, is underway and beginning to influence outcomes research. Our objective was to assess heterogeneity of treatment effect associated with adjuvant and advanced-stage therapy for OC and strength of evidence documenting association between patient or tumor characteristics and outcomes. **METHODS:** We conducted a review according to the Cochrane Handbook of Systematic Reviews, with two independent reviewers completing study selection from 11 databases and data extraction on several outcomes: overall survival (OS), progression-free survival (PFS), tumor response, disease-free survival, time to progression, adverse events, and quality of life (QOL). Studies that did not evaluate characteristics identified as predictive of anti-cancer treatment outcome, regardless of whether treatment was molecularly targeted, were excluded. Descriptive analyses were conducted. **RESULTS:** Forty-seven of 554 publications were selected (93% concordance between reviewers). Most studies presented post-hoc analyses (45/47); over half evaluated platinum-taxane combinations (27/47). Fifty-three distinct patient or tumor characteristics were evaluated for association with outcomes. Nine of the 10 most frequently studied characteristics were molecular: p53, VEGF, ERCC1, CA-125, CD31-MVD, stathmin, TSP1-1A, βIII-tubulin and CD24. No studies assessed predictive factors for QOL. Elevated CA-125 and stathmin levels were each predictive of worsening OS and PFS, and VEGF levels or genotype were mostly unrelated to OS or PFS. **CONCLUSIONS:** There are numerous studies that associate mostly molecular markers with traditional measures of treatment effect; however, patient-centered outcomes in this context have not yet been studied in OC. Future evaluations of treatment effect in OC should also consider variation in these patient and tumor characteristics, in addition to histological and phenotypic characteristics, for association with QOL.

PCN8

AXITINIB (AXI) AND BEST SUPPORTIVE CARE (BSC) IN THE TREATMENT OF SUNITINIB-REFRACTORY PATIENTS WITH METASTATIC RENAL CELL CARCINOMA (MRCC): RESULTS OF A SIMULATED TREATMENT COMPARISON (STC) ANALYSES

Proskorovsky I[1], Benedict A[2], Larkin JMG[3], Sandin R[4], Chen C[5]
[1]*United BioSource Corporation, Dorval, QC, Canada,* [2]*United BioSource Corporation, Budapest, Hungary,* [3]*Royal Marsden Hospital, London, UK,* [4]*Pfizer Oncology, Sollentuna, Stockholm, Sweden,* [5]*Pfizer Global Pharmaceuticals, New York, NY, USA*

OBJECTIVES: To compare overall survival (OS) and progression free survival (PFS) in sunitinib-refractory (SU-r) patients with mRCC treated with AXI and BSC using STC. **METHODS:** STC method was used to derive OS and PFS curves for a hypothetical cohort of "AXI-like" patients had they received BSC in the AXIS trial. Patient level data on SU-r patients from the AXIS trial were used to derive predictive equations for OS and PFS. Parametric survival analysis identified the best fitting distribution and significant predictors of OS and PFS. These equations were calibrated using patient characteristics and mPFS and cross-over adjusted mOS of the BSC cohort in the RECORD-1 trial. **RESULTS:** In AXIS all 194 SU-r AXI patients progressed on one line of treatment. In RECORD-1 78% of BSC patients had 2+ prior lines and some failed 1st line treatment due to intolerability. Other available patient characteristics were comparable except for MSKCC risk category (36% vs 15% poor risk, AXI vs BSC respectively) and ECOG score (52% vs 68% with ECOG 0). The final predictive equations using the best-fitting log-normal distribution included MSKCC risk group and age for PFS, and MSKCC risk category and duration of prior SU for OS. Median estimated OS and PFS was 15.2 and 5.1 months for AXI compared to 8.3 and 1.6 months for BSC respectively. Estimated difference in mean OS and PFS between AXI and BSC was 11.4 and 5.9 months. Sensitivity analyses using patient characteristics of the SU-r subgroup of everolimus arm and Weibull distribution showed similar results. **CONCLUSIONS:** The STC analysis, an alternative to mixed treatment comparison, suggested a significant improvement in OS and PFS for SU-r mRCC patients treated with AXI compared to BSC. However, the analysis could not account for all the differences between patient populations, particularly for the number of prior non-VEGFR-TKI therapies.

PCN9

MODELING LIFETIME EFFECTIVENESS OF DENOSUMAB VERSUS PLACEBO IN MEN WITH CASTRATION RESISTANT PROSTATE CANCER (CRPC) AT HIGH RISK OF DEVELOPING BONE METASTASIS (BM)

Lothgren M[1], Hechmati G[1], Jacobs I[2], Qian Y[2], Arellano J[2]
[1]*Amgen (Europe) GmbH, Zug, Switzerland,* [2]*Amgen Inc., Thousand Oaks, CA, USA*

OBJECTIVES: With increasing health care resource constraints, it is important to understand the incremental cost-effectiveness (ICER) of new medicines, and an integral effort is to predict key clinical and economic outcomes over the patients' lifetime. Our objective was to predict the lifetime mean overall survival (OS) and bone metastasis-free survival (BMFS) for denosumab (120mg subcutaneous every 4 weeks) vs. placebo in men with CRPC based on a recent phase III trial (ClinicalTrials.gov NCT00286091). **METHODS:** A three-state health state model (BMFS, BM progression, and Death) was developed. Parametric survival functions for OS and BMFS were estimated using trial data and extrapolated for lifetime. Model selection was based on the best fit within trial duration (AIC criteria), and overall shape of the lifetime predictions. For the parametric estimation, consistent with trial results, pooled data from both study arms were used for OS; the placebo arm was used for the baseline BMFS and the trial reported treatment effect (HR) was applied to derive the BMFS curve for denosumab. **RESULTS:** A Weibull function was identified as the best fit for both OS and BMFS. The pooled mean estimate was 4.02 years for OS, and 2.75 and 3.16 years for BMFS in placebo and denosumab respectively, resulting in an incremental BMFS of 0.41 year for denosumab vs placebo. **CONCLUSIONS:** Denosumab treatment is predicted to prolong time in BMFS, which will reduce time in BM progression state with potentially lower costs and costs offsets for denosumab from reduced need of routine care in the metastatic health state. This finding will facilitate our understanding of the ICER of denosumab in men with CRPC at high risk of developing BM.

PCN10

EXAMINING THE USE OF RESCUE ANTIEMETIC MEDICATION FOR CHEMOTHERAPY INDUCED NAUSEA AND VOMITING IN A COMMERCIAL POPULATION

Knoth RL[1], Faria C[1], Chang E[2], Broder M[2]
[1]*Eisai, Inc., Woodcliff Lake, NJ, USA,* [2]*Partnership for Health Analytic Research, Beverly Hills, CA, USA*

OBJECTIVES: Chemotherapy-induced nausea and vomiting (CINV) is a significant adverse effect of cancer chemotherapy treatment. The 5-hydroxytryptamine-3 receptor antagonists (5-HT3-RAs), a class of antiemetics, is indicated for the prevention and treatment of CINV. The purpose of this study was to examine the use of rescue antiemetic administration for CINV in patients diagnosed with cancer and undergoing single-day chemotherapy. **METHODS:** A retrospective cohort analysis using the Ingenix LabRx® database was conducted. Adult patients diagnosed with lung, breast, or colon cancer, treated with a moderately (MEC) or highly emetogenic chemotherapy (HEC), and who received a prophylactic 5-HT3-RA from 4/1/08 to 3/31/09, were identified. The outcome of interest was the rate of rescue antiemetic administration, per cycle of chemotherapy, between 5-HT3-RA treatment cohorts. Rescue antiemetic utilization was defined by a HCPCS code for administration of an antiemetic from day 2 to the end of the cycle or for 30 days following single-day chemotherapy. RESULTS A total of 5,912 patients were identified, 25.7% treated with a HEC regimen and 74.3% on a MEC regimen.The mean age was 56.1 years and 77.1% were female. Patients were treated with a total of 21,821 cycles of chemotherapy. The most common 5-HT3-RA utilized was palonosetron (73% of cycles) followed by ondansetron (11%), granisetron (10%), and dolasetron (6%). The overall unadjusted rate of rescue antiemetic administration per cycle was 17.6%, and the rate differed by 5-HT3-RA utilized. Patients treated with palonosetron were significantly less likely to require a rescue antiemetic on a per cycle basis (14.1%), compared to patients treated with another 5-HT3-RA (26.6%), $p<.001$. **CONCLUSIONS:** The results from this retrospective analysis suggest that rescue antiemetic utilization may be significantly reduced in patients undergoing chemotherapy following use of palonosetron vs. another 5-HT3-RA for the prevention of CINV.

PCN11

THE IMPACT OF TREATMENT PERSISTENCE WITH LENALIDOMIDE (LEN) FOR THE TREATMENT OF MULTIPLE MYELOMA (MM) ON DISEASE CONTROL

Henk H[1], Kaura S[2], Khan Z[2], Teitelbaum A[3]
[1]*OptumInsight, Eden Prairie, MN, USA,* [2]*Celgene Corporation, Summit, NJ, USA,* [3]*OptumInsight, Life Sciences, San Diego, CA, USA*

OBJECTIVES: While persistence with drug therapy is essential to achieve optimal patient benefits, poorly controlled MM results in earlier disease progression, disease-related complications, deleteriously impacts quality of life, and ultimately death. This study assesses the relationship between treatment LEN adherence/persistence and indicators of lack of disease control and disease-related complications of MM. **METHODS:** Commercial and Medicare Advantage enrollees initiating LEN for treatment of MM with pharmacy and medical benefits in the 6 months prior