and IFN-alpha alone (US$29,000). The ICER's per PFM and OS resulted in US$3767.0 and US$5668.8 (sunitinib vs. IFN-alpha alone). Results were robust to second-order Monte Carlo sensitivity analysis (10,000 iterations). Acceptability curves showed that sunitinib would be a cost-saving strategy against sorafenib and bevacizumab+IFN-alpha with a probability over 70%($p < 0.05$). **CONCLUSIONS:** Results show that sunitinib as first-line treatment is a cost-effective alternative among the new agents for patients with mRCC.

PCN47

COST-EFFECTIVENESS OF DIFFERENT TREATMENTS IN PATIENTS WITH HEPATOCELLULAR CARCINOMA: A RETROSPECTIVE STUDY

Chu PC[1], Chen CH[1], Wang JD[2], Hwang JS[3]
[1]National Taiwan University Hospital, Taipei, Taiwan, [2]National Taiwan University, College of Public Health, Taipei, Taiwan, [3]Academia Sinica, Taiwan, Taipei, Tuvalu

OBJECTIVES: There exists a lack of studies for cost-effectiveness analysis on treating hepatocellular carcinoma (HCC). This study aimed at estimating life expectancy (LE), lifetime costs, and incremental cost-effective ratios (ICER) for five different treatments of HCC, using a semiparametric method. **METHODS:** A retrospective cohort study was performed of a 1,000,000-person random sample obtained from Taiwan's National Health Insurance (NHI) reimbursement database. A total of 1932 newly-diagnosed patients with HCC were indentified and verified with independent file of catastrophic illnesses. These patients were followed from 1997 to 2003 with longitudinal claim data, including all orders and costs of inpatient services, outpatient services, and prescriptions dispensed at pharmacies. They were further stratified to five subgroups with different treatments, comprised of surgery, percutaneous ethanol injection (PEI), transarterial chemoembolization (TACE), chemotherapy and radiotherapy, and supportive care. The lifetime survival (up to 50 years) was estimated using the Monte Carlo method as well as borrowing information from the general population. The lifetime costs were estimated by integrating the lifetime survival function and cost function with some assumptions after the follow-up limit. The ICER was also calculated as the net cost of four different treatments study groups divided by the increased number of life years, compared with the supportive care. **RESULTS:** The LE on overall HCC patient was 35.73 months. The surgery group had the longest LE (85.73 months), and the supportive care group had the shortest LE (15.97 months). The surgery was the most cost-effectiveness treatment, which the ICER was 2358 USD per life year (LY) after lifetime follow-up. The PEI (7124 USD/LY) was more cost-effective than TACE (7767 USD/LY). **CONCLUSIONS:** The study applied semiparametric method to project lifetime survival and lifetime costs, using the real cost data through national longitudinal reimbursement database, which might be an alternative method with retrospective approach on cost-effectiveness analysis.

PCN48

THE COST-EFFECTIVENESS OF BORTEZOMIB FOR RELAPSED/REFRACTORY MULTIPLE MYELOMA IN SWEDEN

Rickert JB[1], Hornberger J[2], Dhawan R[3], Liwing J[4], Aschan J[4], Lothgren M[4]
[1]Cedar Associates LLC, Menlo Park, CA, USA, [2]Cedar Associates LLC and Stanford University, Menlo Park, CA, USA, [3]Johnson & Johnson Pharmaceutical Services LLC, Raritan, NJ, USA, [4]Janssen-Cilag AB, Sollentuna, Sweden

OBJECTIVES: To estimate the incremental cost-effectiveness of bortezomib (BTZ) compared with lenalidomide plus dexamethasone (LEN+DEX) and dexamethasone (DEX) for the treatment of relapsed/refractory multiple myeloma in Sweden. **METHODS:** We constructed a model, using Microsoft® Office Excel 2003 and VBA 6.3 software, to compare the BTZ, LEN+DEX and DEX regimens for relapsed/refractory multiple myeloma. The effects of treatment on time to progression and overall survival (OS) were obtained from published reports of the APEX, MM-009 and MM-010 randomized clinical trials. Costs include drug and administration costs, adverse events, treatment of relapses, and end-of-life costs. Utility estimates are derived from the literature. The analytic framework is based on 'partitioned survival analysis' that allows survival data to be decomposed into three states: 1) alive before disease progression; 2) alive after progression, and; 3) dead. By computing the amount of time a patient is projected to spend in each state, the model estimates mean OS, quality-adjusted life-years (QALYs), costs and cost per QALY over a 30-year time horizon, and performs both 1-way and probabilistic sensitivity analyses. **RESULTS:** BTZ mean OS is 38.6 months compared to 24.5 and 37.8 months for DEX and LEN+DEX respectively. Mean lifetime direct medical costs per patient are approximately SEK 562,000, 1,064,000 and 1,641,000 for DEX, BTZ and LEN+DEX respectively. Mean incremental cost per QALY of BTZ compared to DEX is SEK 618,000; 95th percentile (424,000, 877,000) and is dominant with respect to LEN+DEX. The two most influential variables in our model are (1) utility prior to relapse, and (2) cost of BTZ chemotherapy. **CONCLUSIONS:** BTZ and LEN+DEX are projected to prolong survival relative to DEX. From a Swedish perspective, BTZ is cost-effective compared to both DEX and LEN+DEX, and the incremental cost per QALY is below the threshold set by the World Health Organization.

PCN49

COLORECTAL CANCER SCREENING FOR AVERAGE RISK INDIVIDUALS: AN ECONOMIC EVALUATION

Au F[1], Heitman SJ[1], Manns BJ[2], Hilsden RJ[1]
[1]University of Calgary, Calgary, AB, Canada, [2]University of Calgary, Calgary, AB, AB, Canada

OBJECTIVES: In Canada, colorectal cancer (CRC) screening is recommended for average-risk individuals age 50–75. A variety of options are available for screening those at average risk for CRC, including stool-based tests (such as fecal occult blood test (FOBT), fecal immunochemical tests (FITs), and fecal DNA), radiological studies (such as Computed tomographic colonography (CTC)) and colonoscopy. Each modality differs in terms of test performance characteristics, invasiveness, safety and costs. The objective of this study is to perform an economic evaluation of CRC screening considering all of the available CRC screening modalities using a Canadian perspective. **METHODS:** Using decision analysis, to compare CRC screening by FIT, fecal DNA, CTC and the most widely utilized CRC screening strategies (FOBT and colonoscopy) with no screening in average risk Canadians aged 50 to 74. Outcomes included the number of colonoscopies required, cancers, death from cancer, cost and cost per quality-adjusted life year (QALY) gained. Model inputs were obtained from the literature and a meta-analysis of adenoma prevalence. A lifetime horizon and 5% discounting was used in the analysis. All costs are reported in Canadian dollars and were inflated to 2007. **RESULTS:** In a hypothetical 100,000 patient cohort, we determined that all strategies (FOBT, fecal DNA, CTC, and colonoscopy) were associated with worse clinical outcomes and higher costs than FIT, and thus were "dominated" by FIT. Compared with no screening, FIT was associated with a cost per QALY gained of $3410. This result was robust to plausible changes in known parameters. **CONCLUSIONS:** CRC screening appears cost-effective by conventional standards in comparison to the most common management of average risk Canadians (no screening). Although some uncertainty exists as to the optimal screening strategy, FIT appears to be the optimal strategy if the primary goal is to minimize the cost at which QALYs are purchased.

PCN50

COST-EFFECTIVENESS OF DOCETAXEL PLUS CYCLOPHOSPHAMIDE VERSUS DOXORUBICIN PLUS CYCLOPHOSPHAMIDE IN THE ADJUVANT TREATMENT OF OPERABLE BREAST CANCER

Jones S[1], Chen L[2], Tangirala M[3], Asmar L[4], Airia P[5], Thompson MF[5]
[1]US Oncology Research, Houston, TX, USA, [2]sanofi-aventis U.S, Bridgewater NJ, NJ, USA, [3]Smith Hanley Consulting Group LLC, Lake Mary, FL, USA, [4]US Oncology, Houston, TX, USA, [5]Cornerstone Research Group Inc, Burlington, ON, Canada

OBJECTIVES: The US Oncology Adjuvant Trial 9735 has demonstrated an overall survival (OS) benefit over 7 years for docetaxel plus cyclophosphamide (TC) compared with doxorubicin plus cyclophosphamide (AC) as adjuvant treatment for women with operable stage I-III invasive breast cancer. However, the cost of the TC regimen is much higher than AC. The objective of this analysis was to evaluate the cost-effectiveness of TC vs. AC from the perspective of the US payers. **METHODS:** A lifetime decision model with 3% discount rate was developed to estimate incremental cost (IC) per life-year (LY) gained and IC per quality-adjusted life-year (QALY) gained. The OS benefit of TC compared with AC over the 7-year trial period was extrapolated to lifetime using life expectancy of age-matched women in the general US population. Chemotherapy drug costs were calculated using standard dosage schedule combined with the US average sale price + 6%. Cost associated with chemotherapy administration, and treatments per episode of recurrence and adverse events were estimated from retrospective analyses using US claims databases. Parameter uncertainties were assessed using one-way sensitivity analyses. **RESULTS:** The projected per person LYs and QALYs gained for TC compared with AC were 0.850 and 0.674, respectively. The estimated IC per person was $5325. The IC per LY and QALY gained per person were $6261 and $7905, respectively. The results were robust across a wide range of sensitivity analyses; in particular, the IC per LY and QALY gained remained under $50,000 when the duration of the analysis was limited to 7 years. **CONCLUSIONS:** This analysis shows that use of the TC regimen compared to the standard AC regimen in patients with operable stage I-III breast cancer is a cost-effective treatment strategy.

PCN51

PROJECTED LONG-TERM ECONOMIC OUTCOMES ASSOCIATED WITH BEVACIZUMAB TREATMENT IN PATIENTS WITH ADJUVANT TRIPLE-NEGATIVE BREAST CANCER TO INFORM EARLY DECISION MAKING

Ray JA[1], Sabate E[2]
[1]F. Hoffmann-La Roche, Ltd, Basel, Switzerland, [2]F. Hoffmann–La Roche Pharmaceuticals, AG, Basel, Switzerland

OBJECTIVES: To estimate the long-term health economic outcomes for patients treated with either bevacizumab added to chemotherapy or chemotherapy alone, as adjuvant treatment for patients with triple-negative breast cancer (TNBC). **METHODS:** We used a three-state Markov Model (Disease-Free Survival (DFS), Progressed, Death) to estimate the impact of adding one year of adjuvant treatment with bevacizumab to an established chemotherapy regimen. The probability of disease recurrence was derived from a prospective clinical database analysis of 255 patients with early TNBC. The treatment effect of bevacizumab was incorporated by applying a relative risk reduction to the underlying risk of disease recurrence, using the expected hazard ratio (0.75), from the statistical power calculations of the on-going phase III BEATRICE study; a trial recruiting solely patients with early TNBC. Total direct medical costs and quality-adjusted life expectancy (QALYs) were projected over patient lifetimes from the perspective of the UK NHS. Clinical and economic outcomes were discounted at 3.5% per annum. Probabilistic and univariate sensitivity analyses were performed. **RESULTS:** Mean discounted quality-adjusted life expectancy was projected to increase by 0.83 QALYs following the addition of bevacizumab to chemotherapy versus chemotherapy alone (11.35 vs 10.53 QALYs). Over patient lifetimes, discounted total direct costs were estimated to be higher with bevacizumab, primarily attributed to higher pharmacy costs and the increased time spent in DFS. These results corresponded to an incremental cost-effectiveness ratio of ≤43,804/QALY gained. Sensitivity analysis indicated results were most sensitive to the duration of the treatment effect of bevacizumab and patients' baseline characteristics (height and weight). **CONCLUSIONS:**