

ally. All costs were reported in Egyptian pounds of the financial year 2013. **RESULTS:** The total quality-adjusted life-years (QALYs) of pazopanib was estimated to be 725 and that for sunitinib was 674, which resulted in a difference of 51 QALYs. The total costs for pazopanib and sunitinib were EGP 2,692,116 and EGP 3,712,660, respectively (the difference was -1,020,543), which yielded an incremental cost-effectiveness ratio of EGP -19,946/QALY. Thus, pazopanib was superior. Various one-way sensitivity analyses indicated that the overall survival medians of both drugs had the greatest effects on the results. **CONCLUSIONS:** The present study concludes that, from the perspective of the health insurance, pazopanib is more effective and less costly than sunitinib for patients with metastatic renal cell carcinoma. This model addresses both the health and economic implications of both drugs. These results suggest that pazopanib is the superior therapy. This study helps to inform decisions about the allocation of health care system resources and to achieve better health in the Egyptian population.

## PCN132

## COST-UTILITY ANALYSIS OF COFFEE CONSUMPTION FOR PREVENTION OF CHRONIC DISEASE AND CANCER IN THE UNITED STATES

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**OBJECTIVES:** Coffee (*Coffea arabica*) is one of the most widely consumed beverages worldwide. Epidemiologic studies suggest coffee may prevent some chronic diseases and cancers. This study aims to assess the cost-utility of coffee consumption from a US consumer perspective. **METHODS:** A cohort life-table analysis was developed to model life years (LYs) and quality-adjusted life years (QALYs) of coffee drinkers versus non-drinkers over a lifetime horizon. Age- and sex-specific incidence and mortality rates were used to model outcomes of chronic disease (Alzheimer's, depression/suicide, diabetes, heart failure, Parkinson's, stroke) and cancer (bladder, breast, colorectal, endometrial, esophageal, leukemia, liver, oral, pancreatic, prostate). Relative risks of chronic diseases and cancers by cups of coffee consumed daily were obtained from meta-analyses of prospective cohort and case-control studies. Utility weights, baseline health care costs, and attributable disease costs were obtained from the literature. Costs per cup of coffee were estimated for home preparation and obtained from a national sample of low- and high-cost vendors. Incremental analyses were conducted by dose, cost, and sex. The model was validated by comparing predicted life-expectancy to data from studies examining all-cause mortality of coffee consumption. Probabilistic sensitivity analyses (PSA) were conducted. **RESULTS:** Coffee increased undiscounted LYs in 2, 4, and 6 cup/day male (0.29, 0.52, 0.70) and female (0.31, 0.54, 0.69) drinkers, respectively, compared to non-drinkers. Home preparation resulted in ICERs per discounted QALY of \$36,031, \$44,125, and \$55,572 for male and \$31,029, \$37,779, and \$46,280 for female drinkers, respectively, for 2, 4, and 6 cups/day. ICERs were higher for coffee purchased from low-cost vendors (>\$50,000/QALY) and high-cost vendors (>\$80,000/QALY). In the PSA, 4 and 6 cups/day were most likely cost-effective for males and females, respectively, at a \$50,000/QALY threshold. **CONCLUSIONS:** Coffee consumption may be a cost-effective approach to improve health outcomes. Given the limitations of observational effectiveness data, additional research is warranted.

## PCN133

## COMPARE DEMOGRAPHIC AND CLINICAL CHARACTERISTICS AMONG COLORECTAL CANCER PATIENTS WITH A DIFFERENT NUMBER OF TREATMENT LINES IN THE UNITED STATES VETERANS HEALTH ADMINISTRATION

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**OBJECTIVES:** Compare demographic and clinical characteristics among colorectal cancer (CRC) patients with different treatment lines (TL) in the U.S. veteran population. **METHODS:** Adult patients with at least one administration of CRC treatment were selected from the U.S. Veterans Health Administration database (01APR2006-30SEP2012). The first observed treatment date was designated as the index date. Patients were required to have continuous pharmacy and medical benefits at least 6 months pre-index date (baseline) and were followed until the earliest of death, or end of enrollment or study period. At least one primary CRC diagnosis code was required during the baseline period. Four cohorts were created based on the number of TL. Demographic and clinical characteristics were compared among patients with one, two, three, or four TL using appropriate statistical tests. **RESULTS:** A total of 11,078 patients were included in the study sample (63% with one TL; 22% with two TL; 8% with three TL; 7% with four TL). Patients treated with three or four TL were similar in age (3 TL: 63.8 years; 4 TL: 63.3) but significantly younger compared to patients with one or two lines (1 TL: 67.0; 2 TL: 64.6). Patients with 3 or 4 TL had a lower Chronic Disease Score, and lower rates of hypertension and stroke. During the 6-month baseline period, patients with 1 TL had much longer hospitalization stays and a higher rate of inpatient visits (7.3 days, 57.4%) compared to patients in other cohorts. A similar trend was found in baseline health care costs, where patients with 1 TL incurred the highest costs (\$38,010) compared to the other three cohorts (2 TL: \$34,332; 3 TL: \$33,738; 4 TL: \$31,120; all p-values<0.002). **CONCLUSIONS:** CRC patients with more than two TL were younger and had less comorbid conditions than patients with one or two TL.

## PCN134

## COST-UTILITY ANALYSIS OF PRACTICE DEVIATIONS FROM GUIDELINES IN HER2-TARGETED TESTING AND TREATMENT FOR BREAST CANCER

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**OBJECTIVES:** Observational research suggests that personalized medicine practices in human epidermal growth factor receptor-2 positive (HER2+) breast cancer (BC)

deviate from practice guidelines. We compared observed clinical testing and treatment practices to practices that follow guidelines to target adjuvant trastuzumab in HER2+ BC using cost-utility analysis. **METHODS:** We used a probabilistic decision tree linked to a Markov model to estimate the incremental cost-utility of 2 alternative test-treat strategies to target adjuvant trastuzumab in Canadian BC patients; primary fluorescence in situ hybridization (FISH) vs. primary immunohistochemistry (IHC) with FISH confirmation with trastuzumab treatment for all FISH+ or IHC+. The BC Markov model was calibrated against Canadian BC registry mortality. Population-level observational data informed model probabilities of confirmatory FISH testing, probabilities of treatment based on test results, and HER2+ disease prevalence under the current practice scenario. Uncertainty was characterized using deterministic and probabilistic sensitivity analyses and cost-effectiveness acceptability curves (CEACs). **RESULTS:** In the base case analysis assuming 20% HER2+ disease prevalence and perfect adherence to testing and treatment guidelines, primary FISH testing was dominant; it decreased costs by a mean of \$815 and improved outcomes by 0.0022 QALYs compared to the strategy of primary IHC with FISH confirmation of equivocal results. Health outcomes were poorer in simulations of current testing and treatment practice. Results were sensitive to HER2+ disease prevalence rate, test accuracy, treatment benefit carryover and testing behaviors. **CONCLUSIONS:** Improved adherence to treatment guidelines combined with primary FISH testing could improve long-term outcomes and costs in practice. Local disease epidemiology should be considered when formulating personalized medicine policies. Scenario analysis comparisons of guideline adherent vs. practice patterns derived from observational data can provide important insights into the consequences of deviations from practice when forming policy.

## PCN135

## RESOURCE USE AND COSTS ASSOCIATED WITH THE TREATMENT OF ADVERSE EVENTS IN CHRONIC MYELOID LEUKEMIA (CML) BRAZILIAN PATIENTS

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**OBJECTIVES:** This research aimed to estimate the standard of resource use and its cost associated of treating CML patients, considering hematological and non-hematological adverse events grades 3-4 from the perspective of the Brazilian National Health System. Cost of treatment per event was generated as a result. **METHODS:** A Delphi methodology was applied in Brazil to study the management of adverse events related to CML by collecting data on resource used and estimating costs associated. Ten experts completed the questionnaires developed and the results were compiled and validated. The data collected were related to the percentage of patients affected by each AE and to the resource used for management. The unit cost of resources was based on the Price Bank System (SUS-SIGTAP). Cost of treatment considered treatment options and monitoring (e.g., outpatient visits, laboratory tests, procedures, hospitalizations) in the Brazilian Public Health System. **RESULTS:** Among non-hematologic adverse events, gastrointestinal bleeding and central nervous system (CNS) hemorrhage presented the highest costs of treatment (R\$ 1,022,900 and R\$ 1,173,34, respectively). Hospitalization was the resource with more impact; mainly in CNS hemorrhage, with an average length of hospitalization reported by the experts of 1 week and also demanded by 100% of patients affected by this AE. Management of cardiac events and pericardial effusion was R\$973,35 and R\$3,896,55. Cytopenias are the most commonly events in patients with CML receiving BCR-ABL inhibitors; experts suggested use of growth factors in patients with CML receiving TKI therapy. Costs associated with the management of hematologic adverse events are: Anemia: R\$14,93, Thrombocytopenia: R\$14,47 and neutropenia: R\$211,54. **CONCLUSIONS:** Adverse event management in CML patients has important economic impact. All adverse events related to treatment of CML, with differences in the occurrence and intensity should be valued and recorded as contributing to the estimative of total cost of treating the disease.

## PCN136

## HEALTH CARE COST AND UTILIZATION AMONG PATIENTS TREATED WITH STIVARGA

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**OBJECTIVES:** Examine health care cost and utilization among patients diagnosed with metastatic colorectal cancer (mCRC) or Gastrointestinal stromal tumor (GIST) prior to being treated with Stivarga® (regorafenib). **METHODS:** Adult patients treated with Stivarga from 9/27/12-7/31/13 were identified from a large national US claims database. Patients were retained if they were continuously enrolled in the health plan for at least 6 months before the initial (index) diagnosis and 1 month after the index diagnosis. Patients were required to be diagnosed with mCRC or GIST, be 18+ years old, and have non-missing demographic information. Health care cost and utilization was examined during 2 time periods; 1) the 6 months immediately preceding the index fill (fixed baseline) and 2) the entire variable length period preceding the index fill (variable baseline). Cancer-related cost and utilization included claims with a diagnosis of cancer. **RESULTS:** 283 patients were treated with Stivarga and 235 met all inclusion criteria. Mean age was 61.6 years, 66.4% were female, and 38.7% were Medicare Advantage patients. Mean length of baseline enrollment was 4.2 years (median: 3.3 years). In the 6-month baseline period, 41.3% of patients had an ER visit and 34.0% had an inpatient stay (IP); 18.7% and 32.8% had a cancer-related ER visit and IP stay, respectively. On average, patients had 35.8 ambulatory visits; 27.8 were cancer-related. Mean 6-month health care cost was \$78,771 (\$6,559 pharmacy, \$72,212 medical); the majority of medical costs were cancer-related (\$68,866). Cancer-related ambulatory services and IP stays accounted for \$57,814 and \$9,713, respectively. In the variable baseline, cancer-related medical costs were \$314,410 with \$240,544 in ambulatory costs. The cost of all chemotherapy (oral and administered) was \$168,386. **CONCLUSIONS:** Patients treated with Stivarga incur significant health care cost and utilization, accounting for over \$18.5 million in health care cost in the 6 months prior to initiating Stivarga.