Ra-223 or placebo respectively. Patients entered the model progression-free, receiving active treatment until progression or completion of the therapy course. Health states reflected patients experiencing first or subsequent SRE. In the trial, SRE was defined as treatment with external-beam radiation therapy (EBRT), surgical intervention, occurrence of pathological bone fracture, or spinal cord compression. A 5-year time horizon was considered. Costs were estimated from a US payer perspective. SRE costs were obtained by multiplying the number of patients experiencing SRE by its specific treatment cost (including hospitalization costs). **RESULTS:** Ra-223 increased mean life expectancy by 0.325 (95% CI: 0.324-0.326) years in the ITT population and 0.517 (95% CI: 0.516-0.518) years in the subgroup of patients who had not received first-line docetaxel. Ra-223 was projected to lead to 44% reduction in the cost of treatment of SREs versus BSC: 46% reduction in pathologic bone fracture costs; 48% for spinal cord compression; 16% for external beam radiation; and 11% for surgical interventions. A total of 32.9% of patients suffered a first SRE for Ra-223 versus 37.8% for placebo and 6.5% and 7.8%, respectively, suffered two or more SRE events. **CONCLUSIONS:** In patients treated with BSoC, Ra-223 reduced costs of SREs. Future studies will evaluate the total cost of care related to the benefit of Ra-223 versus placebo in patients treated with BSoC in mCRPC once the cost of therapy and the impact on quality adjusted survival are known.

PCN36

COST ANALYSIS MODEL BETWEEN THE COBAS BRAF TEST AND SANGER SEQUENCING WHEN TREATING MALIGNANT MELANOMA BASED ON THE PRESENCE OF V600 MUTATIONS

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OBJECTIVES: Validated companion diagnostic assays permit collection of critical clinical data that leads to actionable treatment decisions and better patient outcomes. The cobas BRAF test is an FDA-approved companion diagnostic that identifies V600 mutation positive malignant melanoma to determine patient eligibility for treatment with vemurafenib. Sanger sequencing is also a validated, lab developed test that provides similar information for the gene encoding the BRAF protein. Test performance differences can have an impact on patient outcomes and overall cost of testing and treatment. **METHODS:** Based on assay performance data for both tests, generated during the phase 2 BRIM-2 (N=132), BRIM-2/3 (N=433) and phase 3 BRIM-3 (N=449) studies, an integrated drug-diagnostic budget impact model was developed from a third-party payer perspective assuming a 6-month treatment period. Cost estimates were based on testing 100% unresectable stage III-IV melanomas assuming 50% incidence of BRAF mutations. Diagnostic costs were based on reimbursement for average code-stacks across various lab and therapeutic costs for vemurafenib (and ipilimumab) were inclusive of administrative and adverse event costs. Sensitivity models were run to estimate costs across a wide range of values for the various model parameters. **RESULTS:** Overall, the sum of invalid tests, false positive and false negative results across all 3 studies was 14.6% (148/1014) for Sanger sequencing and 0.6% (6/1014) for the cobas BRAF test. Use of the cobas BRAF test versus Sanger sequencing resulted in total saving of $14.2 million or $1,479.17 per patient in the BRIM-3 study and $21.9 million or $2,281.25 per patient in the BRIM2/3 dataset. Savings were primarily a result of avoiding unnecessary or inappropriate drug therapy and diagnostic costs accounted for a small fraction (0.13-0.29%) of total expenditures. **CONCLUSIONS:** Use of the clinically validated and more accurate cobas BRAF test resulted in significant cost savings relative to Sanger sequencing for BRAF mutations.

PCN37

IFOSFAMIDE TREATMENT OF PATIENTS WITH SOFT TISSUE SARCOMA: HEALTH CARE UTILIZATION AND COST IMPLICATIONS

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OBJECTIVES: Ifosfamide, a key chemotherapy for advanced stages of the rare cancer soft-tissue sarcoma (STS), is a generic medication. However, administration often entails hospitalization and adjuvant mesna as prophylaxis against hemorrhagic cystitis; resultant costs are unknown. This study examined health care costs and its drivers for managed care patients with STS who were treated with ifosfamide and other chemotherapies. **METHODS:** We retrospectively studied administrative claims of adult STS patients in a large US managed care plan who initiated chemotherapy between 2000–2011. The first chemotherapy treatment following diagnosis identified in medical claims was categorized by setting of chemotherapy initiation (ambulatory or hospital). Health care utilization and costs were identified over a 1-year follow-up (retaining patients dying prior to 1 year); patient/clinical characteristics were assessed over a 6-month baseline. Analyses included descriptive statistics and ordinary least squares on logged costs adjusted for patient/clinical characteristics (retransformed with smearing estimator). **RESULTS:** Ifosfamide-treated patients (alone, n=18, or combined with doxorubicin, n=47) were younger compared to the 149 patients in 4 other chemotherapy cohorts: means 50-52, versus 58 years for the next youngest (doxorubicin, gemcitabine+docetaxel cohorts), p=0.004. Total health care costs were significantly higher for ifosfamide cohorts (adjusted means $ 115,559 and $ 129,537) versus other cohorts except for gemcitabine+docetaxel (means ranged from $73,496 to $117,451, p<0.05). Differences in medical costs were due to higher ambulatory and inpatient expenditures for ifosfamide cohorts, which generally had higher numbers of visits including inpatient visits: ifosfamide means 0.94, 1.49, versus other cohorts 0.65, 0.72, 0.81, and 1.51 (gemcitabine+docetaxel), p<0.016. **CONCLUSIONS:** Patients with STS treated with ifosfamide had significantly higher health care costs than did patients treated with most other chemotherapies, suggesting that although a generic medication, ifosfamide may impose a higher disease management burden and impact on health plan budgets. Whether emerging therapies will result in lower health care costs warrants exploration.

PCN38

TREATMENT MODALITIES FOR HEPATOCELLULAR CARCINOMA: CUMULATIVE EXPENDITURES AND SURVIVAL IN SEER-MEDICARE

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OBJECTIVES: Incidence of hepatocellular carcinoma (HCC) is increasing in the U.S. and worldwide. Several treatments are available for patients newly diagnosed with the disease. We examine cumulative Medicare-paid expenditures and survival associated with various treatment modalities for HCC in a population for which it is most treated. **METHODS:** Medicare enrollees with an initial diagnosis of primary HCC between 2000-2007 were followed through 2009. Data are from SEER and linked Medicare databases, with claims generated from Parts A and B. Multivariate Cox proportional hazards models were used to estimate risk and calculate mean all-cause/HCC-related survival associated with transplant, resection, liver directed therapy, radiation, systemic chemotherapy or no treatment. Partitioned inverse probability-weighted least squares regression estimated cumulative Medicare expenditures adjusted for censoring and covariates. Bootstrapping was used to obtain 95% Confidence Intervals for cost estimates. **RESULTS:** Cancer stages one, two, three and four represented 24%, 9%, 14%, and 17% of the 11,047 patients, respectively. Nearly one-third (37%) were unstaged, 66% were male, 75% Caucasian, 10% African American; 60% of patients were untreated, 16% liver directed, 8% chemotherapy, 8% resection, 4% radiation, and 4% transplant. Using all-cause (HCC-related) mortality, transplant patients incurred an average $263,296 [95%CI: $244,200-$282,392] over an average 5.47 (6.9) years, resection $131,812 [$126,770-$136,854] over 3.5 (5.1) years, liver directed $91,488 [$88,749-$94,227] over 2.2 (3.8) years, chemotherapy $55,379 [$53,442-$57,316]over 1.2 (2.8) years, radiation $58,308 [$55,355-$61,261] over 1.2 (2.6) years, and no treatment $27,937 [$27,355-$28,519] over 0.6 (1.1) years. **CONCLUSIONS:** Cumulative Medicare expenditures were over 9x higher for transplant versus no treatment, nearly 5x for resection, over 3x for liver directed, and nearly double for chemotherapy or radiation, even after adjusting for cancer stage and other confounders. Differences in Medicare spending between treatment modalities were nearly proportional to differences in (all-cause) years survived after HCC diagnosis.

PCN39

REAL-WORLD DATA ANALYSIS OF COLORECTAL CANCER (CRC) TREATMENT WITH BIOLOGIC DRUGS IN A MEDICAL COOPERATIVE IN BRAZIL

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OBJECTIVES: Colorectal cancer is the third highest incidence amongst all cancers worldwide. Biologics are increasingly used as a treatment option, and due to high associated drug cost HMOs need to minimize expenditures by choosing less costly treatment strategies. Real-world data is growing in importance in health care decision making especially in coverage and reimbursement decisions. Therefore, the objective of the study is support treatment decision making by providing evidence based on real-world data, focusing on most used biologics in metastatic CRC: bevacizumab and cetuximab. **METHODS:** A review of administrative claims database of Unimed São José do Rio Preto (medical cooperative responsible for 118,000 lives in São Paulo-Brazil) was conducted for patients who underwent CRC treatment between December 2009 through January 2012. In order not to disclose confidential commercial arrangements with suppliers analysis were focused on total costs of treatment (drugs, devices/materials and room taxes). In the cases where a single patient underwent treatment with more than one biologic the analysis was performed considering the different regimens for the patient, obtaining daily costs/regimen/patient, and then converted on monthly basis. Focus was given to costs related to bevacizumab plus chemotherapy (Bev+CT) and cetuximab plus chemotherapy (Cet+CT) regimens. Also, regimens were classified into irinotecan or oxaliplatin-based. Costs were reported in Brazilian Reais (BRL1.00~USD0.48 December 2012). **RESULTS:** A total of 108 CRC patients were identified and regimens were 22.7% Bev+CT and 16.3% Cet+CT. Approximately 80% of both biological drugs were combined with irinotecan-based schemes. Average cost/patient/month were BRL 12,585 (SD: BRL3,588) for Bev+CT and BRL 17,178 (SD: BRL3,797) for Cet+CT. **CONCLUSIONS:** Results indicate potential resource savings favoring bevacizumab. If all patients treated with cetuximab were treated with bevacizumab instead, it could averagely result in savings of BRL 64,301 per month (less 26.7%). Study had limitation regarding identification of treatment line and sample size precluded identification of statistical difference between treatments.

PCN40

COST EFFECTIVENESS ANALYSIS OF ABIRATERONE ACETATE AS TREATMENT FOR METASTATIC CASTRATION RESISTANT PROSTATE CANCER AFTER FAILURE OF DOCETAXEL USING DATA FROM REAL LIFE TREATMENT PRAXIS IN SWEDEN

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OBJECTIVES: Abiraterone acetate (AA), a selective androgen biosynthesis inhibitor, blocks the action of CYP17, thereby inhibiting adrenal and intratumoral