PPO patients compared to other groups. Future analyses should determine whether insurance coverage is associated with access to medical care and subsequent clinical and HRQOL outcomes. These results serve as a baseline reference.

PCN143

CANCER SURVEILLANCE USING ADMINISTRATIVE DATA: HOSPITAL-BASED SERVICES FOR LUNG CANCER

Blanchette CM[1], Craver CW[2], Belk KW[3]
[1]IMS Health Consulting Group, Alexandria, VA, USA, [2]MedAssets, Huntersville, NC, USA, [3]MedAssets, Mooresville, NC, USA

OBJECTIVES: The use of administrative datasets can be a useful tool in cancer surveillance by providing disease patterns, utilization of services, and patient characteristics. This study explores characteristics of treatment and staging among lung cancer patients in the US using hospital-based services. **METHODS:** A cross-sectional study of chemotherapy treated lung cancer patients receiving in or outpatient services from hospitals in MedAssets' health data from July 1, 2010 to June 30, 2011 were assessed for staging and treatment characteristics. The Thomas, et al. staging algorithm was applied to patient services to estimate stage of lung cancer. Descriptive statistics were calculated for the sample by stage, treatment characteristics, procedures and hospital characteristics. Patterns of care were tabulated and compared by cancer stage. **RESULTS:** The sample included 14,628 unique patients who received chemotherapy during the study period spanning over 217,000 hospital visits. The majority (75%) of hospital visits were classified as stage 1-2 compared to stage 3-4 (25%). Stage 1-2 patients experienced fewer hospital visits (5.9 vs. 12.5, $p < 0.0001$) and had a significantly higher proportion of inpatient stays (22.1% vs. 6.7%, $p < 0.0001$). Most visits (88.7%) occurred in hospital-based outpatient facilities. There were 52,289 (3.1 visits per patient) chemotherapy related visits. Primary chemotherapies included: pemetrexed disodium (16.2 %), carboplatin (34.3%) and cisplatin (11.0%). Blood transfusions and other non-surgical procedures made up the largest portion (25.4%) of all procedures performed on both groups. Finally, both groups were treated in primarily in large (>300 beds, 75.1%), urban (90.1%), and teaching (59.1%) hospitals. **CONCLUSIONS:** The cross-sectional analysis demonstrates the possible value of large-scale administrative data sets in illuminating differences in treatment characteristic in a chemotherapy-treated lung cancer population. Future analysis should evaluate the use of these data to help predict utilization and treatment patterns in larger populations.

PCN144

LINES OF SYSTEMIC THERAPY IN PATIENTS WITH METASTATIC MELANOMA IN THE UNITED STATES

Zhao Z, Wang S, Barber B, Wagner V
Amgen, Inc., Thousand Oaks, CA, USA

OBJECTIVES: To describe treatment patterns by lines of systemic (drug) therapy in patients with metastatic melanoma in the United States. **METHODS:** Using a large US medical claims database, patients were identified between 2005 and 2010 using ≥2 melanoma diagnoses (ICD-9-CM: 172.xx, V10.82) and ≥2 diagnoses for metastasis (ICD-9-CM: 197.xx, 198.xx). Patients were followed from the metastatic diagnosis date to death, disenrollment, or end of study period (6/30/2010), whichever occurred first. Lines of systemic therapy were identified based on the temporal order, gaps, and changes in the drug regimens. Systemic therapies and the duration of therapy in each line were examined. **RESULTS:** A total of 2546 patients with metastatic melanoma were included and 985 (38.7%) received systemic therapy. As the first documented therapy after diagnosis, 82.4% of patients received monotherapy (38.5% temozolomide, 14.3% interleukin-2, 11.4% interferon alfa-2b, 8.2% dacarbazine, 2.9% paclitaxel, 2.5% GM-CSF) and 9.4% received carboplatin plus paclitaxel. Mean duration of mono-therapy was 60 days, ranging from 32 days on interleukin-2 to 124 days on GM-CSF. Of 287 patients (29.1% of previously treated) received subsequent therapy, 68.0% received mono-therapy (26.8% temozolomide, 11.9% interleukin-2, 10.5% dacarbazine, 8.4% paclitaxel, 3.1% interferon alfa-2b, 1.7% GM-CSF), 16.7% carboplatin plus paclitaxel, and 7.3% dacarbazine-containing therapies. Mean duration of mono-therapy was 67 days, ranging from 30 days on interleukin-2 to 238 days on GM-CSF. Among 71 patients who further received additional therapy, mono-therapy was still the dominant regimen (63.4%) with 21.1% temozolomide, 18.3% paclitaxel, 8.5% interleukin-2, 5.6% dacarbazine, 4.2% GM-CSF, and 1.4% interferon alfa-2b. Carboplatin plus paclitaxel was given to 19.7% of patients. Mean duration of mono-therapy was 63 days, ranging from 7 days on interferon alfa-2b to 90 days on temozolomide. **CONCLUSIONS:** The majority of patients with advanced melanoma didn't receive systemic therapy as captured in the claims database; among those who received systemic therapy, mono-therapy was most common.

PCN145

TREATMENT PATTERNS AND OUTCOMES AMONG PATIENTS WITH UNRESECTABLE STAGE III OR STAGE IV MELANOMA IN MEXICO

Silva A[1], Lázaro-León M[2], de la peña R[3], Frausto P[3], Vargas-Valencia JJ[4], Gómez-Roel X[5], Juarez-Garcia A[5], Donato BMK[6], Martinez-Rivera G[5], Hernández-Rivera G[5]
[1]Hospital de Oncología, CMN Siglo XXI IMSS, Mexico, DF, Mexico, [2]Hospital General de México, Mexico, DF, Mexico, [3]Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico, DF, Mexico, [4]Econopharma Consulting S.A. de C.V., Mexico, DF, Mexico, [5]Bristol-Myers Squibb Company, Mexico, DF, Mexico, [6]Bristol-Myers Squibb Company, Wallingford, CT, USA

OBJECTIVES: To identify treatment patterns of care in patients with unresectable stage III or stage IV melanoma disease in three public hospitals in Mexico. **METHODS:** Retrospective longitudinal study that includes 102 adult patients with unresectable stage III (any T, ≥N1, M0) or stage IV (any T, any N, M1) melanoma, diagnosed and treated from 2007 to 2010, at three specialty public hospitals in Mexico (Centro Médico Nacional Siglo XXI, Hospital General de Mexico and Instituto Nacional de Ciencias Médicas y Nutrición). Patient characteristics and resource utilization were reported for each stage of treatment (diagnosis, first line treatment, and second line or palliative care) and includes consultations, laboratory tests, hospitalization, surgery, hematologic support, radiotherapy and systemic treatment. **RESULTS:** The mean age at time of diagnosis was 60.44 years old CI(56.88-64.00) and a men-women ratio of 1.17:1, 86% in clinical stage III and 14% stage IV. The total cost of diagnosis was $15,628.10 CI($9,329.07-$21,927.14), which includes: consultations $4,225.96 CI($3,423.20-$5,028.72), laboratory tests $5,930.40 CI($3,768.31-$8,092.49), and hospitalizations $5,471.74 CI($1,188.12-$9,755.37). During first line treatment, 44.9% of all cases report hospitalization, 21.8% radiotherapy, 69.2% surgery and 76.9% systemic therapy (Dacarbazine 28.8%, Interferon-α 66.1% and Temozolomide 5.1%), with a total cost of $76,162.57 ($64,771.54-$87,553.59). Only 37.2% report a second line treatment, with a mean cost of $25,816.83 CI($21,638.70-$29,994.97), the systemic treatment (monotherapy or combined) included CDDP 11.5%, Dacarbazine 61.5%, Interferon-α 19.2%, Paclitaxel 11.5%, Carboplatin 3.8% and Vinorelbine 3.8. **CONCLUSIONS:** In this study, 76.9% of the patients received first line systemic treatment, and only 37.2% received a second line active treatment or palliative care. The lack of active treatment could be associated with a poor performance status in these patients, as well as a lack of availability of effective drugs for the treatment of unresectable stage III or stage IV melanoma in the public Mexican hospitals.

PCN146

SPECIALTY CARE AND TREATMENT IN MEDICARE HCC PATIENTS

Shaya FT[1], Chirikov VV[1], Breunig IM[1], Seal B[2], Hanna NN[3], Mullins CD[1]
[1]University of Maryland School of Pharmacy, Baltimore, MD, USA, [2]Bayer HealthCare Pharmaceuticals, Inc., Pine Brook, NJ, USA, [3]School of Medicine, University of Maryland, Baltimore, MD, USA

OBJECTIVES: To explore physician specialty patterns for the treatment of hepatocellular carcinoma (HCC). **METHODS:** Medicare patients diagnosed with HCC in 2000-07 with >=1 claim for HCC-related physician visits post-diagnosis were studied through 2009 using SEER-Medicare data. Transplant patients were excluded. Visits by specialists seen within 4 weeks of diagnosis and by therapy within the first treatment week were explored. Specialties: Gastroenterology (GE), General/Family/Geriatric/Internal (GF), Diagnostic/Intervention radiology (DIR), Hematology/Medical oncology (HMO), General surgery/Surgery oncology (GSO), Radiation oncology (RO), Multispecialty clinic/group practice (MG), Others. Therapies (non-mutually exclusive): surgical resection, percutaneous ablation, transarterial chemoembolization (TACE), bland embolization, systemic chemotherapy, selective internal radiation therapy, external beam radiation therapy. We examined second-line therapy, specialists seen since week 5, and multiple-specialty visits as related to multiple-first-line therapies. **RESULTS:** Of 6472 patients with>=1 specialist, 25% saw GE, 10.5%GF, 23% DIR, 28%HMO, 16% GSO, 4% RO, 5.5%MG, and 66%Other; 52% saw >1 specialist type within 4 weeks of diagnosis, 5%none until after 4 weeks; 6% had a resection as first line, 8%ablation, 9%TACE, 0.7%TAE, 9%chemo, 1%SIRT, 8%EBRT; 64% were untreated; 46% of patients saw only 1 specialist type in the first 4 weeks and 4% got >1 therapy form in the first treatment week. The specialties distributions did not differ across first-line therapies. Other specialists were seen by 65% of patients. GE and HMO were the most common specialty: 21-29% of patients saw GE and 23-37% saw HMO, 20-24%DIR, 11-17%GSO, 9-13%GF, 4-6%RO, and 1%MG, across therapies. Of the 2819 patients who saw only 1 type of specialist in the first 4 weeks, 52% visited Others, 13%GE, 11%HMO, 10%DIR, 6%GSO, 5%GF, 4%RO, and 0.4%MG. **CONCLUSIONS:** HCC patients commonly see Gastroenterologists and Hematologists/Medical oncologists within 4 weeks of HCC diagnosis. There was no clear HCC treatment pattern by specialist type.

CANCER – Research on Methods

PCN147

EVALUATING CONTEMPORARY PRACTICE IN CML VIA A RETROSPECTIVE RESEARCH REGISTRY OF PATIENTS ACROSS A COMPREHENSIVE CANCER CENTER DATABASE

Stenehjem D, Albright F, Kuo KL, Raimundo K, Brixner D
University of Utah Department of Pharmacotherapy, Salt Lake City, UT, USA

OBJECTIVES: Observational data of chronic myelogenous leukemia (CML) patients is difficult to obtain outside of a randomized clinical trial (RCT) setting. A retrospective research registry was developed to evaluate the outcomes of CML treatment decisions. **METHODS:** The CML cohort was created through a master patient index (MPI) across the Huntsman Cancer Institute, University Hospital, and Outpatient Clinics. Patient records (1995 – 2010) were included with CML ICD-9 codes (250.1, 205.10-12); age ≥ 18; a listing in the Utah Population Database; and chart review, including physician notes and laboratory results, indicative of CML. **RESULTS:** A total of 234 patients had confirmed CML (140 males, 59.8%). Mean age at diagnosis was 46 (SD= 15.1). Of those, 211 subjects (90.2%) were diagnosed in chronic phase (CP), 12 (5.1%) in accelerated phase and 5 (2.1%) in blast phase (BP) with 15.5 (median; 14.6 mean, SD= 4.2) CML cases diagnosed per year. Baseline lab results and comorbidity scores were not statistically significantly different by stage, except for an elevated platelet count in BP ($p=0.01$). First line treatment was a tyrosine kinase inhibitor for 51.3% overall, and 77.1% in new cases from 2001. Bone marrow transplant was utilized in 16.7% of patients overall. After 10 years, overall survival for the CML cohort was 59.5%. Overall survival was 84.8% for patients diagnosed in CP and treated with imatinib, 63.1% for patient's receiving BMT and 41.4% for patients treated with interferon-alpha. The most common cause of death overall was CML (45.1%); in those receiving imatinib 38.9% died from CML. **CONCLUSIONS:** Clinical outcomes data integrated via a MPI across a comprehensive research database to

complement RCT data and prospective patient registries for the evaluation of contemporary practice including biomarkers used for diagnosis, treatment decisions and prognosis in the management of CML patients.

PCN148

THE USE OF PERSONALISED MEDICINE IN CANCER TRIALS

Wilson TJ, Hamerslag L, Kusel J, Brooks-Rooney C, Rolfe F, Costello S
Costello Medical Consulting Ltd., Cambridge, Cambridgeshire, UK

OBJECTIVES: The consideration of subgroup analyses is an emerging topic in health care evaluation. With value-for-money being an important issue, alongside the question "is this therapy effective?", another question becoming more relevant is "in whom is this therapy effective?" This issue is particularly relevant to the development of cancer treatments, which are often expensive and indicated in small patient populations. The use of personalised medicine is therefore expected to play a large role in this disease area. The aim of this study was to investigate how the proportion of cancer trials taking personalised medicine into account has changed over time. **METHODS:** ClinicalTrials.gov was searched for all interventional cancer trials that considered the use of individualised medicine, by using search terms including 'diagnostic', 'prognostic' and 'biomarker'. Search results were de-duplicated, and the start dates of these trials were analysed and compared to those of all interventional cancer trials listed on ClinicalTrials.gov. **RESULTS:** In total, 2810 cancer trials considered personalised medicine. The distribution of these was strongly skewed towards recent years, with only 57 of the trials identified having started before 2000. Across all cancer trials, 2.5% of those started before 2000 considered personalised medicine, whereas this percentage increased to 13.6% after this date. Interestingly, 20.6% of cancer trials commencing in 2010, compared to 17.0% of those in 2011, involved individualised medicine, indicating that there might be a slight decline in the investigation of personalised medicine recently. Trials considering individualised medicine were most often conducted in the United States or Europe, and in disease areas such as leukaemia, head and neck, brain, and prostate cancer. **CONCLUSIONS:** Personalised medicine has started to play a bigger role in cancer therapy development since the year 2000. With the current health care market focusing on value-for-money, however, it is surprising that only one-fifth of recent trials considered this issue.

PCN149

TRANSFERABILITY OF PHARMACOECONOMIC EVALUATIONS: CASE STUDY OF TRASTUZUMAB FOR EARLY BREAST CANCER

Carswell C, McWilliams P, Lyseng-Williamson KA, Faulds D
Adis, Auckland, New Zealand

OBJECTIVES: Using a simple method we determined the potential transferability of a previous economic evaluation on the cost effectiveness of adjuvant trastuzumab therapy for the treatment of HER2/Neu-positive breast cancer in Canada (Skedgel et al, 2009) to five other countries (UK, US, Australia, Japan and Germany). **METHODS:** Based on data from a literature review, we firstly identified all possible transferability factors. From this we selected key transferability factors – those with values that differed across the countries or were factors that were shown to influence the cost-effectiveness ratio in sensitivity analysis in the Canadian reference study. We then considered the ease of transferability (ranging from very low to very high) for each of these potential factors from the Canadian study to the other countries. **RESULTS:** We identified seven potential key factors for transferability: cost discount rate, health outcomes discount rate, unit costs (particularly drug acquisition cost), resources used, treatment effectiveness, (including duration of benefit) and measures used to determine utility values. Overall, potential transferability was highest for the UK, where treatment practice is similar to that in Canada and data on unit costs, resource use and discount rates are readily available. Because the authors of the reference study did not report unit costs and resource use separately, however, transferability of the analysis was hindered. Transferability to Australia, Germany and the United States was of an intermediate level, while transferability to the Japanese setting was the lowest because treatment practice is likely to be different, and little cost of illness and utility data exist for that country. **CONCLUSIONS:** Several key factors need to be considered when evaluating whether a study is transferable to another setting. To enable the transferability of economic evaluations from one country to another, authors need to ensure that they report their economic data clearly and in sufficient detail.

PCN150

DIRECT MEDICAL COSTS OF HEAD AND NECK CANCER IN THE UNITED STATES: AN ANALYSIS USING POOLED MEDICAL EXPENDITURE PANEL SURVEY (MEPS) DATA

Coughlan D, Frick KD
Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

OBJECTIVES: Pooling annual data together from the Medical Expenditure Panel Survey (MEPS) is legitimate way to produce average annual estimates based on "person-years" for any condition. AHRQ state that over 100 cases are required in order to do this. The objective of this study is to look at the direct medical costs associated with head and neck cancer (HNC) using this data source. **METHODS:** MEPS data was pooled (2003-2008) and analyzed for respondents with HNC (CCS code=11). Two different approaches were used. Consolidated year files and condition files were pooled together to calculate estimates on use and expenditures for persons with HNC (condition approach). Yearly event files were used to pool condition-event files to establish an attributable fraction approach. Both approaches inflated expenditure data to 2008 USD. **RESULTS:** A total of 120 respondents were identified to have a diagnosis of HNC when data was pooled. The condition approach estimated that the national yearly expenditures of HNC is in the order of $16.47bn with mean spend of $14,573 (SE±$2,227) per case per year. The attributable fraction approach estimated that expenditures for all events associated with HNC are significantly less - $8.49bn with a mean of $4788 (SE±$1,057) per case per year. There were only 103 cases that had an event associated with the condition. Private payors accounted for most expenditure, though the proportion was slightly lower using the condition approach (46% vs. 56%). The analysis noted that attributable expenditures were driven by ambulatory visits where condition expenditures were driven by inpatient costs. **CONCLUSIONS:** MEPS is often used to estimate the direct medical costs of a condition. This analysis illustrates that for rare cases, such as HNC, that both approaches offer insight into characterizing a condition. Subsequently, a range for cost estimates can be determined using this data source.

PCN151

DESIGNING CASE REPORT FORMS FOR ECONOMIC EVALUATION ALONG SIDE CLINICAL TRIALS: A CASE-STUDY USING AN INTERACTIVE DATA ANALYSIS TOOL TO STREAMLINE DATA COLLECTION

Foley K
Thomson Reuters, Cambridge, MA, USA

OBJECTIVES: Determining which economic and health resource utilization data points to collect in clinical trials requires a balance between comprehensiveness and data collection burden. Cost and time constraints necessitate that only the most critical economic variables be collected. Our objective was to test the utility of a new tool for determining the most frequent types and timing of healthcare utilization among cancer patients in a quick and low cost manner. **METHODS:** We used an online interactive data analysis tool, *MarketScan®Treatment* Pathways, to explore the most frequent adverse events (AE) and their related healthcare utilization patterns in a sample of non-small cell cancer patients (NSCLC). Patients with at least 2 ICD-9 codes for lung cancer on different days within 30 days of each other on non-rule out claims and no chemotherapies associated with small-cell lung cancer were included. The subset of patients with a diagnosis for metastatic cancer following their NSCLC diagnosis who received at least one oral or injectible chemotherapy treatment were analyzed. **RESULTS:** 5,243 patients with metastatic NSCLC were identified, of whom 2,006 received at least one oral or injectible treatment. 80% of experienced at least one AE serious enough to require healthcare intervention. The median and mean days to the first AE were 20 and 51.5 days from the time of the first treatment. The most common AEs were anemia (51.2%), gastrointestinal events (34.8%), fatigue (26.1%), and neutropenia (24.2%). Of those with anemia, 36% received epoetin or darbepoetin alpha and of those with neutropenia, 77% received pegfilgrastim or filgrastim. Additional patient clinical and treatment characteristics were described for the 30 days following each AE. Total analysis time for this project was under 3 hours. **CONCLUSIONS:** Treatment Pathways answered critical questions for the design of economic endpoint data collection for a new cancer trial in just a few hours.

PCN153

A TRIAL FOR EVALUATING BREAST CANCER TUMOR MARKER USE IMPACT: A VALUE OF RESEARCH ANALYSIS

Thariani R[1], Blough DK[1], Barlow W[2], Henry NL[3], Gralow J[4], Ramsey S[5], Veenstra DL[6]
[1]*University of Washington, Seattle, WA, USA,* [2]*Fred Hutchinson Cancer Research Center, Seattle, WA, USA,* [3]*University of Michigan Medical School, Ann Arbor, MI, USA,* [4]*Seattle Cancer Care Alliance, Seattle, WA, USA,* [5]*Fred Hutchinson Cancer Research Center, University of Washington, Seattle, WA, USA,* [6]*University of Washington, Pharmaceutical Outcomes Research and Policy Program, Seattle, WA, USA*

OBJECTIVES: To assess the societal value of a prospective randomized clinical trial (RCT) for breast tumor marker testing in routine follow-up of high-risk, stage II-III breast cancer survivors. **METHODS:** We used value of information techniques to assess the benefits of reducing uncertainty of using breast cancer tumor markers. We developed a decision-analytic model of biomarker testing in addition to standard surveillance at follow-up appointments every 3-6 months for five years. Expected value of sample information (EVSI) was assessed over a range of trial sizes and assumptions. **RESULTS:** The overall value of research for an RCT involving 9000 women was $166 million (EVSI). The value of improved information characterizing the survival impact of tumor markers was $81 million, quality-of-life $38 million, and test performance $95 million. **CONCLUSIONS:** Despite not being recommended by clinical guidelines, the tumor markers carcinoembryonic antigen (CEA), cancer antigen (CA)15-3, and CA 27.29 are used by some clinicians to screen for increased risk of breast cancer recurrence. Although additional research may be warranted to evaluate the benefits and risks of breast cancer tumor marker tests, clinical trials would likely need to involve thousands of women and would take many years to complete. Our analysis indicates that substantial societal value may be gained by conducting a clinical trial evaluating the use of breast cancer tumor markers. The most important aspects of the trial in our analysis were information gained on survival improvements as well as quality-of-life parameters associated with testing and test sensitivity and specificity. Our analysis indicates that smaller randomized trials, as well as adding quality of life instruments to existing trials, retrospective, and observational trials can also generate valuable and relevant information.

PCN154

CHALLENGES POSED BY PATIENT CROSSOVER FOR COST-EFFECTIVENESS ANALYSIS OF ONCOLOGY PRODUCTS: A CASE STUDY IN METASTATIC PANCREATIC CANCER

Grima DT, Brown ST, Attard CL, Duong MT
Cornerstone Research Group, Burlington, ON, Canada