

using an algorithm utilizing enrolment records and ICD-9 codes. A patient flow algorithm was constructed to define treatment cohorts. Patients were stratified based on the lung cancer drug treatment received following diagnosis and first line therapy. Total costs are report for the 1 year follow up period after initiation of drug treatment. **RESULTS:** A total of 2739 lung cancer patients were included in the analysis; 53% >65 yr. Paclitaxel or docetaxel plus platinum were the most commonly utilized 1st line regimens. Pemetrexed plus docetaxel was the most common 2nd line treatment. Among patients receiving 1st line treatment and remaining enrolled in the health plan, only 16.7% received 2nd line treatment. Total costs (average  $\pm$  SD) in the year following chemotherapy initiation was \$70,205  $\pm$  66,956 (range \$50,000-\$120,000) for those with 1 line of therapy versus \$93,432  $\pm$  \$66,208 (range \$62,000-\$169,000) with two or more lines. For all patients, average ambulatory care costs (which included IV administration costs) were \$34,449  $\pm$  40,847, intravenous drug costs (\$17,246  $\pm$  27,488), and inpatient hospital costs (14,180  $\pm$  \$31,409) comprised the largest proportion of costs in the year following chemotherapy initiation. **CONCLUSIONS:** In this analysis, few lung cancer patients received 2nd line treatment. For those patients who received 2nd line treatment and beyond, direct medical care costs are over \$23,000 higher over years 2006-10 compared to those receiving only one line. Ambulatory costs comprised the greatest proportion of total costs (50%).

## PCN51

## HEALTH CARE RESOURCES AND COSTS ACROSS LINES OF THERAPIES IN INSURED PATIENTS WITH METASTATIC BREAST CANCER IN THE UNITED STATES

Bonthapally V<sup>1</sup>, Ganguli A<sup>2</sup>, Landsman-Blumberg P<sup>3</sup>, Mcmorrow D<sup>4</sup>, Ray S<sup>2</sup>  
<sup>1</sup>Abbott Laboratories, abbott park, IL, USA, <sup>2</sup>Abbott Laboratories, Abbott Park, IL, USA, <sup>3</sup>Thomson Reuters, Ann Arbor, MI, USA, <sup>4</sup>Thomson Reuters, Cambridge, MA, USA  
**OBJECTIVES:** To compare health care resource utilization (HRU) and costs by line of therapy (LOT) among patients with metastatic breast cancer (MBC). **METHODS:** MarketScan® databases, January 1, 2005 to December 31, 2009, were used to identify women aged  $\geq$  18 with breast cancer (ICD-9-CM of 174.xx). The index date was the first prescription fill or administration of anti-neoplastic agents. Either a 90-day gap in treatment or initiation of a new regimen ended each LOT. Per patient per month (PPPM) expenditures for utilizers of inpatient (IP), outpatient (OP), emergency department visits (ED), MBC-drugs (oral and infused), hormonal, radiology, and supportive therapies across four LOTs (1L-first line, 2L-second, 3L-third, 4L-fourth) were statistically compared. HRU rates (Visits per patient with  $\geq$  1 Visit) were also compared. **RESULTS:** A total of 8494 MBC patients (1L:7,765; 2L:4,077; 3L:2,033, 4L:1,059) were included. Bone metastases were most common (43.9%) at index followed by liver (17.7%) and lung (12.8%). PPPM expenditures for IP (1L: \$1,183, 2L:\$1,318, 3L:\$1,401, 4L:\$1,670; p=0.660), OP (1L:\$1,751, 2L:\$1,624; 3L:\$1,626; 4L:\$1,626, p=0.413), and ED (1L:\$64, 2L:\$67, 3L:\$73, 4L:\$57 p=0.997) were not statistically significantly different across the four LOTs. PPPM expenditures for MBC oral-drugs (1L:\$460, 2L:\$530, 3L:\$589, 4L:\$743, p=0.37), hormonal (1L:\$87, 2L:\$65, 3L:\$70, and 4L:\$55, p=0.388), and radiology therapies (1L:\$290, 2L:\$280, 3L:\$280, and 4L:\$271, p=0.999) were also not statistically different across LOTs. MBC infused-drugs (1L:\$4096, 2L:\$4,607, 3L:\$4,841, 4L:\$4,521, p=0.001) did differ. Within supportives, PPPM across LOTs were statistically different for anti-emetics (1L:\$283, 2L:\$321, 3L:\$320, 4L:\$311, p=0.007) and pain medications (1L:\$42, 2L:\$50, 3L:\$62, 4L:\$71, p=0.002) but not for IV-bisphosphonates (1L:\$406, 2L:\$412, 3L:\$419, 4L:\$410, p=0.964). The mean HRU rates for IP (range 1.4-1.4), ED (1.7-1.8), OP hospital (8.4-9.4) office-visit (11.2-12.6), and Other outpatient visits (18.9-20.5) were similar across LOTs. **CONCLUSIONS:** No significant variation in the PPPM costs of (IP, OP, ED, MBC oral drugs, hormonal, radiology, or IV bisphosphonates) was observed across four LOTs. LOT costs differed for infused drugs, anti-emetics, and pain medication within this MBC population. Further research is required to explore these variations.

## PCN52

## ECONOMIC IMPACT OF HEALTHCARE RESOURCE UTILISATION PATTERNS AMONG PATIENTS DIAGNOSED WITH ADVANCED MELANOMA IN THE UK, ITALY, AND FRANCE: RESULTS FROM A RETROSPECTIVE, LONGITUDINAL SURVEY (MELODY STUDY)

Johnston K<sup>1</sup>, Levy A<sup>2</sup>, Lorigan P<sup>3</sup>, Maio M<sup>4</sup>, Lebbé C<sup>5</sup>, Middleton M<sup>6</sup>, Testori A<sup>7</sup>, Bédane C<sup>8</sup>, Konto C<sup>9</sup>, Dueymes A<sup>10</sup>, Van Baardewijk M<sup>11</sup>  
<sup>1</sup>Oxford Outcomes Ltd, Vancouver, BC, Canada, <sup>2</sup>Dalhousie University, Halifax, NS, Canada, <sup>3</sup>The Christie NHS Foundation Trust, Manchester, Cheshire, UK, <sup>4</sup>University Hospital of Siena, Siena, Italy, <sup>5</sup>Hôpital St-Louis, Paris, France, <sup>6</sup>Churchill Hospital, Oxford, UK, <sup>7</sup>Istituto Europeo di Oncologia, Milan, Italy, <sup>8</sup>Hopital Dupuytren, Limoges, France, <sup>9</sup>Bristol-Myers Squibb, Paris, France, <sup>10</sup>PAREXEL International, Semoy, France, <sup>11</sup>Bristol-Myers Squibb, Braine L'Alleud, Belgium  
**OBJECTIVES:** To describe patterns of health care resource utilisation and associated costs for patients with advanced melanoma in the UK, Italy, and France. **METHODS:** For patients receiving systemic treatment, or supportive care, hospitalisation, hospice care, and outpatient data were retrieved retrospectively from advanced disease diagnosis until 1 May 2008 as part of a multicountry observational study (MELODY; Lorigan et al., ISPOR 2010). Costs were estimated by multiplying the utilisation level by unit cost. In an exploratory analysis, costs were compared between individuals who died within one year of initiating first-line treatment (short-term survivors) and those with  $\geq$  1 year follow-up (long-term survivors). **RESULTS:** Hospitalisation costs were highest in France (€6262 per-person compared with €3225 in the UK and €2486 in Italy), reflecting higher rates of hospitalisation. In contrast, outpatient costs were highest in the UK (€782 per-person, compared with €115 in France and €72 in Italy), reflecting both the highest rate and frequency of outpatient visits and the highest cost per visit. While daily hospice costs were lowest in the UK, frequency and duration of hospice care were

notably higher than in Italy or France, resulting in the highest total hospice costs per-person. Hospitalisation rates were consistently higher during supportive care compared with systemic therapy. It should be noted that roughly a third of patients entered clinical trials and therefore could not be included in the analysis. In exploratory analysis, total costs were generally higher for long-term survivors, but monthly per-patient costs were generally lower for long-term survivors, consistent with a hypothesis that resource utilisation and costs do not necessarily increase proportionally with extended survival. **CONCLUSIONS:** Total costs associated with resource utilisation for advanced melanoma patients varied across countries. Overall cost differences were due to differences in frequency and intensity of utilisation patterns and variation in unit costs of health resources.

## PCN53

## ECONOMIC BURDEN OF HPV-RELATED HEAD &amp; NECK AND ANAL CANCERS IN GERMANY

Remy V<sup>1</sup>, Heitland W<sup>2</sup>, Klusmann J<sup>3</sup>, Schaedlich P<sup>4</sup>, Chen X<sup>4</sup>, Moro L<sup>1</sup>  
<sup>1</sup>Sanoft Pasteur MSD, Lyon, France, <sup>2</sup>Munich Municipal Hospital, Munich, Germany, <sup>3</sup>University of Giessen, Giessen, Germany, <sup>4</sup>IGES, Berlin, Germany

**OBJECTIVES:** Data on economic burden of head & neck (H&N) and anal cancers in Germany is scarce. Human papillomavirus (HPV) infection is likely to be responsible for 16% to 72% of H&N cancer, and 84% of anal cancer. This study aimed to assess the annual management costs (hospitalisations, inpatient rehabilitations, sick leaves) associated with these HPV-related cancers from the German Statutory Health Insurance (SHI) perspective. **METHODS:** This study was based on the retrospective analysis of five German databases, which cover hospitalisations (German Federal Statistical Office-Destatis), major categories of treatment such as surgery, radiotherapy and medical (Institute for the Hospital Remuneration System-INEK), inpatient rehabilitations (German Public Pension Insurance-DRV) and sick leaves (Local-SHI-funds, Federal Ministry of Health). Associated number of cancers, health care resource use, and costs were identified and extracted using ICD-10 codes (H&N cancer: C01-C06, C09-C14, C32; anal cancer: C21). The HPV-related cancers total cost was estimated based on the percentage of each cancer and anatomical site likely to be attributable to HPV. **RESULTS:** In 2008, 69,631 hospitalisations for H&N and anal cancers were reported (92% due to H&N cancer), whereas the number of inpatient rehabilitations and sick leaves were 5,415 and 18,391, respectively. The estimated total cost associated with HPV-related H&N and anal cancers was €111 million, mainly represented by H&N cancer (74%). Hospitalisations, inpatient rehabilitations, and sick leaves, accounted for 82%, 4%, and 15% of total HPV-related cost, respectively. **CONCLUSIONS:** The estimated annual cost of HPV-related H&N and anal cancers contribute to a significant economic burden in Germany, appearing to be as important as cost of HPV-related cervical cancer, and should be considered when assessing health and economic benefits of HPV vaccination in both genders. Furthermore, this cost is likely to be underestimated since outpatient management cost is not included, and may be significant for these cancers.

## PCN54

## HOSPITAL COSTS RELATED TO HEPATITIS C VIRUS INFECTION: FIRST ANALYSIS OF THE FRENCH HOSPITAL NATIONAL DATA BASE

Rotily M<sup>1</sup>, Vainchtock A<sup>2</sup>, Lannuzel X<sup>3</sup>, Jouaneton B<sup>4</sup>, Wartelle-bladou C<sup>5</sup>, Anceau A<sup>3</sup>  
<sup>1</sup>Heva, LYON, France, <sup>2</sup>HEVA, LYON, France, <sup>3</sup>Janssen, Issy-les-Moulineaux, France, <sup>4</sup>HEVA, Lyon, France, <sup>5</sup>Hopital Saint Luc, Montreal, QC, Canada

**OBJECTIVES:** There are approximately 4 million of Hepatitis C Virus (HCV) carriers in Europe. HCV infection is a leading cause of liver cirrhosis (LC), transplantation (LT), and hepatocellular carcinoma (HCC). On the brink of new antiviral treatments in France, we aimed at evaluating the 2009 hospital costs related to chronic hepatitis C. **METHODS:** All hospital stays with a B18.2 ICD-code were extracted from the 2009 hospital database and distributed in five groups: uncomplicated chronic hepatitis C, LC, HCC, LT, and unclassifiable. Costs were calculated using the French medical information system (PMSI). **RESULTS:** A total of 27,258 stays were identified (15,482 patients): uncomplicated hepatitis C (42%), LC (41%), HCC (13%), LT (2%), unclassifiable (2%). Mean length of stay was 6.1 and 28.7 days in medical and surgical units respectively; 8,214 medical procedures for baseline/follow-up assessments were carried out in patients with uncomplicated hepatitis, including 1,970 liver biopsies. Annual cost was estimated at 65,652,651€, including 47% for LC, 18% for HCC, and 19% for LT. The mean annual cost per patient increased from 1,049€ (uncomplicated hepatitis) to 4,748€ for LC, 6,513€ for HCC, and 40,152€ for LT (expensive drugs excluded). Expensive drugs accounted for 7% of total costs in public sector (95% of all stays), including 30% for cancer therapies, 33% for erythropoietins, 12% for anti-infection drugs and 11% for hemostasis. **CONCLUSIONS:** This first analysis devoted to HCV infection of the French hospital national database brings new and essential information. It shows that 84% of HCV-related hospital costs are attributable to advanced liver diseases, and 19% to the 2% of patients' recipients of a liver transplant. Together with more efficient therapies, enhancing screening and access to treatment policy could substantially relieve the social burden of HCV.

## PCN55

## THE ECONOMIC BURDEN OF ADJUVANT CHEMOTHERAPY IN GERMANY

Eiermann W<sup>1</sup>, Rezaei M<sup>2</sup>, Kuemmel S<sup>3</sup>, Kühn T<sup>4</sup>, Benkow A<sup>5</sup>, Hogberg D<sup>6</sup>, Schweikert B<sup>7</sup>, Blohmer JU<sup>8</sup>

<sup>1</sup>Rotkreuzklinikum München gGmbH, München, Germany, <sup>2</sup>Luisenkrankenhaus, Düsseldorf, Germany, <sup>3</sup>Kliniken Essen-Mitte, Essen, Germany, <sup>4</sup>Klinikum Esslingen, Esslingen, Germany, <sup>5</sup>Sankt Gertrauden Krankenhaus, Berlin, Germany, <sup>6</sup>OptumInsight, Stockholm, Sweden, <sup>7</sup>OptumInsight, München, Germany

**OBJECTIVES:** In Germany, breast cancer is the most frequent cancer. In 2007, 7.2% of total German health care expenditure was spent on breast cancer. Despite, its