AEs were evaluated for grade 3/4. The most costly AEs were febrile neutropenia (€ 1 703.22), thrombocytopenia (€ 1 265.71) and anaemia (€ 817.55). **CONCLUSIONS:** In order to prove the cost-effectiveness, the local resource use data need to be collected, which are key drivers for health-economic modelling and can guide resource allocation decisions in CLL in Slovakia. This survey provides information to support these decisions.

PCN101
ANNUAL COSTS OF BEST SUPPORTIVE CARE FOR PATIENTS WITH ADVANCED NON-SMALL-CELL LUNG CANCER (NSCLC) IN GERMANY

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OBJECTIVES: Patients with advanced NSCLC for whom antineoplastics are not suitable are usually treated individually with best supportive care (BSC). This research aims to estimate annual costs of BSC for these patients from the perspective of the Statutory Health Insurance (SHI) in Germany. **METHODS:** Recommended measures for BSC were identified from the German development stage 3 (S3) guideline for lung cancer. The costs of these measures were estimated based on public German cost data. **RESULTS:** The annual costs of the recommended measure are as follows: for drugs (analgesics, opioids, corticosteroids, bronchodilators, benzodiazepines, antidepressants, laxatives, bisphosphonates, denosumab, levodropropizine, metoclopramide, anticonvulsants) from 116.80€ to 2,023.88€, for radiotherapy 2,390.00€ and 5,888.51€, respectively (depending on regime), for palliative surgery 5,447.63€, for rehabilitation 3,660.20€ and for three further measures (psychotherapy, physical therapy, therapy with oxygen) from 756.60€ to 2,194.25€. Summing up the costs of these measures, the upper limit of annual costs is 27,838.81€. These costs do not include costs for inpatient palliative care or treatment in the terminal phase (approx. 400€ per day). **CONCLUSIONS:** As BSC is provided individually to patients, the annual costs of BSC in Germany for patients with advanced NSCLC lay within a wide range from 0€ (less likely) to 27,838.81€. In order to estimate the costs of BSC more precisely, further research regarding the frequency of each recommended measure for BSC in Germany is needed.

PCN102
PRICE-DOSE RELATIONSHIP: THE CASE OF ORAL ONCOLOGY DRUGS IN EU5

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OBJECTIVES: Most oral oncology drugs are linearly or flatly priced but country differences exist within pharmaceutical pricing strategies. This study aims to explore and compare the pricing strategies for oral oncology products in the EU5 countries. **METHODS:** All 14 oral oncology drugs that have received marketing authorization by the European Medicine Agency since 2000 were included in the analysis. The ex-manufacturer prices were sourced from national pricing databases in May 2017. Unit prices were calculated as a price per milligram and price per tablet for each individual product in scope countries. The price-dose relationship was characterised as flat, linear or mixed pricing for each product based on each country unit price per dose. A cross-country comparison was then performed to identify dominant strategies and explore local specificities, if any. **RESULTS:** The pricing strategy of oral oncology products appears to be similar in EU5 as 71% (10/14 products; 5 linear pricing, 4 flat pricing, 1 mixed pricing strategy) of the products had the same pricing strategy in all countries. Pricing strategy differed for 29% (4/14) of products between scope countries. In Germany, flat pricing was a frequent strategy (3/4 products) whilst different pricing strategies were applied for the same product in other countries. Linear pricing was dominant (3/4 products) in the UK, however no dominant pricing strategy was observed in Spain, Italy and France, as either flat or linear pricing was used when pricing strategy differed for the same product. **CONCLUSIONS:** Our findings suggest that most often companies apply the same pricing strategies for oral oncology products in EU5 counties. However, in some cases we identified different pricing strategies within EU5 for a given product.

PCN103
DOES CCG SPENDING ON CANCER AFFECT OUTCOMES IN BREAST AND LUNG CANCER?

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OBJECTIVES: Clinical commissioning groups (CCGs) are given autonomy through which they can allocate their budget to fund treatments. Current funding pressures mean that there is a greater need to find efficiencies within the National Health Service (NHS). The objective of this study was to investigate the relationship between CCG expenditure on lung and breast cancer outcomes in England. **METHODS:** CCG data for breast and lung cancer for one-year survival, early stage diagnosis (stage 1 or 2), total spend, and age standardised under 75 mortality were extracted using the cancer and tumours focus pack online tool. Budget spend per event of lung and breast cancer was calculated. Pearson rank correlation coefficients were calculated to determine the relationship of budget spend per event versus outcomes. All calculations were performed using Microsoft Excel 2013®. **RESULTS:** There were 209 CCGs with data available. In 2013, average spend per 100,000 incidence of breast and lung cancer was £3,704 (£1,364-£8,692) and £2,122 (£1,082-£11,820), respectively. Our analysis revealed a non-significant positive correlation between spend per event and one-year survival rate for breast cancer and lung cancer (R=0.04 [p=0.543], R=0.01 [p=0.817], respectively). In addition, there was a statistically significant positive correlation between age standardised under 75 mortality and spend per event of breast cancer (R=0.15 [p=0.021]), though no correlation was identified for lung cancer (R=0.06 [p=0.31]). Similarly, there was a statistically significant positive correlation for spend per event and early stage diagnosis (R=0.16 [P=0.021] and R=0.08 [p=0.232] for breast and lung cancer, respectively). **CONCLUSIONS:** Whilst CCGs face pressures on funding, these data suggest that large variations in cancer expenditure does not necessarily lead to better outcomes in breast or lung cancer. CCGs need to understand why this is the case to reduce inefficiencies during times of higher budget constraints and to improve cancer outcomes.

PCN104
A SYSTEMATIC REVIEW OF THE HEALTH-RELATED QUALITY OF LIFE AND COSTS IN DIFFUSE LARGE B-CELL LYMPHOMA

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OBJECTIVES: As survival outcomes improve for patients with diffuse large B-cell lymphoma (DLBCL), it is increasingly important to understand costs and humanistic burden to evaluate the need for new treatments. We conducted systematic reviews to understand the health-related quality of life (HRQoL) of patients with DLBCL and costs associated with treatment. **METHODS:** MEDLINE, EMBASE, EconLit, UK National Health Service Economic Evaluation Database, and Tufts University Cost-Effectiveness Analysis Registry were searched for studies published between 2000-2016. Trial registries and health technology assessment websites were searched for appraisals with relevant economic and HRQoL data; abstracts were identified from ASCO, ESMO, ASH, EHA, and ISPOR. **RESULTS:** After screening, 25 of 2184 references were included for HRQoL; 20 of 1481 references were included for costs. Ten studies used the EORTC QLQ-C30. The EQ-5D and FACT-Lym are used in trials with unpublished data. Patients who achieve complete response after first-line treatment have significantly greater improvements on HRQoL compared to non-complete responders (p=0.05). Symptoms that compromise HRQoL persist for up to 5 years for patients that do not respond to first-line treatment. Economic studies focused on cost of treatment and hospitalization, with few studies reporting societal costs. Cost-effectiveness analyses in the UK, France, US and Canada concluded that R-CHOP is a cost-effective first-line treatment compared to CHOP; R- CHOP was not found to be cost effective in a Chinese study. Second-line treatment results in additional costs, with autologous stem cell transplantation and hospitalization being most costly. Stratification of treatment according to DLBCL subtype (GCB vs ABC) has been shown to be cost-effective. **CONCLUSIONS:** Novel, targeted DLBCL first-line treatments have the potential to provide a more cost-effective, manageably budgeted treatment paradigm, reduce disease progression, and improve HRQoL. Although DLBCL subgroups are recognized in clinical guidelines, further studies are needed to understand their specific HRQoL and economic burden.

PCN105
REAL-WORLD DATA ANALYSIS OF CANCER TREATMENT COST DRIVERS BY TYPE AND PLACE OF SERVICE

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OBJECTIVES: As the US healthcare system transitions from one of volume based delivery to one focused on quality and value there is a continued focus on understanding the drivers of cost, especially in oncology. Cancer drug costs have been a focus of much debate and this study analyzes real world data from two large volume cancer centers in the US to quantify drivers of cancer treatment costs. **METHODS:** Integra Connect utilized Medicare claims data from two large cancer treatment centers in the US with over 60,000 cancer patients treated in the last 12 months. Overall treatment costs were categorized into 9 cost buckets (including Part B drug costs, Part D drug costs, Inpatient, E&M, Lab testing, Imaging, Emergency visits, etc.). Treatment costs were based on amounts paid by CMS from July 2016 through August 2016. Secondary research included a review of previously published studies on cost drivers of cancer care for comparison to current results. **RESULTS:** Our research found that prescription drug costs from both Part B and Part D paid Medicare claims accounted for 47% (site 1) and 51% (site 2) of total cancer treatment costs. Second to cancer treatment costs, inpatient hospitalization related costs accounted for 20% (site 1) and 17% (site 2) of overall costs. **CONCLUSIONS:** These results contrast previously published research that found cancer drug costs to be a smaller proportion of overall treatment costs (18% of overall costs attributed to chemotherapy and other cancer drugs)1. This real-world data analysis highlights the variability in cancer treatment costs and the continued need for cancer treatments to demonstrate value and savings among other areas that drive overall cost. 1"Cost Drivers of Cancer Care: A Retrospective Analysis of Medicare and Commercially Insured Population Claim Data 2004-2014", Milliman.

PCN106
ESTIMATING THE DRUG TREATMENT COST OF BREAST CANCER

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OBJECTIVES: Overall treatment costs in oncology are increasing rapidly due to the increasing availability of expensive drugs. Comparing the costs of currently used drugs and assessing the cost-effectiveness of new drugs requires a transparent overview of actual breast cancer treatment prices. As such an overview is lacking, this study aims to synthesize evidence on the reimbursement and costs to estimate the total treatment cost of expensive breast cancer drugs for the Netherlands. **METHODS:** Evidence on the approval, reimbursement and list prices of expensive breast cancer drugs was identified from the Dutch Administrative Health Authority (ZINL). Data on the average length of treatment and dosing schedules was obtained from European Parliament Assessment Reports (EPARs) or ZINL reports. All evidence was aggregated in the estimation of actual treatment cost. **RESULTS:** In the Netherlands, 31 breast cancer drugs are approved (available in 41 different forms). Based on drug list prices Pertuzumab, Trastuzumab Emtansine and Trastuzumab are the most expensive drugs. For 17/41 (41.5%), no evidence on the average treatment length was available in EPARs or ZINL reports. Comparing list prices to the estimated treatment cost per patient resulted in substantial differences in the ranking of expensiveness of the drugs. Overall, estimated treatment costs were highest for Bevacizumab, Pertuzumab and Trastuzumab Emtansine. **CONCLUSIONS:** Estimating treatment costs is far from trivial, given the wide range of evidence sources that need

to be synthesized. This complicates rapid and transparent assessment of actual cancer drug treatment cost, which is necessary to focus strategies aiming to limit the increasing healthcare costs. Differences exist in list prices within countries and between countries, thereby influencing the corresponding estimated treatment costs and resulting in list prices having limited value in this context. Therefore, extending standardization in presenting information on costs per cancer drug and implementing real world price estimates in such calculations is highly recommended.

PCN107
LANDSCAPE OF MALIGNANT MELANOMA: THE IMPACT OF UPCOMING THERAPIES

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OBJECTIVES: Malignant melanoma (MM) is both the most aggressive and fatal form of skin cancer, with an increasing incidence over the past years. Treatment options have evolved significantly, with the emergence of targeted therapies and immunotherapy, and recently with the adoption of combination therapies. This study aims to analyze and estimate the financial impact for the Portuguese NHS of the MM market dynamics until 2020. **METHODS:** MM patients estimation was calculated through a linear prediction of historical data (considering disease incidence, staging, net survival, mutation split, progression rates between treatment lines and regimen share per line) impacted by the probability of influential upcoming events. Treated patients were converted to expenditure considering a cost per patient that comprised both products' list price and expected time on therapy. **RESULTS:** MM incidence is expected to increase at an annual rate of 3.4% until 2020. Targeted therapy combinations for BRAF+ and immunotherapy for BRAF wt patients, besides being more expensive, brought an increase in Progression-Free Survival figures, leading to an annual increment of MM drug related expenditures of 20.8%. Thus, it is estimated that in 2020 MM drug expenditure will account for 62.9 M€, more than doubling 2015 figures. **CONCLUSIONS:** Innovative therapies are highly anticipated and perceived as beneficial for all cancer patients, and MM is no exception. However, oncology drugs are fully-funded by the Portuguese State and Hospitals have therefore a limited budget to ensure treatment for all the population, making it increasingly important to have visibility on the different diseases burden. As in previous years, the Portuguese MoH intends to curb drug expenditure, hence estimating the drug-related expenditure for the most prevalent diseases enables a more efficient decision-making process for Hospital management and a more informed discussion on access to innovation by the entire Society.

PCN108
CLINICAL AND ECONOMIC HISTORY OF THE ONCOLOGICAL PATIENT AT THE END OF LIFE

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OBJECTIVES: The objective of this work is to calculate the individualized cost of healthcare to cancer patients at the end of life by aggregating all the hospital activity performed to each patient. **METHODS:** Descriptive study based on administrative records of activity and costs. The study population are cancer patients died in the province of Granada (Spain) during the years 2009-2012. No sampling is performed. The data sources are the Registry of Cancer of Granada, records of health care activity of public hospitals in the province and the Analytical Accounting System of the Public Health care System of Andalusia. Combining the information collected in the above mentioned systems, a database of the Economic History of the Patient is generated, which includes the last 24 months of life. The minimum unit of information is each patient's contact with the health care system, with details of the date, medical specialty, reason for attendance and reason for discharge. **RESULTS:** A total of 2978 patients from the Granada Register of Cancer with health care activity have been identified. To date, information has been gathered from external consultations, hospitalization, surgery, diagnostic laboratory tests and radiodiagnosis and ambulatory hospital sessions. The consolidated information provides a chronology of the assistance received that allows to reconstruct, for each patient, the actual development of their care process in the last months of life and the cost associated with that process. **CONCLUSIONS:** The reconstruction of the process of health care activity at patient level through administrative records is a practice still not very widespread in the public health care sector. The knowledge of the unit hospital cost of the treatment of a cancer patient at the end of life and its composition will facilitate an improvement in clinical-economic efficiency in cancer patients and the identification of more efficient treatment patterns according to clinical situation.

PCN109
REAL-WORLD HEALTH CARE RESOURCE UTILIZATION AND RELATED COSTS AMONG PATIENTS WHO RECEIVED AT LEAST TWO LINES OF TREATMENT FOR ADVANCED NSCLC IN ENGLAND, THE NETHERLANDS, AND SWEDEN

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OBJECTIVES: Advanced (stage IIIb/IV) non-small cell lung cancer (aNSCLC) presents a high burden to society. This study aimed to quantify real-world health care resource utilization (HRCU) and related costs of patients with squamous (SQ) and non-SQ (NSQ) aNSCLC who received ≥2 lines of treatment (2L+) in England, the Netherlands, and Sweden. **METHODS:** Within wave 2 of the 7-country Leading the Evaluation of NSQ and SQ NSCLC (LENS) retrospective chart review study, patients diagnosed with aNSCLC between 07/2010-09/2012 who initiated 2L were sampled from oncology/pulmonology practices and followed from diagnosis through most recent

visit/death. HRCU (aNSCLC-related hospital/ER visits, surgeries, radiotherapy, ancillary care [hospice, nursing home, in-home], biomarker tests) and systemic treatment use was extracted from medical charts. Country-specific unit costs, inflated to 2016€, were multiplied by HCRU to derive aNSCLC-related costs. **RESULTS:** Of 138 patients (n=52 England, 57 Netherlands, 29 Sweden; n=42 SQ, 96 NSQ), 95.7% were followed through death (median observation time: 16.5 months [4.0-68.6]). From diagnosis through most recent visit/death, 44.2% of patients were hospitalized (median duration: 0.8 days/patient-month); 25.4% had ≥1 ER visit; 44.9% radiotherapy; 3.4% surgery; 23.2% received ancillary care. Median total per-patient costs were €8,431 per SQ (€6,442 England; €10,577 Netherlands; €11,857 Sweden) and €15,989 per NSQ patient (€6,442 England, €26,647 Netherlands, €27,909 Sweden). Drug costs accounted for 48.5%/52.1%/48.4% of total median overall/SQ/NSQ costs, and were highest/lowest in Netherlands/England. During the last month of life, median costs were €939/2,032 per SQ/NSQ patient, with hospice presenting the largest cost portion. **CONCLUSIONS:** Prior to availability of immunotherapy, HCRU and costs were substantial in aNSCLC patients, with systemic treatment accounting for 48.5% of total median costs. NSQ patients incurred higher total costs than SQ patients in Sweden and the Netherlands, and similar costs in England. Ongoing real-word data are needed to capture changes in HCRU patterns due to the evolving NSCLC treatment landscape.

PCN110
HEALTHCARE COSTS OF IPILIMUMAB IN PATIENTS WITH ADVANCED CUTANEOUS MELANOMA IN DUTCH CLINICAL PRACTICE

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OBJECTIVES: There is limited evidence on costs associated with ipilimumab. We investigated healthcare costs of ipilimumab treatment in Dutch patients with advanced cutaneous melanoma and compared costs across subgroups. **METHODS:** Data were retrieved from the nation-wide Dutch Melanoma Treatment Registry for patients diagnosed between July 2012 and July 2015. Ipilimumab episode duration was computed from start of ipilimumab until start of a next systemic treatment, death, or last date of follow-up. Costs were determined by applying unit costs to individual patient resource use. Patient subgroups were stratified by experiencing an immune related adverse event (irAE): no irAE, colitis, and irAE other than colitis. **RESULTS:** A total of 807 patients received ipilimumab in Dutch clinical practice. Baseline characteristics were comparable across subgroups. Mean [median] episode duration was 6.27 [4.61] months. Average total healthcare costs amounted to €81,484, but varied widely (range: €18,131-€160,002). Ipilimumab was the most important cost driver (€73,739; 90.5%). Most patients (65%) received 4 cycles of ipilimumab (average dosage: 240mg [SD:45.6mg]). Other healthcare costs (€7,745) were related to hospital admissions (€3,323), hospital visits (€1.791), diagnostics and imaging (€1,505), radiotherapy (€828), and surgery (€297). Although patients with colitis (n=106) had higher costs for resource use other than ipilimumab (€11,426) compared to patients with other types of irAEs (n=90; €9,850) and patients with no irAE (n=611; €6,796), they had lower total costs (€76,075 versus €87,882 and €81,480, respectively) due to less cycles of ipilimumab. Patients with an irAE other than colitis had a longer (mean [median] episode duration (7.96 [6.38] months) compared to patients with colitis (6.91 [4.92] months) and patients with no irAE (5.92 [4.28] months). **CONCLUSIONS:** Healthcare costs associated with ipililumab treatment are considerable in Dutch patients with advanced cutaneous melanoma. Although costs were mainly related to drug costs of ipilimumab, total costs and the distribution of the costs varied significantly across subgroups.

PCN111
COST DRIVERS OF LUNG CANCER CARE: RESULTS FROM A RETROSPECTIVE CHART REVIEW OF PRETREATED ADVANCED NSCLC PATIENTS IN EUROPE

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OBJECTIVES: Advanced (stage IIIb/IV) non-small cell lung cancer (aNSCLC) has a significant economic impact on society. This 7-country European study describes predictors of real-world per-patient costs [systemic treatment and health care resource utilization (HRCU)] of patients with aNSCLC who received at least 2 lines of systemic treatment (2L+). **METHODS:** The LENS (Leading the Evaluation of non-squamous and squamous NSCLC) retrospective chart review was a 7-country study conducted in 2 waves: W1 included France, Germany, Italy, Spain, and W2 included England, the Netherlands, Sweden. Within LENS, patients with aNSCLC diagnosis who initiated 2L were sampled from oncology/pulmonology practices, and