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OBJECTIVES: There are limited studies compare the outcomes and costs of robotic, laparoscopic, and open surgeries in a nationally representative population database. Our study aims to compare the inpatient outcomes among colon cancer patients undergoing these three types of surgeries. **METHODS:** A retrospective analysis of the National Inpatient Sample database from 2008 to 2012 was performed. We identified the robotic, laparoscopic, and open procedures by International Classification of Diseases, 9th Revision (ICD-9) procedure codes and grouped them into categories by procedure type. We compared the in-hospital mortalities, complications, length of stays, and costs for patients undergoing open, laparoscopic or robotic surgeries. The outcomes and costs of the different surgical modalities were adjusted using propensity score. **RESULTS:** Of the 499,724 weighted number of colorectal surgeries performed during the study period, 371,463 (74.3%) were open surgeries, 120,615 (24.1%) were laparoscopic surgeries, and 7,646 (1.53%) were robotic surgeries. In comparison with laparoscopic surgeries after propensity score adjustment, open surgeries was associated with 2.6 fold increase in risk of in-hospital mortality, 17% increase in risk of wound complications, 63% increase in general medical complications, 58% increase in risk of general surgical complications, 2.5 fold increase in risk in longer hospital stay, and higher total cost (\$ 16,901 vs \$ 13,723) than laparoscopic surgery. The outcomes of laparoscopic and robotic surgery are generally comparable after propensity score adjustment, except for in-hospital mortality and costs. Patients undergoing laparoscopic surgeries have 3.6 fold increase in risk of in-hospital mortality, and lower cost (\$13,134 vs \$19,187) than robotic surgery. **CONCLUSIONS:** Minimally invasive robotic and laparoscopic colorectal cancer surgeries have fewer complications, lower in-patient mortality, and shorter hospital stays. Their use in colorectal cancer surgery should increase with efforts to improve the outcome. Additional studies are needed to better delineate the comparative and cost-effectiveness of robotic surgery relative to laparoscopic surgery.

PCN82

COSTS EVOLUTION OF CANCER THERAPIES IN EUROPE FROM 2004 TO 2014

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OBJECTIVES: Analyze the evolution of cancer therapies costs, in Germany, France, Italy and UK. **METHODS:** Drugs included within the analysis were selected using two criteria: their rate of use in shortlisted indications (breast, colorectal, non-small cell lung cancer, chronic myeloid and lymphocytic leukemia) and their significant turnovers in Germany, France, Italy, and UK. IMS-MIDASTM, a multicountry database, was used to extract drug manufacturer prices and sales. Sales figures were splitted by indications using IMS-Oncology Analyzer™, a retrospective, longitudinal cancer treatment database and then, average baskets of drugs per indication have been built for each country. These baskets of drugs were compared between countries to illustrate the evolution and differences of cancer costs in each indication, considering both price and prescribing behavior changes. **RESULTS:** Differences in composition of baskets for a same indication highlighted heterogeneous prescribing behaviors between countries. Additionally, various prices per product from one country to another led to differences of cancer management costs. Last, a macro-economic analysis noted pricing policies generated savings of 10% in France, 6% in Italy, and 1% in the UK over the studied period. Despite price reduction being the highest in France, this analysis also showed that application of Italian or British prices to the French average basket of drugs could have led to potential savings of 15%. **CONCLUSIONS:** Despite old drug prices reductions, the cancer management costs were constantly increasing in the last decade, due to therapeutic innovations. Indeed, France was the country applying the strongest price decreases (10%) but also the one with the earliest use of therapeutic innovations, generating the growth of cancer management cost. Also, the application of Italian or British prices to the French average baskets of drugs could have led to potential savings, this being explained by high launch prices in France.

PCN83

VIRTUAL PLANNING AND PATIENT-SPECIFIC IMPLANTS IN MANDIBULAR RECONSTRUCTIONSURGERY: A MICRO-COSTING ANALYSIS

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OBJECTIVES: Mandibular reconstruction surgery is a routine procedure managed with bone containing free flaps, being fibula and iliac crest the most used worldwide. Despite these surgical techniques are well established and strengthened, the adoption of a 3D virtual planning and customized implants, including pre-operative planning, surgical hardware and patient-customized implants, guarantees optimal functional and cosmetic outcomes compared with traditional technique. The objective of this study is to determine and compare the resource consumption associated with 3D virtual planning and customized implants compared to traditional technique in patients undergoing mandibular reconstruction surgery. **METHODS:** The economic study was performed through a micro-costing approach from hospital perspective in an experienced Italian Hospital, where data on 34 cases of mandibular reconstruction surgery (13 performed by 3D virtual surgical planning and 21 performed by traditional technique) were collected retrospectively from hospital database. The consumption of resources was extracted for each patient according to phases of the hospital procedure including hospital and intensive care unit length of stay, diagnostic tests, staff time, operating theatre occupation time and medical technology equipment utilization. Unit costs were provided by the Administrations and Management Control Offices and statistical analysis was carried out using appropriate techniques. **RESULTS:** Results confirmed that 3D virtual planning and customized implants led to reduce operating theatre time (9.33 hours versus 10.96 hours; p<0.05) e hospital length of stay (11.23 days versus 24.00 days; p<0.0001). As consequence,

the average hospitalization cost per patient associated with 3D virtual surgical planning was lower than a traditional technique (€ 20,342.27 versus € 26,163.02; p<0.01) showing an average cost savings of € 5,820.76 for patient. **CONCLUSIONS:** The analysis showed that the 3D virtual planning and customized implants, including pre-operative planning, surgical hardware and patient-customized implants, has a lower economic impact than traditional technique, guaranteeing optimal clinical outcomes and constituting the best option in mandibular reconstruction.

PCN84

BEVACIZUMAB IN THE TREATMENT OF KRAS WILD TYPE METASTATIC COLORECTAL CANCER: AN ECONOMIC ANALYSIS BASED ON THE CALGB 80405 TRIAL

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OBJECTIVES: To perform a cost-effectiveness analysis comparing bevacizumab versus cetuximab (mCRC) in combination with FOLFOX (oxaliplatin, leucovorin, fluorouracil bolus and fluorouracil IV) or FOLFIRI (irinotecan, leucovorin, fluorouracil bolus and fluorouracil IV) in patients with KRAS wild type metastatic colorectal cancer. **METHODS:** A partitioned survival model was developed with three health states (progression free survival, progression, death) assuming weekly cycles, a 12-year horizon and two treatment arms: bevacizumab+FOLFOX/FOLFIRI or cetuximab+FOLFOX/FOLFIRI. Efficacy and safety data were based on CALGB 80405 trial. Health resource use was captured through expert's opinion and unitary costs were obtained using Portuguese official sources. Only medical costs were included (related with drug acquisition and administration, health state, adverse events and KRAS mutation test the latter only applicable in cetuximab arm) and considering the perspective of the Portuguese NHS. A 5% yearly discount rate was applied in costs and health consequences. Costs were expressed in 2016 euros. **RESULTS:** Consequences were similar between the two interventions (QALYs and overall survival). Over a 12-year period, the model predicted a cost of €84,268 for treating one patient with bevacizumab + FOLFOX/FOLFIRI versus €103,305 with cetuximab + FOLFOX/FOLFIRI, resulting in a cost-saving of €19,000 per patient to the NHS. Acquisition cost of bevacizumab is lower than cetuximab (-€15,449 €/patient) as well as adverse event costs (-€22), KRAS test cost (-€192) and supportive care while on progressive disease (-€4,458). Components with higher cost in bevacizumab arm are FOLFOX/FOLFIRI acquisition (+€63/patient), drug administration (+€67) and supportive care while on SLP (+€953). **CONCLUSIONS:** The use of bevacizumab in treating KRAS wild type results mCRC resulted in substantial cost-savings to the Portuguese NHS, representing a cut of 39% on the expenses of the biologic drug over a 12-year horizon.

PCN85

COST-MINIMIZATION ANALYSIS OF LIPEGFILGRASTIM IN PROPHYLAXIS OF FEBRILE NEUTROPENIA IN CANCER PATIENTS

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OBJECTIVES: To conduct cost-minimization analysis of lippegfilgrastim compared with pegfilgrastim, filgrastim, lenograstim in prophylaxis of febrile neutropenia (FN) in cancer patients in Russia for 1-year period. **METHODS:** A cost-minimization model was developed in Excel 2013 to simulate the costs for 1-year period. The total number of patients with FN in Russia according to the statistics equals 110556. The following costs were taken into account: costs for the treatment course with granulocyte colony-stimulating factor drugs (including ones for administration of the drugs), costs for the treatment of a FN event, expenses for management of adverse events associated with administration of granulocyte colony-stimulating factor drugs. The average tender prices for the study drugs were used as the source of data on prices for G-CSFs. The number of administrations and bottles per administration were calculated in accordance with Prescribing Information for the drugs. According to the Program of state guarantees for provision of free medical care the costs of each FN event is 119,808 rubles. Adverse events management was calculated according to the data on the incidence of adverse events from the Prescribing information documents and tariffs of Federal Compulsory Medical Insurance Fund. **RESULTS:** According to the cost-minimization analysis, the least costly was prophylaxis with lippegfilgrastim (211484 rubles/3200 \$) by the end of the 1st year per 1 patient. Costs in pegfilgrastim group resulted in 314986 rubles/4766 \$, in filgrastim group (11 days of treatment) – 264620 rubles/4004 \$, in lenograstim group (11 days of treatment) – 690798 rubles/10452 \$. Current rate taken as for 15.06.2016 is 1\$ = 66,09 RUB. **CONCLUSIONS:** The prophylaxis with lippegfilgrastim is a cost saving option compared with G-CSF registered for prophylaxis of febrile neutropenia in cancer patients in Russia for 1-year period.

PCN86

ANALYSIS OF THE COSTS ASSOCIATED WITH THE MANAGEMENT OF ADVERSE EVENTS COMPARED THROUGH TKIS IN THE TREATMENT OF PATIENTS WITH NON-SMALL CELLS LUNG CANCER EGFR MUTATED

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OBJECTIVES: The aim of this analysis was to evaluate the treatment cost of adverse events (AEs) associated to three current TKIs (tyrosine kinase inhibitor) available in Italy for non-small cell lung cancer (NSCLC) EGFR mutated patients: afatinib, erlotinib and gefitinib. **METHODS:** Focusing on direct medical costs only (drugs, visits, hospitalization, etc.), a cost-minimization analysis (CMA) was performed from the Italian National Health Service (NHS) perspective. The incidence of AEs (grades <2 or >3) was quantified on the basis of a recent literature review that considered the three TKIs. The average consumption of healthcare resources for managing the AEs was estimated on the basis of the expert panel technique. The