OBJECTIVES: NAT for eBC have potential benefits in reducing tumor size, permitting breast conservation, identifying effective adjuvant regimens, and providing prognostic information. This study investigated the characteristics of eBC patients, real-world utilization patterns of NAT, and health care costs from diagnosis to primary surgery (neoadjuvant phase) using a US claims database. **METHODS:** A cohort from the IMS PharMetrics Plus database included female patients, aged 18+, with the first (index) breast cancer (BC) diagnosis (ICD-9-CM 174. x, 233.0) between July 2006 and September 2012, primary surgery (mastectomy or lumpectomy) after index, continuous enrollment from 180 days before index (pre-index) to 90 days after surgery, no pre-index diagnosis for BC or other primary cancer, and no secondary malignancy from pre-index to surgery. Systemic therapies used by this cohort in neoadjuvant phase were assumed as NAT. Patients with eBC trastuzumab use were presumed HER2+. **RESULTS:** Of 57,032 eligible eBC patients (median age=56), 2,011 (3.5%) received NAT. Patients who received NAT had primary surgery in a median of 166 days after index diagnosis vs. 21 days for patients who did not receive NAT. Among patients receiving NAT, 485 (24.1%) had trastuzumab, with TCH (docetaxel, carboplatin, trastuzumab) and ACTH (doxorubicin, cyclophosphamide, a taxane, trastuzumab) most frequently used (49.5% and 26.2%, respectively). FEC regimen (5-flurouracil, epirubicin, cyclophosphamide) was used by only 5.6% trastuzumab users. From 2007 to 2011, there was a 46% increase in proportion of trastuzumab use in NAT users (19.6% to 28.6%). Among eBC patients receiving NAT, trastuzumab users had a higher monthly health care cost in neoadjuvant phase ($17,425 vs. $11,422) than those without trastuzumab use; however, the out-of-pocket spending by patients ($389 vs. $370) was similar. **CONCLUSIONS:** Based on these real-world data, neoadjuvant use of systemic therapies was infrequent. Among the patients with HER2+ eBC, TCH and ACTH were the most frequently used neoadjuvant regimens, consistent with their use in the adjuvant setting.

PCN235

OFF-LABEL USE OF ANTICANCER DRUGS IN SOUTH KOREA

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OBJECTIVES: The use of off-label medication is restricted by government in some countries, because using off-label anticancer drugs has some concerns about its efficacy and toxicity. HIRA (Health Insurance Review & Assessment Service) has the process for the assessment and control for the off-label use of anticancer drugs in South Korea. We would introduce the controlling for the off-label use of anticancer drugs and evaluate the trend of off-label use in anticancer drugs. **METHODS:** Since Dec. 2006, HIRA has permitted off-label uses for which there is adequate evidence for the efficacy, toxicity, and cost effectiveness. We collected the patient's medical record data (briefly recorded response rate, major adverse effects. etc) which updated every year from hospital. We defined 37 cancers (36 cancers, other cancer) and preparative regimens of Hematopoietic stem cell transplantation. We calculated the number of approved off-label regimens by year and cancer type, and the regimen of the most widely used. **RESULTS:** From Dec. 2006 to 2013, total 203 off-label regimens were approved their use in 63 hospitals (number of cumulative cases: 16,596). From 2006 to 2012, the number of approved off-label regimen was increased (1, 3, 3, 14, 39.37, 67, respectively). In 2013, only 38 regimens were approved. Compared with the other cancer, non-Hodgkin lymphoma (30 regimens, 15%), ovarian cancer (10 regimens, 5%), and CLL (10 regimens, 5%) have many off-label regimens. The regimens: "<3 weekly> S-1 + cisplatin for gastric cancer" was the most widely used regimens (59 hospitals, number of cumulative cases: 2,283). **CONCLUSIONS:** The use of off-label anticancer drugs has been increased in South Korea since 2006. These results suggest that the development of new drugs and the more clinical trials should be needed in cancer disease.

PCN236

USING INNOVATIVE MODELING ANALYTICS WITH REAL WORLD DATA TO DEVELOP A NATIONAL BREAST CANCER SCREENING PROGRAM IN THE KINGDOM OF SAUDI ARABIA

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OBJECTIVES: To develop a national breast cancer (BC) screening program through phased regional expansion using an advanced investment decision support simulation model informed by real world data in the Kingdom of Saudi Arabia (KSA). **METHODS:** An agent-based modeling simulation (ABMS) tool will represent the KSA female population, BC burden and existing health system and project impact of infrastructure investment options. Data are drawn from existing sources including census, registries and health surveys; phased studies will generate real world data on the outcomes of new clinical interventions. In Phase 1, a mobile BC screening program was deployed in Riyadh with three mobile clinics equipped with appropriate technology and medical staffing with the goal to screen at least 10,000 women during 2012-2014 and establish a care pathway for accurate diagnosis. The modeling and phased studies will guide the national program development by evaluating the impact of investments on BC screening rates, outcomes and economic value. **RESULTS:** The Phase 1 Riyadh program screened 12,877 females and established a care pathway model leading to 83 confirmed BC diagnoses (rate: 6.4 per 1000). Data visualization plotting breast cancer disease prevalence and mammogram installed base identified areas of high need and low resources in the regions of Riyadh, Hafr Al-Baten, Eastern, Al-Ahsa and Al-Jouf. The ABMS model to be developed will evaluate the impact of investment scenarios encompassing expansion of existing facilities and manpower, development of new radiology centers, and implementation of additional mobile programs. **CONCLUSIONS:** The Riyadh program revealed higher rate of breast cancer in the region than previously reported, emphasizing the need to ensure access for accurate diagnosis and create a national program. Data visualization readily identified regions for prioritized expansion. Real world data will continue to inform the ABMS model to identify investments required to establish a national breast cancer program across KSA.

PCN237

DIFFERENTIAL PHARMACEUTICAL PRICING: ARE PRICES CO-RELATED WITH GDP?

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OBJECTIVES: To assess co-relation of GDP per capita (purchasing power parity) on pharmaceutical pricing. **METHODS:** Based on empirical research, 18 drugs were selected and grouped into seven therapeutic categories: (1) Blood Based Disorders; (2) Cardiovascular Disorders; (3) Inflammatory Disorders; (4) Oncology; (5) Respiratory Disorders (only fluticasone); (6) Diabetes; and (7) Viral Diseases Price per unit (mg, IU, and U; at ex-factory level) data was collected from IHS PharmOnline International (POLI) Database across 41 countries (Australia, Austria, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, India, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Morocco, The Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, UK, and United States) from 2007 to 2012. Prices were converted into Euros on a yearly exchange rate basis and adjusted for inflation. Additionally, GDP data was collected from World Bank for the same period. We fit the regression equation for the log price per unit (dependent variable), log GDP per capita, generic status, strength, percentage of population aged 65 and above, an indicator for the US market, and year (independent variables) as follows: $Y\ (\text{Price per Unit}) = \alpha + \sum \beta_i * X_i + \varepsilon$. **RESULTS:** eltrombopag (-0.977+.131, n=160), filgrastim (-4.08+. 347, n=1420), etanercept (-.253+. 227, n=870), adalimumab (2.52+. 128, n=306), cetuximab (-.325+.166, n=203), pazopanib (-3.78+.164, n=111), fluticasone (.559+.559, n=108), sitagliptin (-4.00+.215, n=413), Stocrin (-12.75+.803, n=556) and Truvada (-5.08+.157, n=168) had statistically significant GDP (PPP) coefficients at the 0.01 level, whereas Tasigna, bevacizumab, dabigatran, rivaroxaban, exenatide, liraglutide, saxagliptin, and interferon alpha were not significant at 0.01 level. **CONCLUSIONS:** Our model finds varying degrees of co-relation between GDP per capita (PPP) and price per unit. Nonetheless, sitagliptin, cetuximab, filgrastim, Stocrin, Truvada, and adalimumab exhibited highest co-relation; they are thus most differentially priced.

PCN238

HEALTH CARE RESOURCE UTILIZATION (HCRU) IN HOSPITALIZED FEBRILE NEUTROPENIA (FN) PATIENTS TREATED WITH CHEMOTHERAPY FOR SOLID TUMORS (ST) AND HEMATOLOGICAL MALIGNANCIES (HM) IN BULGARIA

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OBJECTIVES: Chemotherapy-induced FN is associated with increased morbidity and mortality and frequently leads to hospitalization. This analysis aimed to describe FN-HCRU in patients hospitalized for FN in Bulgaria. **METHODS:** Eleven Bulgarian centres contributed to this international, retrospective, observational study conducted in Bulgaria, Czech Republic, and Slovakia. Adult patients with ST or HM receiving the chemotherapy leading to the first (=index) FN event between 01/2009 and 09/2012 and at least one confirmed FN event were enrolled. FN-specific HCRU parameters included infection prophylaxis and treatments, G-CSF use, other prophylactic medication, specific interventions and investigations, and FN-related hospitalizations. **RESULTS:** 156 Bulgarian patients were analysed (ST=64, HM=92); median age: 55.5 years, ECOG 0-2: 81%. All of ST and 79% of HM had one FN episode (≥3 episodes: 6%) with a mean (SD) number of FN-related hospital days of 6.6 (4.75) and 7.7 (4.79). Chemotherapy was completed as planned in 38% of ST and 87% of HM patients. In the index cycle, G-CSF was predominantly administered as treatment (86%, 48%), with a minority used as primary prophylaxis in ST (5%) and HM (30%) patients. In the index cycle, FN-related investigations were conducted in 83% of ST patients (207 investigations) and 78% of HM patients (324 investigations), mostly blood tests (ST=83%, HM=68%) or imaging (ST=14%, HM=20%). FN-related interventions were conducted in 70% each of ST (220 interventions) and HM patients (196 interventions), mainly IV fluids (ST=64%, HM=56%) or blood transfusions (ST=17%, HM=27%). In ST, 6 of 7 (86%), in HM 2 of 10 (20%) deaths during the observational period were FN-related. **CONCLUSIONS:** The data showed considerable HCRU in patients experiencing FN in Bulgaria, with frequent lack of G-CSF prophylaxis observed, particularly in ST patients. Improved G-CSF targeting may reduce FN and lower associated HCRU.

PCN239

WHAT ARE THE HEALTH CARE RESOURCE UTILIZATION AND MEDICAL COST OF UNTREATED PATIENTS WITH NEUROENDOCRINE TUMORS IN THE UNITED STATES?

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OBJECTIVES: To examine patient characteristics, health care resource utilization (HRU) and medical costs of patients who were untreated for neuroendocrine tumors (NETs). **METHODS:** Using a US administrative claims database, commercially-insured adults newly diagnosed with carcinoid tumors (ICD-9-CM: 209. xx) or pancreatic islet cell tumors (ICD-9-CM: 157.4 and 211.7) between 07/01/2007 and 12/31/2010 were identified (the first observed diagnosis date as the index date). Patients were required to have 6-month pre-index and 12-month post-index enrollment. Untreated patients were defined as those receiving neither surgical nor medical treatments in the 12-month follow-up period. Descriptive analysis was