OBJECTIVES: NAT for eBC have potential benefits in reducing tumor size, permitting definitive surgery, identifying the appropriate adjuvant regimen, 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 of 7,943 patients from the MarketScan Claims databases included female patients ≥18 years of age with a first-in-index breast cancer (BC) diagnosis (ICD-9-CM 174, 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. From 2006 to 2012, 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 of collecting and controlling 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 use 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 28 anticancer agents. We evaluated the utilization rate of all anticancer drugs in 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 in the 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, 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%) was at the rate of 15%, and breast cancer (25 regimens, 5%) was at the rate of 5%. The most widely used regimens (59 hospitals, number of cumulative cases: 2,283). CONCLUSIONS: The use of the off-label use for breast cancer 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 national 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 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 impact. RESULTS: The screenings will be performed in 2015-2016. The National implementation strategy was approved by the Ministry of Health in December 2016. In Phase 2, the ABMS model will be developed to evaluate the impact of investment scenarios encompassing expansion of existing facilities and manpower, development of new radiology centers, and investments in mobile screening units. The ABMS model was developed in 2016-2017. Project management and technical assistance were provided by Evidera. The ABMS model was developed in 2016-2017. Project management and technical assistance were provided by Evidera. The ABMS model will be designed to be used by the Ministry of Health. Future studies will be conducted to evaluate the cost-effectiveness of national roll-out of BC screening programs in the Kingdom of Saudi Arabia.

PCN237 DIFFERENTIAL PHARMACEUTICAL PRICING: ARE PRICES CORRELATED WITH GDP?

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OBJECTIVE: Does 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; (6) Fluorocortisons; and (7)Viral Disorders. The data was segmented per unit (mg, IU, and U) at ex-factory level data was collected from IHS PharmOnline International (POI) Database across 41 countries (Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Israel, Japan, Latvia, Lithuania, Luxembourg, Morocco, The Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, Slovenia, Slovakia, South Africa, Spain, Sweden, Switzerland, Turkey, UK, and United States). RESULTS: World Bank 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 (Price per Unit) = a + b1 * X1 + b2 * X2 + b3 * X3 + b4 * X4 + ... + b4 * X15 + b16 * X16. (R-squared = 0.647, n = 1406, p<0.01) We found a significant correlation between GDP per capita and pharmaceutical pricing.

CONCLUSION: Our model finds varying degrees of correlation between GDP per capita and pharmaceutical pricing. The higher GDP countries appear to have more stable prices.