anastrozole was compared with tamoxifen, anastrozole was more effective and costly than tamoxifen costing additional KRW 22,461,689 per QALY. Letrozole showed similar incremental cost of KRW 21,004,142 per QALY. In the node negative group, anastrozole was the most cost-effective with incremental cost of KRW 19,717,770 per QALY, while letrozole was the most cost-effective with incremental cost of KRW 8,150,512 per QALY in node positive group. Sensitive analysis showed that these results were robust. **CONCLUSIONS:** Subgroup analysis clearly demonstrated which treatment was superior among aromatase inhibitors. Such a demonstration was not confirmative in the cases of overall population. The implication of this study is that the decision maker should be careful when generalizing the cost-effectiveness results. The stratified analysis in this context may help reach a reasonable decision on resource allocation.

PCN22

ECONOMIC ANALYSIS OF CAPECITABINE PLUS OXALIPLATIN (XELOX) VERSUS FLUOROURACIL/LEUCOVORIN PLUS OXALIPLATIN (FOLFOX) IN THE TREATMENT OF ADVANCED GASTRIC CANCER IN CHINA

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OBJECTIVES: The objective of the study was to examine the direct medical cost of XELOX (capecitabine plus oxaliplatin) compared to FOLFOX (fluorouracil/leucovorin plus oxaliplatin) for the treatment of advanced gastric cancer in China. **METHODS:** Since the equal efficacy was already demonstrated by the published literature and local clinical guideline, cost minimization analysis was performed to compare the direct medical costs of XELOX and FOLFOX for the treatment of advanced gastric cancer. The direct medical costs were associated with the drug costs, drug administration costs, hospitalization costs and adverse events management costs. The costs were calculated based on a questionnaire survey from a clinical expert panel of 20 gastrointestinal surgeons and medical oncologists. **RESULTS:** According to the result of clinical expert panel survey, the median treatment duration of XELOX and FOLFOX was six cycles and nine cycles, respectively. The drug cost of XELOX regimen was CNY 33,948 (US$4992), higher than FOLFOX by CNY 14,160 (US$2082). However, the cost increment of XELOX regimen was offset by the higher drug administration cost (deviation CNY 9985), hospitalization cost (deviation CNY 4734) and adverse events management cost (deviation CNY 1828) of FOLFOX regimen. As a result, XELOX showed a significant overall cost savings of CNY 2386 (US$351) compared with FOLFOX. **CONCLUSIONS:** According to the study, XELOX is cost saving in comparison with FOLFOX for the treatment of advanced gastric cancer in China, especially in the chemotherapy administration and hospitalization utilization.

PCN23

ECONOMIC EVALUATION ON LIQUID-BASED CYTOLOGY IN THE CERVICAL CANCER SCREENING PROGRAM IN TAIWAN

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OBJECTIVES: To estimate the clinical and economic effect of Liquid-Based Cytology (LBC) compared with Conventional Papanicolaou Smear (CP) screening program in Taiwan. **METHODS:** A decision analytic model was used to simulate the natural history of cervical cancer in Taiwan health-care system. This study adopts a Ministry of Health perspective in cost-effectiveness analysis to compare a CP strategy every year with eight different screening strategies. These strategies comprise three screening tools (CP, LBC with Filter Base Technology, and LBC with Cell Enrichment Technology), and three screening intervals (annually, every 3 years, and every 5 years). Outcomes are life expectancy, quality-adjusted life-years (QALYs), lifetime costs, and incremental cost-effectiveness ratios (ICER). Future costs and QALYs were discounted at an annual rate of 3%. One-way sensitivity analyses are conducted to assess parameter uncertainty. **RESULTS:** Compared with the current screening strategy (an annual CP), LBC with Filter Base Technology and LBC with Cell Enrichment Technology strategies every 3 or 5 years are less costly while the QALYs lost are trivial. When three times GDP per capita is used as the decision threshold, switching cervical cancer screening tools from Pap annually to LBC with Filter Base Technology annually strategy or LBC with Cell Enrichment Technology annually strategy are cost-effective, with ICER equaling NT$233,000 or NT$272,000 per QALY gained, respectively. **CONCLUSIONS:** Results from this study showed that it may be desirable to adopt LBC as primary screening tool and may to extend screening interval annually to every 3 or 5 years in cervical cancer prevention.

PCN24

A POPULATION-BASED DECISION ANALYTIC MODEL FOR ASSESSING THE HUMAN PAPILLOMAVIRUS VACCINATION PROGRAM

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OBJECTIVES: Sexually-transmitted Human PapillomaVirus (HPV) is the major cause of cervical cancer. For its greatest benefit, HPV vaccine is recommended for young girls before there is a possible exposure to HPV through sexual contacts. To assessing the potential benefits of HPV vaccination program, it is crucial to collect the comprehensive information of infectious status and sexual behavior among adolescents. This study aims to implement the simulation technique to overcome the information barrier in Taiwan. **METHODS:** A population-based decision analytic model was established to simulate the health histories of 15 birth cohorts till they are aged 12 to 26. In the starting-point of simulation, these cohorts are aggregated to form a fully representative population in 2009. To capture the potential effects of catch-up vaccination programs, we computed the initial distribution of health states among each cohort by Markov model with cervical cancer natural history in Taiwanese women. We further validated the model by comparing the actual epidemiologic data and simulated results. The model was applied to estimate the incremental cost-effectiveness ratio (ICER) of the different vaccination programs from the perspective of health care. **RESULTS:** The simulated age patterns of HPV prevalence was corresponding to the observed age patterns of sexual experience. Based on the model, we found that inclusion of a HPV vaccination program for the cohort aged 12 can be considered as cost-effective (ICER value 1,010,000 NTD/QALY) comparing with annual Pap smear program only. Catch-up vaccination program for the cohorts aged 12–26 can be considered cost-effective (ICER value 570,000 to 1,300,000 NTD/QALY) comparing with no intervention. Results of sensitivity analysis suggest the robustness of the analysis. **CONCLUSIONS:** We have developed a model incorporating the local health and medical conditions. The population-based model is helpful for assessing a complicated public policy involved several generations. It provides plentiful information for estimating the benefits and budget impact of public policy.

PCN25

COST-EFFECTIVENESS ANALYSIS OF ERLOTINIB VERSUS DOCETAXEL AS A SECOND- OR THIRD-LINE TREATMENT OF NON-SMALL CELL LUNG CANCER IN KOREA

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OBJECTIVES: Lung cancer has a high mortality and is associated with a substantial financial burden. Cost-effectiveness estimated from foreign studies are usually not directly comparable between countries without adapting by applying the appropriate national value set. This study was performed to evaluate the cost-effectiveness of erlotinib versus docetaxel in patients with advanced non small cell lung cancer(NSCLC) who have failed previous chemotherapy in Korea. **METHODS:** A Markov model simulated to access the clinical and economic impact of erlotinib or docetaxel over 2 years from society perspective. Progression free survival(PFS) and overall survival(OS) data were derived from clinical trials, and utility/disutility data were collected in published study. Life-year gained(LYG) is projected based on clinical outcomes and converted to quality-adjusted life-years (QALYs) by utility weight. Both direct medical costs (e.g., drugs, visits, monitoring, etc.) and nonmedical costs were calculated. Costs and outcomes were discounted at an annual rate of 5% and incremental cost-effectiveness ratio (ICER) consists of the difference in cost divided by the difference in QALYs. We performed sensitivity analysis to evaluate uncertainty in the results. **RESULTS:** After 2 years follow-up, the total costs per patient was lower with erlotinib(11,234,900KRW, 1USD = 1156.53KRW as of February 2010) than with docetaxel (12,105,719KRW). More QALY per patient would be obtained with erlotinib than with docetaxel (0.268 and 0.213, respectively). Thus, ICER for erlotinib compared to Docetaxel is −15,829,756KRW per QALY. The results of the sensitivity analysis showed no significant difference. **CONCLUSIONS:** This study suggests, with its underlying assumptions and data, the use of erlotinib as second- or third-line treatment for advanced NSCLC would not only save costs but also improve outcomes compared with docetaxel in Korea.

PCN26

PHARMACOECONOMIC EVALUATION OF NILOTINIB IN TREATING TAIWAN PATIENTS WITH CHRONIC MYELOID LEUKEMIA (CML)

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BACKGROUND: CML accounts for 15% of adult leukemia, with incidence ~1 per 100,000. Imatinib mesylate is an oral medication for chronic phase (CP), accelerated phase, or blast crisis phase of CML. For CML patients showing resistance to imatinib, dose escalation is a treatment option. Nilotinib is a second generation tyrosine kinase inhibitor (TKI), rationally designed to preferentially target BCR-ABL, and has demonstrated efficacy and safety in patients resistant or intolerant to imatinib. **OBJECTIVES:** To estimate the total treatment costs and quality-adjusted life-years (QALY) gained for patients receiving high-dose imatinib (HDI) ≥600 mg/day because of resistance or nilotinib 800 mg/day using a Markov model to project long-term outcome. **METHODS:** Model parameters were obtained from medical records of patients treated with HDI in Taiwan, along with published clinical trial data for HDI and nilotinib, and local drug and treatment costs. **RESULTS:** At the end of July, 2008, 45 patients who have received imatinib ≥600 mg/day were included in the study and their charts were reviewed. During the entire treatment period of HDI and nilotinib, anemia was the most common treatment-related adverse event (22.2% vs. 15.6%). The model projected longer expected life-years gained by patients receiving nilotinib therapy (11.72 years vs. 9.31 years), and patients treated with nilotinib are expected to experience longer QALY than HDI (9.6 years vs. 7.47 years). Estimated cost per QALY was 1,189,150 (NTD/year) for nilotinib and 1,169,547 (NTD/year) for HDI. **CONCLUSIONS:** Under the assumption of similar drug price for nilotinib and HD imatinib, the benefit of using nilotinib is obvious for the better clinical outcome achieved in terms of lower adverse event rate, better QALY, with acceptable economic impact.