OBJECTIVE: the pharmacoeconomic analysis is to access the cost-effectiveness of capecitabine compared to 5-FU/LV in the adjuvant setting in Taiwan from the payer's [Bureau of National Health Insurance (BNHI)] perspective. METHODS: A state-transition econometric model was developed to estimate incremental cost-impact and the effectiveness in terms of quality-adjusted life months (QALMs). Clinical outcomes and medical resource utilization were collected during the phase III X-ACT study. Direct medical costs associated with chemotherapy drugs, physician consultations, and adverse events (AEs) management were based on Taiwan’s National Health Insurance fee schedule. Intra-venous chemotherapy administration costs and post-treatment costs were estimated from an expert panel survey conducted among 12 colorectal surgeons and medical oncologists. Health-related utility scores were obtained from published literature. Outcomes and future costs were discounted at 1.5% and 6% respectively. Sensitivity analyses were performed on key model parameters. RESULTS: Administration of capecitabine required fewer physician visits per patient (7.4 versus 28.0 with 5-FU/LV). Drug acquisition costs of capecitabine were higher than 5-FU/LV, however, these cost increments were offset by the chemotherapy administration cost of 5-FU/LV. In addition, more expensive medications and longer hospitalization were needed to manage 5-FU/LV-related AEs. As a result, capecitabine demonstrated a significant overall cost savings of $104,546 NTD. Over a lifetime, the survival benefit for capecitabine extends to 9 QALMs. Capecitabine remained dominant under sensitivity testing. CONCLUSION: From a Taiwan BNHI perspective, this pharmacoeconomic analysis showed that the use of capecitabine in adjuvant treatment of colon cancer would not only save direct medical costs but also improve health outcomes compared to 5-FU/LV.

60-MONTH DATA FROM IRIS USED TO UPDATE ESTIMATES OF SURVIVAL AND COST-EFFECTIVENESS OF FIRST-LINE IMATINIB IN PATIENTS WITH CHRONIC PHASE CHRONIC MYELOID LEUKEMIA

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OBJECTIVES: With 60 months of follow-up data now available from the IRIS trial, we updated our previous cost-effectiveness analysis of first-line imatinib versus interferon-α plus cytarabine (IFN) in newly diagnosed patients with chronic myeloid leukemia in the chronic phase that was originally based on a median of 19 months of follow-up. METHODS: We used the empirical 60-month data from IRIS for patients randomized to imatinib to calibrate the survival curves generated with the cost-effectiveness model. Due to the high rate of crossover among patients randomized to IFN in IRIS, we relied on historical data to model survival estimates for patients treated with IFN. We updated costs to 2006 values and applied two sets of costs to imatinib and IFN: average wholesale prices (AWP) and wholesale acquisition costs (WAC). RESULTS: Survival at 5 years for patients randomized to imatinib was better than predicted with our original model (89.4% vs. 85.2%). After model calibration, we estimated remaining life expectancy for first-line imatinib patients to be 19.1 years, an increase of 3.8 years over the original model. Remaining quality-adjusted life-years (QALys) were estimated at 15.2, an increase of 3.1 QALys. Estimates for patients randomized to IFN were maintained at 9.1 years and 6.3 QALys. With AWPs, ICERs ranged from $40,300 to $57,100 per QALY when applying less and more conservative assumptions about the duration of first- and second-line treatment with imatinib and IFN. With WACs, ICERs ranged from $33,500 to $46,100 per QALY. CONCLUSION: Although our analysis revealed that our initial survival estimates were conservative, the updated ICERs were relatively consistent with our original estimate of $43,300 per QALY. Periodically updating cost-effectiveness analyses should be a routine practice in cases where ongoing survival data are collected. Even with 5 years of data, most of the expected survival benefit has yet to be observed.

PODIUM SESSION III: COST STUDIES

EPOETIN ALFA AND DARBEPOETIN ALFA DOSING TRENDS AND DRUG COSTS IN ELDERLY PRE-DIALYSIS CHRONIC KIDNEY DISEASE PATIENTS

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OBJECTIVES: To evaluate trends in epoetin alfa (EPO) and darbeopetin alfa (DARB) dosing patterns and drug costs from 2005–2006 in elderly patients with pre-dialysis chronic kidney disease (CKD) receiving care in nephrology clinics. METHODS: A random panel of approximately 250 nephrologists was requested to review the medical records of their two most recently seen anemic pre-dialysis CKD patients who were receiv-
OUTCOMES ASSOCIATED WITH THE USE OF THIAZOLIDINEDIONES AMONG MEDICARE BENEFICIARIES WITH TYPE II DIABETES—AN INSTRUMENTAL VARIABLE APPROACH

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OBJECTIVES: To study treatment outcomes (total cost, hospitalization, hospital stays and physician office visits) associated with thiazolidinedione (TZD) use among Medicare patients with type II diabetes. METHODS: Medicare Current Beneficiary Survey Cost and Use files 2000 and 2001 were used. Patient-year approach was utilized. After applying inclusion and exclusion criteria, patients’ sociodemographic and clinical characteristics were characterized and compared across different treatment groups. Instrumental variable (IV) methodology was applied with TZD geographic area use rate as instrument and IV assumptions were validated. The results of IV method were compared to that of standard ordinary least square (OLS) approach.

RESULTS: A total of 417 patients were included in the final analysis. More patients with actual TZD treatment had comorbidities >0 (69.8% vs. 56.4%, p < 0.05) and less were non-white/black race (1% vs 7%, p < 0.05) than those without. The TZD use rates were 17% and 29% for lower (<20%) and higher TZD area use rate groups respectively (p < 0.01). Unadjusted OLS models showed that actual TZD use was associated with increased total annual cost (co-efficient = 0.38, p < 0.01) and risk of having more physician office visits by 81%. Adjusted OLS models showed that actual TZD use was still associated with increased total annual cost (co-efficient = 0.23, p < 0.05) and risk of having more physician office visits by 64% (p < 0.05). IV approach demonstrated that higher TZD area use rate was not associated with total annual cost, hospitalization and hospital stays (p > 0.1). IV assumption for physician office visits was violated as indicated by a significant Wu-Hausman test.

CONCLUSION: Increasing average TZD area treatment rate from 17% to 29% would not lead to increased total annual cost, hospitalization and hospital stays among marginal patients in the cohort of senior diabetic patients in this study. Future research utilizing data with large sample size is suggested.