CASCIANO R1, CHULIKAVIT M1, ZHENG J2, LIU Z3, ROGERIO J2

ESTIMATED IMPACT OF EVEROLIMUS ON ANNUAL DRUG

Results remained favorable for OpSP under all sensitivity analyses. CONCLUSIONS: A deterministic model was developed from the perspective of a one-member health plan. A survey of 300 oncologists was used to estimate the market shares of maintenance therapies before and after introducing Pem. Drug costs were obtained from Medicare reimbursement rates; non-drug costs from a claims database analysis. The number of maintenance-eligible patients was calculated from SEER incidence rates and the estimated proportions of NLNLC patients beginning and completing platinum-based first-line chemotherapy with stable disease or better. Model outputs included annual health plan cost, and costs per member per month (PMPM) and per treated member per month (PTMPM). One-way sensitivity analyses assessed the effect of changing input values. RESULTS: Assuming a 50% increase in the number of patients receiving maintenance therapy from 26 to 40 in a one-member health plan estimates a total annual cost increase of $365,323. Savings from patients who would have continued first-line therapy at an annual cost of $48,233 result in an estimated net benefit of $317,070 translating into a PTMPM of $679.22 and PMPM of $262,024 (or $0.22 per-member-per-month (PMPM)) in Model1, $100,869 (or $0.08 PMPM) in Model2. The PMPM is sensitive only to the expected increase in maintenance use. CONCLUSIONS: The adoption of Pem as maintenance therapy is anticipated to increase the number of patients receiving maintenance treatment while reducing the number of patients continuing first-line therapy. This increase in maintenance therapy utilization is expected to increase the budget impact for a health plan by less than $0.03 per member per month.

BUDGET IMPACT ANALYSIS OF AN ORGANIZED BREAST CANCER SCREENING PROGRAM BASED ON ANNUAL MAMMOGRAPHY FOR COLOMBIAN WOMEN

Hernández L1, Castillo M2

OBJECTIVES: Evaluate the budget impact of substituting the current recommendation of the Colombian National Cancer Institute (CNCI) for the early detection of breast cancer in Colombia for an organized screening program based on annual mammo- graphy for women 40–69 years (OgSP). METHODS: A previous cost-effectiveness study funded by the CNCI showed that the OgSP was more effective but more expensive than the current recommendation of the CNCI, opportunistic screening based on breast mammography for women 50–69 years and annual breast clinical exam for women 30–69 years (OgSP). A spreadsheet model following the ISPOR task force recommendations was developed to compute the annual, average, total, per-member-per-month (PMPM) and per-treated-member-per-month (PTMPM) costs and budget impact of the OgSP in four years. All inputs were based on local information and included Colombian population growth, age and gender distributions, breast cancer incidence rates in Colombian women and number of women eligible for breast cancer screening; mammography and clinical exam specificity, sensitivity and costs; opportunistic organized program coverage and costs, and diagnosis confirmation exams and breast cancer treatment costs. RESULTS: Total cost PTMPM was estimated to be $121 for the OgSP. With the new proportional share, it would increase to $241, a 99% increase. 98% of the costs came from the greater number of mammograms given the nature of the OgSP, and the greater number diagnosis confirmation exams and treated women given the major effectiveness of the OgSP in breast cancer detection. Results remained favorable for OgSP under all sensitivity analyses. CONCLUSIONS: The impact of substituting the current OgSP for the OgSP will yield very high costs to the Colombian health care system budget. Decision makers should consider other strategies for the early detection of breast cancer screening that may be more effective than the current OgSP and affordable, using the developed model to evaluate the budget impact of the new strategies under consideration.

ESTIMATED IMPACT OF EVEROLIMUS ON ANNUAL DRUG EXPENDITURE IN THE TREATMENT OF ADVANCED RENAL CELL CARCINOMA IN A US HEALTH PLAN

CASCIANO R1, CHULIKAVIT M1, ZHENG J2, LIU Z3, ROGERIO J2

METHODS: A cross-sectional model was developed using a one-year time horizon. The model included National Comprehensive Cancer Network guideline-recommended advanced RCC treatments: bevacizumab, IFN, IL-2, sorafenib, sunitinib, temsirolimus and everolimus. Disease prevalence rates were based on literature and Surveillance Epidemiology and End Results. Monthly market share data prior to the introduction of everolimus were based on the data from IntrinsiQ (November 2007–October 2008). Due to a lack of comparative trials, adverse event rates in similar patient populations are unavailable. As such, the model assessed only pharmacy costs, with relevance to everolimus drug therapy and administration. Drug costs were based on Wholesale Acquisition Costs (2009). Furthermore, as best supportive care and palliative care alongside each treatment were assumed to be comparable, their costs were not presented in the model. The model assessed the annual incremental impact on pharmacy expenditure under the assumption that everolimus replaces drugs currently being used after failure of treatment with sunitinib or sorafenib such as bevacizumab, temsirolimus, sunitinib, sorafenib, interferon-alpha, and interleukin-2. RESULTS: For a hypothetical health plan with 1,000,000 members, the model estimated a prevalence of 203 patients with advanced RCC. Under various scenarios, assuming that 24% of advanced RCC patients are placed on everolimus, the impact on pharmacy expenditure ranged from a savings of $50,093 annually or $0.05 per patient per year (PMPY) to an increase of $3,169 annually or $0.04 PMPY. CONCLUSIONS: Under the current model assumptions, everolimus has a minimal impact on pharmacy expenditure for a US health plan. It may offer cost savings when replacing higher-cost therapies.

REAL WORLD DATA ON MULTIFRACTION (MFR) VERSUS SINGLE FRACTION (SFR) RADIOTHERAPY TO TREAT BONE METASTASIS: IMPACT IN COSTS FOR PRIVATE HEALTH CARE (PHC) PROVIDERS IN BRAZIL

Paladini LM, Clark LGO, Clark O, Pagnotti B, Engel T, Faleiros EJM

OBJECTIVES: There is available evidence from a systematic review with meta-analysis that MFR and SFR have comparable efficacy in the treatment of bone metastasis. We aimed to compare the costs of MFR (20 Gy in five applications or 30 Gy in ten applications) versus SFR in the treatment of bone metastasis and pain control and determine the budgetary impact for PHC providers in Brazil. METHODS: all patients submitted to antalgic palliative radiotherapy for bone metastasis, from January 2009 to December 2009, were retrieved from Evidencias Cancer Treatment Database (www. evidencias.com.br). We evaluated a $5000 lives’ HPC and projected the results for a 1,000,000 population. We used data from the above mentioned SR with MA to support the calculations of the projected costs for both types of treatment. RESULTS: The annual incidence of patients in need of antalgic palliative radiotherapy for bone metastasis was 140/100,000. The SR with MA determined that MFR and SFR are equally effective in palliating bone pain with the same risks of complications. However SFR increases the need of re-treatment (RR = 2.5; CRR95% 1.7e to 3.5e), or 19.9% for SFR versus 7.8% for MFR (level of evidence 1b). We calculated the cost of each treatment as MFR USD 2,456,11 /patient and SFR USD 1,734,98 /patient. The projected costs in a population of 1 million insured lives including re-treatment costs was USD 5,877,772 for MFR versus USD 4,109,821 for SFR. The percentage reduction of SFR versus MFR for SFR versus 7.8% for MFR (level of evidence 1b). We calculated the cost of each treatment as MFR USD 2,456,11 /patient and SFR USD 1,734,98 /patient. The projected costs in a population of 1 million insured lives including re-treatment costs was USD 5,877,772 for MFR versus USD 4,109,821 for SFR. The percentage reduction of SFR versus MFR for each type of radiotherapy is equal, and SFR provides an economy of USD 0.08 per life-year, it was our preferred choice.