ECONOMIC ANALYSIS OF ERLOTINIB, DOCETAXEL, PEMETREXED AND BEST SUPPORTIVE CARE AS 2ND OR 3RD LINE TREATMENT OF NON-SMALL CELL LUNG CANCER
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OBJECTIVES: Evaluate costs and benefits of erlotinib in 2nd or 3rd line treatment of advanced or metastatic Non-Small Cell Lung Cancer (NSCLC) versus docetaxel, pemetrexed or best supportive care. METHODS: Cost-minimization and cost-utility analysis were performed for a time horizon of two years according to a Markov model with 3 health states (“progression free survival”, “progression” and “death”) and monthly cycles. Portuguese National Health System (NHS) perspective was applied. Survival and time to progression were obtained from 3 clinical trials. Base-case analysis included 2nd and 3rd line patients with advanced or metastatic NSCLC. Quality Adjusted Life Years (QALYs) were obtained from a UK study. Resource consumption was estimated by a Portuguese expert panel. Costs were calculated according to official Portuguese database and updated to 2008. Only direct health costs were applied. Annual discount rate: 5% (cost and utilities). Sensitivity analysis included different subpopulations, a three years time horizon and a probabilistic analysis. RESULTS: The cost per patient was lower with erlotinib (€62,478) versus docetaxel (€29,262) or pemetrexed (€62,762) and higher versus best supportive care (€16,112). QALYs per patient were higher with erlotinib (0.250) versus docetaxel (0.225), pemetrexed (0.241) or best supportive care (0.186). Erlotinib was “dominant” in the cost-utility analysis, with a lower cost and a higher efficacy versus docetaxel and pemetrexed. The sensitivity analysis confirmed the robustness of the base-case analysis results. CONCLUSIONS: The use of erlotinib instead of docetaxel or pemetrexed could contribute with annual savings for the NHS (substitution rates: 5%–65%) that would range between €135,046–€1,755,602 (docetaxel replacement) and €291,801–€3,793,409 (pemetrexed replacement), with a gain in terms of QALYs.

COST IMPACT OF CAPECITABINE THERAPY INTRODUCTION IN BREAST CANCER PATIENTS
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OBJECTIVES: Few studies have examined the costs associated with differing first-line chemotherapy regimens in patients with breast cancer. In this study we compared the relative cost impact of women starting first-line chemotherapy with capecitabine versus taxane (paclitaxel or docetaxel). METHODS: Women receiving first-line chemotherapy for metastatic breast cancer from 1998 to 2002 were identified from a hybrid NC Medicaid-claims—tumor registry linked database and Medicare records, and were followed through 2005 with claims data. T-tests, Chi-square, and Wilcoxon Rank Sum tests, where applicable, were used to compare baseline characteristics between patients who received first-line chemotherapy with capecitabine versus taxane (paclitaxel or docetaxel). Overall cost impact of capecitabine was examined using a multivariate log-linear regression model with propensity scores and other time variant regressors to account for differences in the two groups of patients. RESULTS: A total of 733 patients (n = 114 on capecitabine and n = 619 on taxanes) starting these 2 first-line chemo- therapies for breast cancer were identified using the linked database. While patients starting taxanes had significantly lower health care costs in the pre-index year than patients starting capecitabine (median costs: $19,490 for taxanes versus $14,315 for capecitabine, p < 0.0001), in the post-index year, the patients on taxanes experienced significantly higher health care utilization and associated costs compared to patients on capecitabine (median = $17,792 for capcitabine vs $38,360 for taxanes, p < 0.0001). The differences were primarily attributable to lower expenses in chemotherapy related claims and less visit days to outpatient settings for patients on capcitabine. After adjustment with propensity scores and other confounders, the capcitabine group was associated with 37.5% lower health care costs compared to the taxane group (p < 0.0001). CONCLUSIONS: In this population-based study, women who received capecitabine as first-line treatment for metastatic breast cancer had significantly lower costs compared to women starting taxane therapy.

HOSPITAL BURDEN OF DISEASE ASSOCIATED WITH METASTATIC BONE DISEASE (MBD) AND SKELETAL-RELATED EVENTS (SRES) IN PATIENTS WITH BREAST CANCER (BC) AND PROSTATE CANCER (PC) IN THE UNITED KINGDOM (UK)
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OBJECTIVES: MBD secondary to cancer can result in serious and costly SREs. The objective of this study was to characterise hospital burden associated with MBD and SREs following BC and PC in the UK. METHODS: Data were analysed from the CHKS database (Apr, 1, 1999-March 31, 2006), which collects inpatient episode data for England, Wales, Scotland, and Northern Ireland, representing 70% of hospitalizations in the UK. Patients with an index inpatient admission for either female BC (ICD-10 C50*) or PC (ICD-10 C61*) between January 4, 2003 and March 31, 2004 were selected for analysis and followed until March 31, 06 for subsequent admissions of MBD (ICD-10 C79.5*) and SREs (pathological fractures, spinal cord compressions, bone surgery), which were identified using ICD-10 codes for diagnoses and OPCS 4.3 codes for procedures. Hospital length of stay (LOS) and inpatient costs were analysed by cancer type and disease stage (index, MBD, or SRE). RESULTS: A total of 38,975 patients were identified with BC and 28,130 with PC. The 3-year incidence rates/1000 for hospital admissions, including MBD diagnosis code and MBD&SSRE diagnosis codes, were 71.7 and 9.2 for BC and 163.5 and 18.6 for PC. Readmissions were consistent across cancer types, with MBD&SSRE patients having the greatest number of readmissions (BC: 80%; PC: 81%) compared with patients with cancer diagnosis only (BC: 41%; PC: 42%) and patients with cancer&MBD (BC: 75%; PC: 73%). Additionally, patients developing MBD&SSREs had greater mean total LOS (BC: 40 days; PC: 43 days) than those with cancer only (BC: 8 days; PC: 12 days), and those with cancer&MBD (BC: 24 days; PC: 28 days). Mean cost of admissions increased as the disease progressed from cancer only to MBD&SSREs for BC and PC patients (£2215–£4158 and £1871–£3618, respectively). CONCLUSIONS: In general, UK patients with BC and PC, who develop SREs secondary to MBD consume greater hospital resources than those with cancer or MBD only.