taken for perfusion preparation through to its finalization was considerably longer with pamidronate: for every patient treated with pamidronate on average 3.5 could be treated with zoledronic acid. Under normal clinical practice (permanent patient vigilance and infusion times according to labeling instructions), zoledronic acid required 105 minutes less nursing time, valued at €26.25. Given that also fewer supplies were used (costing €7.29), the total cost difference reduced to an additional €32.43 with zoledronic acid. According to the clinical trials, 18.7 percentage points more patients had a complete response with zoledronic acid than with pamidronate, and average duration of complete response per treatment administered was 4.1 days longer. Thus incremental costs amounted to €173.68 per additional complete response and €7.82 per additional day of complete response. These results are dependent on clinical practice, particularly regarding the savings in personnel costs, and could be higher or lower in circumstances that are different to the most frequent scenario considered here. CONCLUSION: Compared to pamidronate, zoledronic acid considerably shortens treatment time and has an acceptable incremental cost-efficacy ratio.

**COST ANALYSIS OF CAPECITABINE VERSUS 5-FU/LV FOR COLORECTAL CANCER PATIENTS IN THE NETHERLANDS**

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OBJECTIVE: To estimate incremental costs of Capecitabine versus 5-fluourouracil/leukoverin (5FU/LV) for Dutch colon-rectal cancer patients. Treatment with capecitabine reflects a new chemotherapy for patients with colorectal cancer. Oral capecitabine has a major advantage over the current treatment with intravenous 5-FU/LV (Mayo-protocol), as it may be used at home. Furthermore, capecitabine seems to have a better safety profile than 5FU/LV. Capecitabine may be applied both in the palliative and the adjuvant setting. METHODS: We used cost analysis to estimate the pharmaco-economic profile of capecitabine. This pharmacoeconomic technique is justified as effectiveness may be assumed similar for both treatments. Costs in the analysis relate to extra drug costs of capecitabine over 5FU/LV. Benefits of capecitabine relate to reduced costs for outpatient hospital administration of 5FU/LV, for travel hence and forth and for treatment of side effects of chemotherapy. Files of 65 colorectal-cancer patients recently treated in the Isala Clinics (Zwolle, Netherlands) were investigated to assess numbers of outpatient visits for 5FU/LV administration, health-care and medications for adverse-effects and travel time. Risk reductions for adverse-effects of 5FU/LV were drawn from the literature. Costing was done using prices listed in the Dutch guideline for pharmaco-economic research. RESULTS: At the current market price, which is almost fourfold that of 5FU/LV per treatment, oral capecitabine is cost-saving compared to intravenous 5FU/LV. Costs per treatment for capecitabine were 15–25% below those for 5FU/LV, both in palliative and adjuvant settings. This result was robust in sensitivity analysis, with a 10% decrease in costs as the minimum. Cost reductions primarily relate to a decrease in hospital costs for administering 5FU/LV. CONCLUSIONS: Treatment with oral capecitabine may be cost saving for Dutch colorectal patients. Furthermore, increases in quality-of-life related to treatment in the home rather than the hospital setting may be expected.

**PROPENSITY ANALYSIS OF EPOETIN USE AND ITS IMPACT ON OVERALL COSTS OF CANCER CARE**

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OBJECTIVES: Epoetin reduces the transfusion rate in cancer patients undergoing chemotherapy, but it has a high cost and a variable response rate. The Anemia Guidelines Development Group recommended to limit its use when before-cycle haemoglobin is <10g/dL and the expected drop is >1g/dL/cycle. With the present study we aimed at assessing the propensity to use epoetin in real-life practice and its economic implications. METHODS: A retrospective study enrolled 170 cancer patients in 3 Italian centres. Chart review allowed to estimate clinical outcomes and consumption of health care resources within the 3-month study period: the costs were calculated from the perspective of the National Health Care System and transformed to logarithms before analysis. An Epoetin Administration Index (EAI) was calculated through Classification and Regression Trees (CARTs). RESULTS: The population, aged 60.5 years (sd 10.2), was equally distributed among three cancer sites: gastrointestinal, head-neck-lung and ovary. Epoetin was administered to 70% of the patients, but only 5% of them had a pre-chemotherapy haemoglobin <10g/dL. We thus calculated that epoetin was used inappropriately in 40% of the patients, while it was inappropriately not administered in 65% of the patients who got transfusions, instead. The EAI was higher in patients enrolled by center n°3, those with ovary cancer and with a higher haemoglobin or a higher anemization speed. Accuracy of the propensity score was high (accuracy 93%). The CRT splitted patients based on a haemoglobin cutoff of 9.9g/dL: more anemic patients had a 1:7 odds to get epoetin, despite the guidelines. Overall cancer care costs €9,686 per epoetin-treated patient and €4,199 per trans-
fusion-treated patient but the average epoetin-and-transfusion-free costs were very similar in the two groups. The costs varied highly between centres, but a high EAI independently decreased the without-epoetin-costs by 15%. CONCLUSIONS: An appropriate and homogeneous use of epoetin might reduce the costs of cancer treatment.

**IMPACT OF INNOVATIVE AND EXPENSIVE THERAPIES IN THE TREATMENT OF METASTATIC BREAST CANCER (MBC): FOCUS ON TRASTUZUMAB (HERCEPTIN)**

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The recent introduction on the French market of Herceptin™, an innovative drug associated to a high acquisition cost, justifies its economic assessment. OBJECTIVE: The study aim was to compare 8 chemotherapies as first-line treatment in MBC (doxorubicin (D) + cyclophosphamide (C); 2 combinations of 5-Fluorouracile (F), Epirubicin (E) and C i.e. FEC50 and FEC100; D + paclitaxel (P); D + docetaxel (T); E + P; E + T; H + P. METHODS: The study methodology, according to a French payer perspective, is a cost-effectiveness analysis based on a decision tree model. Assessment considers the period from the diagnosis of metastasis until the end therapy or death. The clinical data are obtained from recently published phase III randomised trials. Effectiveness was assessed through time to progression criteria. Chemotherapy procedures, incidence of adverse events, patient transport and nurse care follow up were collected. Hospital costs were estimated through the National Costs References per DRG. Medication costs were estimated from standard dosages. General Nomenclature of Practitioner Acts (NGAP) was used to valuate ambulatory follow-up care. A sensibility analysis was led on efficacy criteria and main drivers cost. RESULTS: The mean cost by week without progression is €550 for H + P, €424 for E + T, €417 for E + P, €418 for D + T, €438 for D + P, €374 for FEC50, €324 for FEC100 and €365 for D + C. The most effective combination appears to be E + T, as and the financial sacrifice associated with an additional one week without progression, as compared to FEC100 for instance, is €895. Anthracyclins (D or E) + taxans (P or T) combinations show a complete dominance when compared to the H + T strategy, but the latter is only offered to the subpopulation of patients showing the receptor over-expression, a potential negative predictor for response to chemotherapy. CONCLUSIONS: Although this type of analysis favours the use of anthracyclins + taxans combinations in first-line treatment of MBC, our hypothesis has to be confirmed by clinical pharmaco-economical trials.