be the registration of generic of paclitaxel in Poland. While the changes in the cost structure in CC group could been produced by including the costs of additional medication into the cost of hospitalization.

PCN8

RISE OF HEALTH RESOURCE UTILIZATION AND COSTS FOR SEQUENTIAL DOCETAXEL IN NODE-POSITIVE PRIMARY BREAST CANCER IN GERMAN HOSPITALS

Ihbe-Heffinger A[1], Wagenpfeil S[1], Jacobs VR[1], Gillessen P[1], Bernard R[1], Sattler D[2], Kuhn W[3]
[1]Klinikum rechts der Isar der Technischen Universität München, München, Germany, [2]Städtisches Krankehaus München-Harlaching, München, Germany, [3]Universität Bonn, Bonn, Germany

OBJECTIVE: The introduction of DRGs in 2004 requires German hospitals to gain cost transparency and optimize budget allocation. We compared two different chemo regimens (4× EC followed by 4× docetaxel q21, EC→DOC vs. 6× CMF, day 1 + 8, q28) for patients with node positive primary breast cancer regarding costs of resource consumption. **METHODS:** Data were obtained piggyback during 2/2000–5/2002 on the German prospective, longitudinal, randomized, multicenter Phase III EC→DOC trial closed in 8/2005. Evaluation of diagnostic effort was based on a comprehensive monocentric retrospective chart review. To allocate costs to health care resources German tariffs in €2005 and hospital databases were used. Costs were presented from hospital provider perspective. Sensitivity and scenario analyses were conducted. **RESULTS:** Altogether a cohort of 110 patients who received 1047 cycle days at 38 study centers was analyzed. The average patient age was 52.4 years. Mean direct costs for EC→DOC group totaled €8.459 per patient (N = 54). Costs for cytostatics accounted for the largest portion with €5.673 (67%), staff costs for drug application and pharmacy services including transport averaged out €1.357 (16%), average hospital basic costs were €414 (4.9%) and €376 (4.4%) for diagnostic effort and port or catheter implantation. Hospitals spent €354 (4.2%) on supportive drugs, administration devices and infusion bags and €313 (3.7%) on rehospitalisation (8 times in 7 patients). In contrast to rather expensive EC→DOC, CMF was €3.486 less costly (–41.2%), but savings for CMF acquisition cost with –€5.598 were partially compensated by higher costs for medical and diagnostic effort or hospital hotel services. Results were most sensitive to docetaxel acquisition cost and the percentage of patients with incomplete chemotherapy. **CONCLUSION:** Our results will enable German hospitals to develop strategies of financing a consequential 70% budget increase caused by introducing sequential docetaxel in adjuvant chemotherapy of breast cancer.

PCN9

ERLOTINIB IN NON-SMALL CELL LUNG CANCER (NSCLC) IN GERMANY—A COST-SAVING SECOND-LINE TREATMENT OPTION?

Gabriel A, Pirk O, Kotowa W
Fricke & Pirk GmbH—Member of the IMS Health Group, Nuremberg, Germany

OBJECTIVES: Erlotinib, a new second-line therapy option in patients with NSCLC, leads to similar overall survival improvement but has a more favourable adverse events (AEs) profile compared to docetaxel and pemetrexed. The objective of the present study was to compare the costs per patient treated with erlotinib with those for docetaxel and pemetrexed for Germany taking the management of AEs into account. **METHODS:** Direct quarterly medical care costs per patient without considering AEs ("base costs") and those including costs of treating AEs ("total costs") were compared for the assessed therapy regimes. For calculating base costs, costs for physician visits, drugs and drug administration were considered. Total costs also included mean costs for treating drug-related AEs grade 3/4 according to the US National Cancer Institute classification per patient under the respective therapy. Resource utilisation data were obtained from two multinational, randomized phase III trials. Further required data was estimated based on national guidelines and prescribing information for the drugs considered. The analysis was conducted from the German payers' perspective. Cost data were derived from published sources for the year 2005. Due to the short time horizon of one quarter the outcomes were not discounted. One-way sensitivity analysis on cost data was performed. **RESULTS:** Quarterly base costs per patient for erlotinib are comparable to those for docetaxel (€8172 vs. €8055) and about €7700 lower than those for pemetrexed (€8172 vs. €15,870). Total quarterly costs per patient including costs of treating AEs for erlotinib are about €1700 lower than for docetaxel and about €8300 lower than for pemetrexed (€8374 vs. €10,086 and €16,715, respectively). Sensitivity analyses confirmed the robustness of the results. **CONCLUSIONS:** Due to the favourable tolerability profile, the treatment with erlotinib is cost-saving for the German health care system compared to docetaxel and pemetrexed.

PCN10

INCREMENTAL COST-EFFECTIVENESS RATIO OF DARBEPOETIN ALFA (ARANESP®) IN THE TREATMENT OF CHEMOTHERAPY-INDUCED ANEMIA IN LUNG CANCER PATIENTS

Borget I[1], Tilleul P[2], Joly AC[2], Chouaid C[2]
[1]Saint-Antoine Hospital, Paris, France, France, [2]Saint-Antoine Hospital, Paris, France

Even if the clinical efficacy of recombinant human erythropoietin on chemotherapy-induced anemia was demonstrated, most economic studies have given unfavorable results, whatever the design and the outcome considered. **OBJECTIVE:** To calculate the incremental cost-effectiveness ratio (ICER) of darbepoetin alfa (Aranesp) as compared to standard palliative care in a cohort of patients treated by chemotherapy for lung cancer in clinical practice. **METHOD:** A Markov model was constructed to evaluate the cost effectiveness ratio of one weekly injection darbepoetin (Aranesp) compared with palliative standard care (red blood transfusion if hg <8 g/dl) in the correction of chemotherapy-induced anemia. Baseline probabilities and consumed resources were calculated on the basis of a two-year retrospective study, comparing two cohorts of patients treated by chemotherapy who received (n = 94) or did not receive (n = 89) Aranesp. The incremental cost-effectiveness ratio (ICER) was calculated as the difference in direct costs from a health care perspective (transfusion requirement and anemia management costs) divided by the difference in effect (changes in haemoglobin levels). Sensitivity analysis was used to test uncertain data. **RESULTS:** The use of Aranesp significantly reduced the proportion of patients needing transfusions (from 33.6% to 19.1%, $p < 0.05$) and the number of red cell units used by transfusion (from 2.97 ± 1.47 to 2.11 ± 0.47, $p < 0.01$). Markov modeling showed that the Aranesp strategy significantly increased the mean Hb level (13 ± 0.5 vs 11.9 ± 1 g/dl, $p < 0.001$), at the price of an increase in the main cost (respectively 1732 ± 897 and 996 ± 643€; $p < 0.01$). The incremental cost-effectiveness ratio was estimated to be 202€ per haemoglobin gram gained. Sensitivity analysis showed that the Aranesp strategy remained dominant in most situations. **CONCLUSION:** Routine use of Aranesp

appears to be cost-effective in patients receiving chemotherapy for lung cancer.

PCN11

PHARMACOECONOMIC ANALYSES OF ERLOTINIB COMPARED WITH BEST SUPPORTIVE CARE (BSC) FOR THE TREATMENT OF RELAPSED NON-SMALL CELL LUNG CANCER (NSCLC) FROM THE CANADIAN PUBLIC HEALTH CARE PERSPECTIVE

Côté I[1], Leighl NB[2], Gyldmark M[3], Maturi B[1]

[1]Hoffmann-La Roche Limited, Mississauga, ON, Canada, [2]Princess Margaret Hospital, Toronto, ON, Canada, [3]F Hoffmann La Roche, Basel, Switzerland

OBJECTIVE: Pharmacoeconomic assessment of erlotinib (Tarceva) vs best supportive care (BSC) for the treatment of relapsed NSCLC conducted as part of the Canadian reimbursement submission. **METHODS:** Analyses were conducted from the perspective of the Canadian public health care system, and included cost-effectiveness (CE) of erlotinib vs BSC. The decision analytic model included three health states (progression-free, progression and death) with a time horizon of 24–36 months. The model is a straight forward calculation of the area under the curve for time spent in the progression-free and progression health states. The model structure follows the disease pathway for NSCLC patients and the outcomes captured in the clinical trials. Cost components included drug acquisition, physician visits, hospitalizations, laboratory and diagnostic tests/procedures. Deterministic sensitivity analyses were performed. **RESULTS:** Incremental CE ratio at 3 years discounted at 5% is Can $71,018/Life Year Gained vs BSC. During the reimbursement submission process the Common Drug Review (CDR), and subsequently the Ontario provincial Ministry of Health (MoH) questioned whether erlotinib should be restricted to certain subgroups (i.e. adenocarcinoma histology or HER1/EGFR-positive groups). However, the pivotal BR.21 erlotinib trial showed an overall survival benefit in an unselected patient population (56% HER1/EGFR status unknown). As all BR.21 molecular subgroup analyses were exploratory and underpowered, tests of interaction did not identify a molecular subgroup with a better survival when treated with erlotinib that was statistically significant. In particular HER1/EGFR protein expression was not found to impact on survival in the BR.21 trial. Based on these data, the CDR and MoH in Ontario subsequently confirmed subgroup-specific CE analyses were not required. **CONCLUSIONS:** Erlotinib received positive recommendations from the CDR. Ontario, British Columbia, Quebec, Nova Scotia and Newfoundland are provinces currently reimbursing erlotinib from their provincial drug plans.

PCN12

COST EFFECTIVENESS OF ERLOTINIB IN THE TREATMENT OF ADVANCED NON SMALL CELL LUNG CANCER (NSCLC) IN POLAND

Orlewska E[1], Szczesna A[2], Gyldmark M[3], Szkultecka-Debek M[4]

[1]Centrum Farmakoekonomiki, Warsaw, Poland, [2]Regional Lung Diseases Hospital, Otwock, Poland, [3]F Hoffmann La Roche, Basel, Switzerland, [4]Roche Polska Sp. z o.o, Warsaw, Poland

OBJECTIVES: The aim of the study was to evaluate the cost-effectiveness of erlotinib compared to docetaxel and pemetrexed after failure of previous treatment for stage IIIB/IV NSCLC in Poland. **METHODS:** Markov health-state model was used to estimate the direct medical costs and outcomes (overall survival and QALY) of treating NSCLC in the Polish setting. This model incorporates clinical data from published pivotal trials and local data of health care resource utilisation and unit cost. The perspective of health care payers and time horizon of 3 years was considered. Probabilistic sensitivity analysis was used to address uncertainty. **RESULTS:** There were no differences between treatments with respect to overall survival (0.83 year) and the number of QALY—0.26 (erlotinib and pemetrexed) and 0.24 (docetaxel). The expected average costs/patient treated with erlotinib, docetaxel and pemetrexed were: 51,743, 78,039, 92,385 PLN (1 EURO = 3.8 PLN in 2006). Hence erlotinib dominates both docetaxel and pemetrexed (at least equal efficacy and lower cost). The average cost saving associated with erlotinib treatment vs. docetaxel and pemetrexed was 26,295 and 40,642 PLN/patient, respectively. Probabilistic sensitivity analysis confirmed results of the deterministic analysis. In a 100% simulation erlotinib remained a dominant treatment strategy in comparison to docetaxel and pemetrexed. **CONCLUSIONS:** Given the results of the analysis erlotinib as 2nd/3rd line agent in the treatment of patients with advanced NSCLC may be recommended as first-choice treatment because of its cost-saving potential in comparison to docetaxel and pemetrexed.

PCN13

COST-EFFECTIVENESS OF ADJUVANT CAPECITABINE, MAYO CLINIC AND DE GRAMONT REGIMENS FOR STAGE III COLON CANCER IN THE FRENCH SETTING

Tilleul P[1], Perrocheau G[2], Lafuma A[3], Roux E[4]

[1]Saint-Antoine Hospital, Paris, France, [2]Centre Renée Gauducheau, Saint Herblain, France, [3]Cemka-Eval, Bourg-la-Reine, France, [4]Roche, Neuilly sur Seine, France

OBJECTIVES: The oral fluoropyrimidine capecitabine is as effective but better tolerated than i.v. 5-FU/LV as first-line treatment in patients with metastatic colorectal cancer. Costs associated with the administration route could vary widely according to national rules and medical practice. We compared costs and outcomes of capecitabine, Mayo Clinic and de Gramont regimens as adjuvant treatment for stage III colon cancer. **METHODS:** We assessed the cost-effectiveness of the three regimens using the French third-party payer perspective, time horizon and efficacy/safety data (adjusted for indirect comparisons) from two published clinical trials [Twelves et al. N Engl J Med 2005; Andre et al. J Clin Oncol 2003]. Medical resource use and related-cost of chemotherapy and side-effect treatment were estimated from the clinical trials and expert opinion. Only grade 3/4 adverse events were considered when comparing capecitabine to the de Gramont regimen. We applied French standard costs to resources consumed and evaluated cost-effectiveness using relapse-free survival as an efficacy indicator. One-way sensitivity analyses were performed varying the cost estimates for each treatment. **RESULTS:** Capecitabine-treated patients had a mean life duration increase without treatment failure of 1.3 months vs. Mayo (35 months vs. 33.7 months). De Gramont was considered as effective as Mayo. In the base-case analysis, capecitabine is less costly than the Mayo Clinic (€3961.04 vs. €10,985.66) and de Gramont (€3697.05 vs. €7266.06) regimens. Capecitabine appeared to be dominant, more effective and less costly than either of the 5-FU regimens. In the sensitivity analyses, capecitabine remained dominant except for the minimum costs scenario vs. de Gramont. In this case, the cost-effectiveness ratio was estimated at €4511.36 per year without relapse. **CONCLUSIONS:** As adjuvant treatment for colon cancer, capecitabine decreases medical resources consumed, mainly in hospitals. Its approval in this setting is expected to bring cost savings and better outcomes.