OBJECTIVES: Two human papillomavirus (HPV) cervical cancer (CC) vaccines are currently available: a bivalent HPV-16/18 vaccine and a quadrivalent HPV-6/11/16/18 vaccine. The quadrivalent vaccine has an additional effect against genital warts, while the other offers broader protection against oncogenic non-vaccine types (cross-protection). The annual cost-consequences of both vaccines on HPV-related morbidity (i.e., abnormal pap smears, CIN1, CIN2/3 lesions, CC and genital warts) were evaluated within three European countries: Italy, UK and the Netherlands. METHODS: A static population model was developed in Excel®. The two vaccines differ in cross-protection level based on the latest results from clinical trials using, for both, the HPV naïve population (without current or past HPV infection) and country specific HPV-type distribution in each related lesion. Costing was performed from a health care perspective and obtained from published sources and official tariff data. No discounting was applied as results are reported over one year after reaching steady state. RESULTS: The more cross protection observed with the bivalent vaccine leads to an additional reduction in 9,510, 22,189, and 781 abnormal pap smears respectively in Italy, UK and the Netherlands; 275, 22,951, and 184 CIN1; 1,479, 8,693, and 833 CIN2/3; and 345, 1,422, and 16 CC cases while the quadrivalent vaccine results in 23,110, 25,324, and 2,983 genital warts cases prevented per year. More cost was saved with the bivalent compared to the quadrivalent vaccine and the amount per country per year was estimated at €2,719,040, €22,044,085, and €1,951,369 respectively. CONCLUSIONS: Within the Italian, the UK and the Netherlands settings the additional level of cross protection of the bivalent vaccine allows for more reduction in CC and HPV-related morbidity resulting in more cost savings that completely offset the benefit the quadrivalent vaccine has in preventing genital warts.

PCN67

LOWER ADMINISTRATION COSTS OF BEVACIZUMAB IN COMBINATION WITH PLATINUM-BASED CHEMOTHERAPY VERSUS CETUXIMAB-VINORELBINE-CISPLATIN THERAPY FOR THE TREATMENT OF METASTATIC NON-SMALL CELL LUNG CANCER (MNSCLC) FOCUSING ON THREE EUROPEAN HEALTH CARE SYSTEMS

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OBJECTIVES: Bevacizumab (Bev) has been shown to increase progression-free survival (PFS) when combined with cisplatin-gemcitabine (Reck 2009) and PFS and overall survival in combination with carboplatin-paclitaxel (Sandler 2006) when compared with chemotherapy (CT) alone. Cetuximab (Cet) has also improved outcomes in patients currently treated with vinorelbine and cisplatin (VinCis) (Picker 2009). The aim of this analysis is to compare the administration costs of Bev+CT and Cet+VinCis therapy for mNSCLC patients in France, Germany, and Spain. METHODS: A systematic literature search performed in Medline, Embase, Cochrane, and Centre for Reviews and Dissemination databases identified 578 publications which included administration costs related to two independent reviews. A weighted median of full text publications was used for inclusion. In addition, an evaluation of national reimbursement tariffs for both inpatient and outpatient procedures was performed. Alongside this, in-depth semi-structured interviews were conducted with five oncologists in three countries to verify cost findings and reimbursement structures. RESULTS: For induction therapy, when comparing CetVinCis versus BevPacCarbo or BevGemCis respectively, the incremental administration cost per mNSCLC patient is an additional €4500/€2250 in France, £7,320/€6,660 in Germany, and €9,980/€9,980 in Spain for the CetVinCis combination vs administration costs for the Bev combinations. When considering additional maintenance monotherapy the difference is €6,375/€6,125 in France, £10,370/€6,710 in Germany, and €6,160/€3,630 in Spain with again higher costs associated with the CetVinCis combination vs the Bev combinations. Variation in cost is attributable to increased number of patient visits and disparities in reimbursement structures. CONCLUSIONS: Additional injection visits associated with CetVinCis therapy (weekly for cetuximab vs once every three weeks for Bev) are a cost driver in the treatment of mNSCLC. BevPacCarbo or BevGemCis when compared with CetVinCis offers a less often and more convenient dosing regime, while also incurring fewer administration costs.

PCN68

US AND CANADIAN COST-EFFECTIVENESS ANALYSES OF US ONCOLOGY TRIAL 9735 PROVIDE ADDITIONAL RATIONALE FOR AVOIDING ANTHRACYCINES IN THE ADJUVANT TREATMENT OF OPERABLE BREAST CANCER

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OBJECTIVES: Extended 7-year follow-up of the US Oncology Adjuvant Trial 9735 demonstrated that TC (docetaxel 75 mg/m² plus cyclophosphamide 600 mg/m² every 21 days for 4 cycles) significantly improves disease-free survival (DFS) and overall survival (OS) compared to AC (doxorubicin 60 mg/m² plus cyclophosphamide 600 mg/m² every 21 days for 4 cycles) as adjuvant treatment of operable invasive breast cancer. Cost-effectiveness analyses of TC versus AC were conducted from a US and Canadian payer perspective, based on data from Trial 9735. METHODS: A Markov model was developed to estimate incremental cost per life year gained and quality-adjusted life year (QALY) gained over a lifetime horizon. Monthly survival and risk of disease recurrence were estimated for up to 7 years using OS and DFS from Trial 9735. Survival was extrapolated to lifetime using estimates of general population life expectancy, assuming no treatment benefit beyond the trial period. Country-specific resource utilization and unit costs were applied to estimate costs (in 2008 dollars) for chemotherapy administration, chemotherapy-related toxicities, recurrence and adverse events. Utility weights used in the calculation of QALYs were derived from the literature. RESULTS: For the US analysis, the lifetime cost per life year gained (TC vs. AC) was US$6261 and cost per QALY gained was US$7903 (5% annual discount rate). For the Canadian analysis, the lifetime cost per life year gained was CAN$6842 and cost per QALY gained was CAN$8251 (5% annual discount rate). The results were robust across a range of sensitivity analyses. CONCLUSIONS: In patients with operable invasive breast cancer, adjuvant treatment with TC provides gains in terms of life years and QALYs compared to AC and results in very favourable cost-effectiveness ratios. TC is a clinically and economically attractive alternative to AC for patients receiving adjuvant chemotherapy for operable breast cancer in North America.

PCN69

COST-EFFECTIVENESS OF ADDING CAPECITABINE TO TRASTUZUMAB AND DOXETAXEL AS FIRST LINE THERAPY FOR PATIENTS WITH HER-2-POSITIVE METASTATIC BREAST CANCER (HER2-MBC) — RESULTS FROM SPAIN, FRANCE AND ITALY

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OBJECTIVES: The randomized CHAT trial (N = 222) comparing trastuzumab and docetaxel either with cetuximab (HTX) or without (HT) as first-line therapy for HER2+MBC, demonstrated significantly superior progression-free survival (PFS) associated with a trend towards improved overall (OS) survival with HTX after 2 years of follow-up. This economic analysis was conducted to evaluate the cost-effectiveness of adding cetuximab to HT in these patients in Spain, France, and Italy. METHODS: A Markov model was constructed to estimate OS and PFS for a 10-year time horizon using a parametric extrapolation of PFS data from the CHAT-trial and identical transition probabilities from progression to death in both arms. Costs for drug use, administration, treatment of adverse events and supportive care were included. A probabilistic sensitivity analysis was conducted to account for uncertainty. RESULTS: Adding cetuximab to HT resulted in 0.4 (95% CI: 0.03–0.84) additional years of PFS and 0.4 (95% CI: 0.0–0.73) additional life years gained (LYG). Mean total costs increased by €5,300 (95% CI: −6,012–17,918) in the HTX-arm for France, €6,200 (95% CI: −5,700–14,690) for Spain and €3,100 (95% CI: −3,626–10,770) for Italy. This increase was mainly due to costs for cetuximab and trastuzumab (higher cumulative dose in the HTX-arm), although approximately 40% of these additional costs were compensated by reduced dosage and costs from docetaxel. Costs per PFS-year amounted to €3,300 (France), €10,000 (Spain) and €7,500 (Italy). Costs per LYG were €15,400 (France), €11,900 (Spain) and €8,900 (Italy). More patients in the HT-arm (8 vs. 10) received trastuzumab for the treatment of progression. These additional costs were not included in the analysis. CONCLUSIONS: HTX significantly improved outcomes for patients compared with HT. A partial cost-offset due to the reduction of docetaxel dosage contributes to the overall cost-effectiveness of adding cetuximab to HT for first-line treatment of HER2+MBC, even without considering costs for the treatment of progression.