effectiveness of adding the MAbs cetuximab or bevacizumab to chemotherapy in the first-line treatment of mCRC patients with KRAS wild-type tumours, from the UK (UK) NHS perspective. **METHODS:** A semi-Markov model was developed to simulate patient outcomes and costs for first and subsequent lines of treatment including long-term survival after a curative resection of liver metastases. Data for progression-free survival, resection rates and other model parameters were mainly derived from the CRYSTAL and NO16966 phase 3 studies. The long-term benefits of surgery were estimated from a consecutive series of 1439 patients. Resource use included drugs, physician visits, scans, hospitalizations and treatment of adverse events. Extensive sensitivity analyses were undertaken to explore the robustness of the results. **RESULTS:** In the base case, the estimated mean life expectancy for cetuximab- and bevacizumab-containing regimens was 3.22 and 2.31 years (all undiscounted) respectively. The incremental cost-effectiveness ratio (ICER) for FOLFIRI+cetuximab compared with FOLFIRI alone was £30,665 per quality-adjusted life year (QALY) and £17,626 per QALY compared with FOLFOX+bevacizumab. The ICER is mainly driven by the number of patients becoming resectable and the acquisition cost for each antibody. **CONCLUSIONS:** This analysis suggests that cetuximab in combination with FOLFIRI is the most effective treatment regimen compared with FOLFOX+bevacizumab or chemotherapy alone for patients with KRAS wild-type tumours. The incremental cost-effectiveness ratios of cetuximab in combination with chemotherapy compared with chemotherapy alone, and bevacizumab-containing regimens are within the commonly accepted threshold for cost-effectiveness in the UK.

PCN71

VALUE OF PROGRESSION-FREE SURVIVAL (PFS) IN REFRACTORY NON-SMALL CELL LUNG CANCER (NSCLC): AN EXPLORATORY MODELING ANALYSIS

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OBJECTIVES: PFS is an important endpoint in advanced NSCLC as it permits earlier assessment of treatment benefit compared to overall survival (OS) and is not influenced by subsequent treatment lines. Multiple treatment strategies have demonstrated PFS benefits in solid tumor oncology, but the economic and humanistic value of improved PFS remains unclear. **METHODS:** We developed a literature-based, 3-state (progression-free, disease-progression, death) Markov model designed to estimate clinical and economic outcomes associated with 2nd-line treatment from a US-payer perspective. Modeled treatments included a commonly used FDA-approved epidermal growth factor receptor tyrosine kinase inhibitor (EGFR-TKI) and an equivalent hypothetical intervention with theoretical improvements applied to quantify value of PFS gains. In base-case, we assumed 20% PFS improvement for intervention and no differences in OS and tolerability profiles or costs between comparators. Model parameters were pulled from published sources and included OS, PFS, adverse event rates, health-state utilities, dosing, and costs. Costs (2010 USD) and effects were discounted 3%. **RESULTS:** In base-case, projected total lifetime discounted costs, PFLYs and QALYs were higher for intervention ($30,791; 0.53 PFLY; 0.32 QALY) vs. EGFR-TKI ($26,705; 0.43 PFLY, 0.30 QALY). Scenario analyses identified two major determinants of costs-effectiveness in our model: PFS improvements accompanied by quality of life (QoL) improvements and post-progression treatment cost savings. Applying a range of QoL improvements (10%-30%) resulted in increased lifetime QALYs for intervention (0.35-0.39) such that ICER was <$50,000/QALY with >25% QoL improvements. For QoL improvements <25%, cost-effectiveness can be achieved with post-progression cost savings. **CONCLUSIONS:** An intervention conferring PFS improvements may be cost-effective if modest treatment-related QoL improvements and/or post-progression cost savings are realized. New and emerging treatments for NSCLC therapies that demonstrate improvement in one or both of these measures and/or OS and safety benefits will probably be competitive as payers start to weigh cost-effectiveness measures in coverage decisions.

PCN72

COST - EFFECTIVENESS ANALYSIS OF CERVICAL CANCER VACCINATION STRATEGIES IN SPAIN

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OBJECTIVES: Assess clinical and economic outcomes of vaccination (Va) with human papillomavirus (HPV) 16/18 AS04-adjuvanted vaccine (16/18Vac) added to screening programmes (Scr) in cervical cancer (CC) prevention, from the National Healthcare System perspective. **METHODS:** A lifetime Markov cohort model with yearly cycles was populated using national epidemiological, cost and treatment data to simulate the natural history of HPV and assess the effect of Va+Scr strategies versus Scr alone. Base case considers vaccinating a cohort of 206.788 girls aged 11, 80% of vaccine coverage and screening each 3 years from age 25 to 65. Efficacy of 16/18Vac was 95% against HPV-16/18 and cross-protection against 5 oncogenic non-vaccine types of 68%. Outcomes measured were number of CC cases, CC deaths, quality adjusted life years (QALYs), costs and incremental cost-effectiveness ratio (ICER) between both strategies. The model also tested a broader campaign vaccinating both 11 & 18 years old during 7 years (100,000 individuals per cohort and year) versus vaccination girls aged 11 only. A discount rate of 3% over costs and outcomes was applied. Sensitivity analyses were performed to assess influence of different parameters. **RESULTS:** Base case scenario would avoid 817 CC cases and 188 deaths (undiscounted) versus Scr alone and generate 1,018 additional QALYs, resulting in an ICER of € 29.295/QALY (discounted). Vaccination of the cohorts aged 11 & 18 would avoid 2,448 CC cases and 602 CC deaths (undiscounted) compared with vaccination only of the 11 years cohort, and represents an ICER of 28,931€/QALY (discounted). Sensitivity analysis shows more favourable cost-effectiveness with higher coverage. **CONCLUSIONS:** HPV vaccination with 16/18Vac added to current screening programmes in Spain is a cost-effective strategy. More favourable cost-effectiveness results may be obtained by expanding vaccination to 18 years old women and increasing vaccination coverage. Results are in accordance with other studies published at national level.

PCN73

COST EFFECTIVENESS OF ZOLEDRONIC ACID VS. PAMIDRONATE OR NO THERAPY FOR THE TREATMENT OF BONE METASTASES SECONDARY TO PROSTATE CANCER

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OBJECTIVES: Zoledronic acid (ZOL) is the only approved bisphosphonate for SRE prevention in hormone-refractory prostate cancer (mHRPC). However, in the UK (UK), 19% and 4% of metastatic, mHRPC patients, do not receive bisphosphonates or receive non-approved/unproven bisphosphonates (i.e., pamidronate [PAM]), respectively for the prevention of skeletal-related events (SREs). This analysis sought to estimate, from a UK payer perspective, the cost effectiveness of providing ZOL to those mHRPC patients not receiving ZOL. **METHODS:** This analysis was based on the results of a published randomized phase III clinical trial wherein mHRPC patients received ≤15 months of ZOL or placebo (PBO) (Saad et al, 2002). Since PAM has been shown to be no different than PBO in mHRPC in a pooled analysis of two trials (Small et al 2003) (i.e., 25% of subjects experienced an SRE at 6 months), the PBO cohort data from the ZOL trial was as a surrogate for PAM data in the absence of a direct comparison of ZOL versus PAM (or other bisphosphonates). Costs were estimated using hospital tariffs and published/internet sources. Quality adjusted life years (QALYs) gained were based on a previously published analysis of the Saad et al (2002) data. Survival was assumed to be identical for both groups. **RESULTS:** Compared with the use of PAM/PBO, treatment with ZOL (at list price of £174.14/infusion vs £80/infusion with PAM) resulted in increased QALYs (+0.03566/pt), fewer SREs (-0.8314/pt, i.e., 0.8315 vs 1.6629), and fewer SRE-related costs (-£1,639/pt, i.e., £2,004 vs. £3,643). Total costs were higher with ZOL (+£702/pt). ZOL cost £19,689/QALY. **CONCLUSIONS:** The use of ZOL for the prevention of SREs in UK patients with bone metastases secondary to mHRPC is cost effective relative to providing no or unapproved bisphosphonates.

PCN74

COST-EFFECTIVENESS ANALYSIS OF CHEMOPREVENTION FOR COLORECTAL CANCER BY LOW DOSE ASPIRIN IN SOUTH KOREA

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OBJECTIVES: This study aims to identify whether it is desirable to recommend low-dose aspirin as chemoprevention therapy for colorectal cancer in addition to routine screening through cost-effectiveness review for general population in Korea. **METHODS:** A Markov model was constructed to simulate the disease natural history of colorectal cancer with routine screening and additional chemoprevention by low dose aspirin. The model evaluated hypothetical cohorts of each 100,000 men and women aged from 50 to 70 years old stratified as 5-years interval. The analysis adopted a social perspective and all costs and outcomes were discounted at 5% for 30 years. The result was presented as the incremental cost per QALY gained. Uncertainty was explored with deterministic and probabilistic sensitivity analysis. **RESULTS:** The analysis showed that the use of low dose aspirin in addition to routine screening comparing to the screening alone is likely to result in a incremental cost per QALY of around 3,000,000 KRW/QALY to 8,700,000 KRW/QALY for men over than 50 years old and of around 4,700,000 KRW/QALY to 12,000,000 KRW/QALY for women over than 55 years old. The deterministic sensitivity analysis for uncertain parameters demonstrated that this analysis results were robust. Assuming a willingness-to-pay threshold of 15,000,000 KRW per QALY gained, the probabilistic sensitivity analysis suggested that low dose aspirin chemoprevention is more net benefit than screening alone for both men over than 50 years old and women over than 55 years old. However, there was considerable uncertainty in the current evidence available. **CONCLUSIONS:** Low dose aspirin appears to be cost-effective regardless of the wide distribution of ICER as chemoprevention of colorectal cancer coupled with screening comparing to the screening alone for the men over than 50 years old and women over than 55 years old. Therefore, low dose aspirin can be recommended as chemoprevention therapy in Korean population.

PCN75

EPIDEMIOLOGIC AND ECONOMIC IMPACT OF HPV (6/11/16/18) VACCINATION IN TURKEY

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OBJECTIVES: to assess the epidemiological and economic impact of a quadrivalent human papillomavirus (HPV) types 6/11/16/18 vaccination in Turkey. **METHODS:** a published mathematical model of the transmission dynamics of HPV infection and disease was adapted for Turkey. The model captured direct protective effects of vaccination and indirect effects (herd immunity). Model inputs were used from Turkey when available; otherwise, the default values in the original model were used. The vaccination strategy included HPV vaccination of 12-year-old girls com-