sociated with treatment and productivity loss over a one year period at vaccine steady state (i.e. when all women are vaccinated), current vs. future burden assuming 95% vaccine coverage. The MR incidence data on abnormal PAP and CINs were extrapolated from the relative proportion of abnormal PAP, precancerous lesions and CC previously published. Vaccination effectiveness was based on clinical trial data and HPV distribution for Russia and Eastern Europe. Medical costs were estimated from resources used and listed Russian price. Indirect costs include unpaid taxes, illness allowance and regional GDP foregone. No discount was applied. Sensitivity analyses were conducted on main parameters (number of lesions, vaccine effectiveness, costs). **RESULTS:** Vaccination with the bivalent HPV vaccine in the MR was estimated to prevent 13,737 abnormal PAP (112.6 m.rub.), 11,750 CIN1 (296.1 m.rub.), 4,222 CIN2/3 (259.3 m.rub.), 504 CC (98.9 m.rub.), 199 cases of lifelong disability (44.6 m.rub.) and 276 cases of CC deaths annually. Total cost offsets could amount to 811.6 m.rub. (664.8 m.rub. treatment cost only) representing 2.5x annual cost of vaccinating one cohort of 12 year-old girls (328.9 m.rub.) (2.0x vs. treatment cost only). The benefit-to-cost ratio (cost offset/vaccination cost) ranged from 1.8 to 3.1 over the sensitivity analyses. **CONCLUSIONS:** Implementation of HPV vaccination in the MR could significantly decrease cervical HPV-infection disease-related burden. The cost of vaccination, at steady state, could be fully compensated by the cost offset.

PCN61

IMPACT OF APPROPRIATE TREATMENT INFORMED BY EGFR MUTATION STATUS ON PATIENT OUTCOMES FROM DIAGNOSIS TO DEATH IN ADVANCED NON-SMALL CELL LUNG CANCER

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OBJECTIVES: To investigate the extent to which using the most efficacious first-line therapy to manage advanced non-small cell lung cancer (NSCLC) based on patients' EGFR mutation status has clinical, economic, and quality of life (QoL) benefits from diagnosis to death. **METHODS:** A deterministic cost-consequence model was developed to investigate alternative diagnostic and treatment strategies across multiple treatment lines in advanced NSCLC. Cost (drug and other treatment-related), resource use, clinical, and QoL data were included. Cost and resource use data were derived from the Dutch National Formulary, market research studies and expert opinion. Clinical and QoL data – including progression-free survival (PFS) – were derived from published studies and expert opinion. **RESULTS:** Different testing and treatment strategies were modelled in a hypothetical population of 1,000,000 individuals. 498 patients presented with stage III/IV NSCLC. In the base-case (no EGFR mutation testing) all patients received first-line doublet chemotherapy followed by second-line docetaxel (50%) or best supportive care (50%). Total median PFS in the population was 246.00 years (5.93 months per patient). Total healthcare costs, including adverse event (AE) management, were €11,801,371 (€23,698 per patient). EGFR mutation testing all patients identified 60 patients as EGFR mutation-positive. First-line treatments were assigned based on mutation status (EGFR mutation-positive patients received gefitinib followed by second-line docetaxel, all others were treated as in the base-case strategy). Compared with the base-case strategy there was an 11.8% increase in total PFS (0.70 months per patient). Second-line PFS increased 12.0%. Additionally, fewer AEs (anaemia, diarrhoea, dyspnoea, febrile neutropenia, neurotoxicity and vomiting) and improved QoL were seen. Excluding testing costs, total healthcare costs increased 17.4%. **CONCLUSIONS:** Strategies where patients were appropriately treated based on EGFR mutation status increased clinical and QoL benefits at relatively low incremental cost, compared to strategies where patients were not tested or were treated sub-optimally. Benefits extended beyond first-line treatment.

PCN62

COSTS AND CONSEQUENCES OF HPV VACCINATION IN THAILAND: RESULTS OF A PREVALENCE BASED MODEL

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OBJECTIVES: Two human papillomavirus (HPV) vaccines are available worldwide: a bivalent vaccine (BV) targeting oncogenic high-risk HPV-16/18 and a quadrivalent vaccine (QV) targeting both high-risk HPV-16/18 and low-risk HPV-6/11. Based on data in their respective trials, BV is likely to have higher efficacy against non-vaccine oncogenic HPV-types (cross protection). QV has an effect against genital warts (GW). The potential effect of both vaccines in Thailand on cervical intraepithelial neoplasia grade 1-3 (CIN1-3), GW, cervical cancer (CC) and related treatment costs was investigated. **METHODS:** A static model estimated the above outcomes over a one-year period at steady state versus the current situation. Costs were assessed from a health care payer's perspective. Epidemiological and cost data were obtained from published sources; efficacy figures were based on the latest clinical trial results from each vaccine and region-specific HPV distribution among lesions (local data was used where possible). Sensitivity analyses were conducted on all input data, such as with scenarios where the incidence and costs of treating GW were varied. **RESULTS:** BV was projected to avert 9394 cases of CC annually. BV potentially would result in an additional reduction of 5470 CIN1, 5177 CIN2/3 and 1113 CC cases annually compared with QV, while QV potentially would prevent an additional 125,957 GW cases annually. The additional cost saved with BV was estimated at THB 356 million annually compared with QV. Sensitivity analyses report additional cost-savings for the BV compared with QV under all scenarios. **CONCLUSIONS:** The level of cross protection of BV potentially would allow for an additional reduction in CC and HPV-related morbidity compared to QV; under our model, this resulted in cost averted that offset the economic benefit QV will have in preventing GW in Thailand.

PCN63

COST-EFFECTIVENESS OF SUNITINIB IN PATIENTS WITH ADVANCED OR METASTATIC PANCREATIC NEUROENDOCRINE TUMORS IN PORTUGAL

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OBJECTIVES: Sunitinib is an oral multitargeted tyrosine kinase inhibitor approved in Europe in 2010 for use in well-differentiated pancreatic neuroendocrine tumors (pNET) that have spread or cannot be removed with surgery. This study evaluated the cost-effectiveness of sunitinib + best supportive/palliative care (BSC) compared to placebo + BSC in Portuguese patients. **METHODS:** A Markov model was adapted to predict life-years (LY) and associated costs (€) of pNET patients' treatment over lifetime in Portugal. The model tracks transitions of patients between three health states: progression free, post-progression and death. Transition probabilities between health states and adverse events probabilities were based on published results from the phase III pNET trial of sunitinib. BSC overall survival (OS) probabilities were adjusted for crossover with a rank preserving structural failure time (RPSFT) statistical analysis. Resource use was elicited through a panel of five Portuguese experts with extensive clinical experience. Subsequent treatments are not included given the lack of efficacy evidence. Adverse events treatment costs and unit costs were extracted from Portuguese literature and official sources. A National Health Service perspective was adopted and both costs and effectiveness were discounted at 5%. **RESULTS:** Average cost per patient for sunitinib + BSC and placebo + BSC treatment were 54,215€ and 10,239€ respectively, while the average effectiveness gained with sunitinib was 1.83LY. This resulted in an incremental cost-effectiveness ratio (ICER) of 24,035€/LY. While the application of the RPSFT method may have some limitations and therefore provide uncertainty regarding the true OS benefit, the intent-to-treat classic analysis that does not correct for the confounding effect of crossover generated an ICER of 34,387€/LY. **CONCLUSIONS:** Compared with BSC, sunitinib treatment in patients with advanced or metastatic unresectable pNET improve effectiveness in terms of life-years gained and is cost-effective by the commonly used threshold in Portugal for assessment of new health technologies.

PCN64

EVALUATING THE COST-EFFECTIVENESS OF THE ADDITION OF RITUXIMAB TO CHEMOTHERAPY IN THE FIRST LINE TREATMENT OF FOLLICULAR LYMPHOMA PATIENTS IN THE UK

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OBJECTIVES: To assess, from a UK NHS perspective, the cost-effectiveness of the addition of rituximab (R) to selected chemotherapies: CVP (cyclophosphamide, vincristine and prednisolone); CHOP (cyclophosphamide, doxorubicin, vincristine and prednisolone) and MCP (mitoxantrone, chlorambucil and prednisolone) in the first-line treatment of follicular lymphoma. **METHODS:** A patient level simulation model was developed with four mutually exclusive and exhaustive health states: progression free survival on first line treatment (the starting state); progression free survival on second line treatment (PFS2); progression; and death (an absorbing state). First-line treatment consisted of chemotherapy or R-chemotherapy. Patients relapsing before death move into PFS2 and are assumed to receive second-line treatment dependent on initial treatment and time of relapse. After progression, patients enter the progression state where they reside until death. The model horizon was 25 years with costs and benefits discounted at 3.5%. Separate analyses were undertaken assuming rituximab maintenance for patients who responded to R-chemotherapy in first-line induction. Evidence from phase III trial were used when possible, however due to data limitations, assumptions were necessary which increases the uncertainty in the results. **RESULTS:** The estimated Incremental Cost-Effectiveness Ratios (ICERs) for the addition of rituximab to CVP, CHOP and MCP were £7,720, £10,834 and £9,316 per QALY gained respectively assuming no first-line rituximab maintenance. The ICERs increased to £14,959, £21,687 and £20,493 per QALY gained respectively when maintenance treatment was assumed. The ICER was sensitive to assumptions regarding the choice of parametric distribution to model the effectiveness of first-line treatment, the maximum time a patient can remain progression-free and potential resistance to rituximab, with the most favourable (unfavourable) ICER being approximately £4,000 (£61,000) per QALY gained. **CONCLUSIONS:** The addition of rituximab to CVP, CHOP and MCP is expected to fall below a cost per QALY gained of £25,000 regardless of the assumption on maintenance.

PCN65

COST-EFFECTIVENESS OF TREATING METASTATIC RENAL CELL CARCINOMA (MRCC) PATIENTS WHOSE DISEASE FAILED ON ONE PRIOR VEGF-TKI THERAPY WITH EVEROLIMUS COMPARED TO TREATING WITH BEST SUPPORTIVE CARE (BSC) ALONE IN CANADA

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OBJECTIVES: The analysis of the sub-group of patients who received one prior VEGF-TKI-based therapy in the RECORD-1 clinical trial reported a median progression-free survival of 5.42 months and 1.87 months for the everolimus and BSC-alone arms, respectively. A Markov model was developed to assess the cost-effectiveness of treating mRCC patients whose disease had failed on one prior VEGF-TKI