Abstracts

Inclusion criteria. Adherence was measured through prospective cohort studies (N = 3), retrospective analysis of registries (N = 2) or claims databases (N = 2). Five of the seven studies were based in Europe and the remainder in the U.S. Adherence measures reported included medication possession ratios (MPR, N = 2) and discontinuation rates based on physician interviews (N = 4) or patient self-reports (N = 1). Of studies reporting MPVs, 50% to 80% of patients had a MPR ≥ 0.80 during the course of therapy. Studies measuring discontinuation found the percentage of patients continuing therapy to range from 45% to 75% after one year of monotherapy. Adherence rates decreased in subsequent years of treatment. Combination with methotrexate or other oral RA drugs was associated with higher (N = 2) and lower (N = 2) adherence rates. CONCLUSIONS: Few studies have measured adherence to biologics among RA patients; however, most find adherence to such agents is suboptimal. Methods of adherence measurement varied greatly across studies. Standardized methods to measure and track adherence to biologics are needed as their use continues to increase.

Podium Session IV: Cancer Economic Evaluations II

CNS

Exploratory Economic Evaluation of Adjuvant Treatment of Non-Small-Cell Lung Cancer (NSCLC) With Bevacizumab in Addition to a Cisplatin-Based Treatment Regimen in the United Kingdom

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Objectives: Bevacizumab is approved in metastatic non-small cell lung cancer and is currently tested in adjuvant lung cancer trials. In this context we explore the potential costs and health benefits of adding bevacizumab to a cisplatin-based adjuvant treatment regimen for stage IIa-IIb patients with NSCLC and completely resected lung tumors. METHODS: A four health state Markov Model was used to explore the effects of adding 1 year adjuvant treatment with bevacizumab to an existing cisplatin-based treatment regimen. Baseline survival and relapse risks for cisplatin-treated patients are based on published data (IALT, International Adjuvant Lung Trial). The model uses a time-dependent risk of relapse up until six years after surgery as well as life-long time dependent risk of death. The effect of bevacizumab is included as a reduction in risk of relapse based on the expected hazard ratio (HR = 0.79, FDA approved trial protocol). The effect of bevacizumab is assumed to be constant for five years after surgery. Outcomes include number of relapses, life years, QALYs, direct costs (£), and incremental cost-effectiveness ratios. A life time horizon is used as the mean population age at surgery is 60 years. Cost and outcomes are discounted with 3.5% per annum. Sensitivity analysis is performed as probabilistic and deterministic sensitivity analysis. RESULTS: The mean undiscounted life expectancy for cisplatin-based chemotherapy treated patients was estimated to be 10.3 years (7.4 years discounted). The addition of bevacizumab is estimated to be increased to 11.9 years (8.4 years discounted). The discounted incremental cost-effectiveness ratio is £39,600/QALY gained. Sensitivity analysis on key variables show that assumptions on size of risk reduction, duration of risk reduction as well as baseline risk are the most critical factors for the ICER. CONCLUSIONS: Adding bevacizumab to current cisplatin-based treatment regimens for early lung cancer is predicted to be a cost effective treatment option.

CN6

Cost-Effectiveness of a Human Papillomavirus Vaccine in Reducing the Risk of Cervical Cancer in Ireland Using a Transmission Dynamic Model

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Objectives: To evaluate the cost-effectiveness of a combined primary (vaccination against HPV types 16 and 18) and secondary (population-based cervical cancer screening programme) approach to managing Cervical Intraepithelial Neoplasia (CIN) 1–3 and cervical cancer compared to a cervical cancer screening programme alone in the Irish health care setting. METHODS: The economic analysis was conducted using an independently developed dynamic agent based model [1], which takes account of the herd immunity effect of the vaccine. The study comparator was a population based cervical cancer screening programme. Irish epidemiological and cost data were incorporated into the model. The analysis was performed from the Irish health system perspective with a time horizon of 70 years. The cost-effectiveness of a range of catch-up vaccination strategies were also evaluated. Costs and benefits were discounted at 3.5% per annum. A one way and probabilistic sensitivity analysis were conducted. RESULTS: The base case incremental cost-effectiveness ratio (ICER) was €17,383/LYG. The ICER for the 12–15 year old catch-up programme was €32,968/LYG. The key determinants of cost effectiveness were vaccine efficacy, vaccine costs (including administration costs), duration of protection (i.e. requirement for booster) and the discount rate. Using a probabilistic sensitivity analysis about the base case, the 95% CI for cost per LYG was (€9,658, €24,097). CONCLUSIONS: The results of this HTA suggest that vaccination against HPV types 16 and 18 would be cost-effective from the perspective of the Irish health care payer. Universal vaccination of 12 year old females, against HPV types 16 and 18, can be recommended as a cost-effective intervention in the Irish health care setting. In relation to a catch-up programme, vaccination of 12 to 15 year old females in the first year of the programme would be the most cost-effective catch-up strategy. [1] Danish Centre for Health Technology Assessment (DACEHTA). Reduction in the risk of cervical cancer by vaccination against HPV—a health technology assessment. Health Technology Assessment 2007;9.

CN7

Modeling the Cost-Effectiveness of a New and Expensive Treatment Modality in Lung Cancer: The Case of Particle Therapy

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Objectives: Particle therapy (PT) with protons or carbon-ions is a promising treatment modality for non-small cell lung cancer (NSCLC). However, its initial investment is high, and it is unclear whether the potential extra effects are worth the extra costs. The cost-effectiveness of PT as opposed to stereotactic body radiotherapy (SBRT) for inoperable stage I NSCLC was examined to inform the adoption decision for PT. METHODS: A Markov