tion of 4,531 deaths from IPD and 34,648 deaths from hospitalized pneumonia over 10 years. Comparing to no-treatment, PCV13 vaccination would be cost-effective at \( RM6,998 \) per QALY gained from the society perspective. Compared to PCV10, PCV13 vaccination would avoid an additional 9,651 cases of IPD, 392,684 and 980,434 cases of hospitalized and non-hospitalized pneumonia respectively, and 81,118 cases of AOM with the prevention of 18,736 deaths. Compared to PCV10, PCV13 vaccination would be cost-effective at \( RM6,315 \) per QALY gained. CONCLUSIONS: Universal pediatric PCV13 vaccination in Malaysia was estimated to reduce the burden of pneumococcal diseases and is expected to be cost-effective compared with both no vaccination and PCV10.

**N70 COST-EFFECTIVENESS OF AN INDIVIDUALIZED APPROACH IN THE TREATMENT OF HEPATITIS C VIRUS CHRONIC INFECTION WITH PEG-INFEROGULIN ALFA-2B IN ITALY**

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**OBJECTIVES:** Phenocological approaches available in chronic hepatitis B (CHB) are based on 48-weeks fine course of peg-interferon (PEG) or continuous administration of nucleoside analogues. Recent studies gave early way to identify indications of responders to PEG with a stopping rule based on virologic and serologic markers at week 12. Objective of this study is the cost-effectiveness analysis of HBeAg-negative CHB treatment with PEG with stopping rule and switch to current most effective analogues, entecavir (ETV) or tenofovir (TDF) in Italy. METHODS: A Markov model was developed in the states: CHB, virologic response, relapse, HBeAg clearance, death, compensated and decompensated cirrhosis, hepatocarcinoma, liver transplant, post-liver transplant and death. A systematic review of the clinical and economic literature was performed to find appropriate information. The simulated strategies were: 1) No treatment, 2) PEG first-line followed by switch to ETV/TDF for patients either meeting w-12 stopping rule or not responding/reslapping after the completion of 48-weeks peg-interferon (PEG) treatment. (TDF/TVD in progression to decompensated cirrhosis (CC), 4) ETV/TDF treatment delayed until CC. ETV and TDF were considered alternatively for a total of 8 strategies. Outcomes were quality-adjusted life years (QALY) and costs, calculated from the Italian NHS perspective. RESULTS: The strategies provided 10.4, 15.3, 15.0, 12.0 QALYs, for no-treatment, PEG-ETV/TDF, ETV/TDF in-CHB and ETV/TDF in-CC. No meaningful difference in outcomes was found when ETV or TDF were considered. The average per-patient lifetime cost was \( €27,090, €59,270, €69,050, €33,520 \) with no-treatment, PEG, ETV-TDF in-CHB and TDF-in-CC. Costs using ETV were 19%-48% higher. PEG- TDF was dominant with respect to TDF-in-CHB and with an ICER of \( €66,950/QALY \) and € 7,750/QALY when compared to no-treatment and TDF-in-CC. CONCLUSIONS: Non treatment or treatment delayed until cirrhosis yielded the poorest outcomes. The strategy of a PEG treatment with stopping rule based on virologic and serologic markers at week 12 provide a convenient cost-effectiveness profile, compared to no-treatment and TDF-in-CC.

**N71 THE POTENTIAL PUBLIC HEALTH BENEFIT OF PNEUMOCOCCAL CONJUGATE VACCINES IN KAZAKHSTAN**

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**OBJECTIVES:** To evaluate the cost-effectiveness of pneumococcal vaccination with 10-valent pneumococcal non-typeable Haemophilus influenzae protein-D conjugate vaccine (PHiD-CV) compared with 13-valent pneumococcal conjugate vaccine (PCV-13) with 3 risk factors. METHODS: A steady state Markov model with 8 clinical states and 1 year time horizon was developed to project the impact of vaccination on the incidence of pneumococcal and non-typeable Haemophilus influenzae infections in children aged 0-10 years. Disease incidence rates for meningitis, bacteremia, pneumonia, otitis media, were obtained from the Ministry of Health, benchmarked with other countries and validated by a group of local experts. Pneumococcal serotypes distribution is based on 4,752 samples reported by the national laboratory, benchmarked with other countries and validated by a group of local experts. RESULTS: PHiD-CV and PCV13 are projected to prevent more cases of invasive disease (278; 294 respectively), and pneumonia hospitalizations (12270; 12270 respectively) compared to no vaccination. PHiD-CV and PCV13 are projected to prevent additional myringotomies (1920; 949 respectively) and GP visits due to AOM (1920; 949 respectively) and GP visits due to AOM (1920; 949 respectively) and GP visits due to AOM (1920; 949 respectively). CONCLUSIONS: A one-time year horizon was developed to project the impact of vaccination on the incidence of pneumococcal and non-typeable Haemophilus influenzae infections in children aged 0-10 years. Disease incidence rates for meningitis, bacteremia, pneumonia, otitis media (AOM) were based on data from the Ministry of Health, benchmarked with other countries and validated by a group of local experts. Pneumococcal serotypes distribution is based on 4,752 samples reported by the national laboratory, benchmarked with other countries and validated by a group of local experts. This study found that pneumococcal prophylaxis is a cost-effective strategy for preterm infants compared with no prophylaxis and has different cost-effectiveness according to the risk factors because of the influence on the risk of development of the disease. Therefore, it is reasonable to recommend the use of pneumococcal prophylaxis for preterm infants in group with cost-effectiveness considering the risk factors.

**N74 DIRECT MEDICAL COSTS AND HEALTH CARE RESOURCE USE ASSOCIATED WITH HEPATIS C INFECTION IN PORTUGAL**

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**OBJECTIVES:** To calculate the direct medical costs associated with HCV health states by eliciting expert opinion. METHODS: Portuguese-specific annual direct medical costs of HCV health states were being input into the model, which was evaluated with 8 clinicians experienced in HCV treatment at the national level. We adopted a two-stage modified Delphi technique: First, experts independently answered questions concerning the resource use associated with each HCV-related health state. Secondly, a consensus meeting was held where experts were encouraged to revise their earlier answers after the panel discussion. The annual cost for each health state of HCV disease was thereafter obtained by multiplying unit costs with the consensus scores for each resource use. Unitary costs were obtained through national official sources. Fibrosis (F0-F3), compensated cirrhosis (CC), decompensated cirrhosis (DC), hepatocellular carcinoma (HCC) and liver transplantation were set as the different HCV health states with relevance for clinical and economic research. RESULTS: Estimated annual costs per HCV health state were the following: fibrosis (F0-F3) was €580, in advanced liver disease, CC was €1,156, whereas DC was €9,222 for the first year and €9,085 for subsequent years. For HCC first year, the annual cost was €20,749, whilst €19,088 for subsequent years. For liver transplant, first year cost was €112,072, while for subsequent years it was €7,558. The considerable difference between the costs associated with the first and subsequent years is partly due to transplant drug being the cost driver for the model, although its panel with 8 clinicians experienced in HCV treatment at the national level. Based on the analysis, we can suggest that in the case of an appropriate use of medical care providers and a final cost of antibiotic treatment. A health insurance analysis provides data for assessing a health insurance company’s strategies aimed at optimizing antibiotic prescribing due to a quick C-reactive protein testing. METHODS: A Markov model with 8 health states and 1 year time horizon was developed to project the impact of vaccination on the incidence of pneumococcal and non-typeable Haemophilus influenzae infections in children aged 0-10 years. Disease incidence rates for meningitis, bacteremia, pneumonia, otitis media (AOM) were based on data from the Ministry of Health, benchmarked with other countries and validated by a group of local experts. Pneumococcal serotypes distribution is based on 4,752 samples reported by the national laboratory, benchmarked with other countries and validated by a group of local experts. This study found that pneumococcal prophylaxis is a cost-effective strategy for preterm infants compared with no prophylaxis and has different cost-effectiveness according to the risk factors because of the influence on the risk of development of the disease. Therefore, it is reasonable to recommend the use of pneumococcal prophylaxis for preterm infants in group with cost-effectiveness considering the risk factors.
accounted for 304,000 € could have been saved. CONCLUSIONS: Adherence to principles of good antibiotic policies leads to fundamental short and long term financial savings within the budget of a health insurance fund.

INFECTION - Patient-Reported Outcomes & Patient Preference Studies

PIN75

HEALTH-RELATED QUALITY OF LIFE OF CLOSTRIDIUM DIFFICILE INFECTION: A METHODOLOGICAL CONTRIBUTION TO DIRECT UTILITY ELICITATION BY TTO

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OBJECTIVES: Clostridium difficile infection (CDI) can lead to several complications from mild diarrhoea to toxic megacolon. The objectives of this study were to: 1) evaluate standard Time trade-off (TTO) and chain TTO techniques for eliciting utility values for CDI-related and temporary health states; 2) compare TTO results with those from Healthcare Professional (HP) EQ-5D-5L valuation; 3) evaluate methods of calculating utilities for health states worse than death (WTD).

METHODS: Ten health state vignettes were developed from literature with input from HCPs. Participants were asked to provide rankings for all possible health states (mean and median). RESULTS: Results were: -0.35/-0.5 for chronic diarrhoea to -7.98/-0.13 for chronic renal failure. Population (mean and median from non transformed method; mean and median from transformed method) values.

DISCUSSION: While transformation has an important impact on results, conclusions can be made even without transformation. CONCLUSIONS: Time trade-offs can also be used to elicit utilities for health states worse than death. However, results should be compared with a reference method.

TREATMENT PREFERENCE ATTRIBUTES AMONG PRIMARY IMMUNODEFICIENCY PATIENTS AND CAREGIVERS RECEIVING IMMUNOGLOBULIN THERAPY

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Primary immunodeficiency (PI) constitutes a group of disorders involving a primary defect in the immune system often requiring lifelong Immunoglobulin (IG) therapy which can be administered intravenously (IGIV) or subcutaneously (IGSC). OBJECTIVES: To assess the views of patients and caregivers for administration attributes of IG treatments. METHODS: Adult patients and caregivers of children with PI from 21 non-U.S. countries recruited via national member organisations completed a web-based, choice-format survey. The conjoint analysis quantified the preferences for attributes. RESULTS: The preference weights for each sample were calculated between samples.

INFECTION - Health Care Use & Policy Studies

PIN79

HEPATITIS C VIRUS INFECTION INCREASES THE RISK OF ALZHEIMER’S DISEASE

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OBJECTIVES: Hepatitis C virus (HCV) infection may cause cognitive impairment, but no studies have focused specifically on cognitive impairment stemming from Alzheimer’s disease. The purpose of this study was to investigate the potential increased risk for Alzheimer’s disease in HCV-infected patients. METHODS: We conducted a population-based cohort study from the Taiwan National Health Insurance Research Database. From all potential participants aged fifty years or more, a total of 117,098 matched (1:1) pairs of HCV-infected patients and non-HCV-infected patients were included. Each subject was individually tracked from 1997 to 2009 to identify incident cases of Alzheimer’s disease (onset in 1999 or later). Cox proportional hazard regressions were employed to calculate the hazard ratios (HRs) and 95% confidence intervals (CIs) for the association between HCV infection and Alzheimer’s disease in the HCV-infected cohort. RESULTS: There were 830 cases of Alzheimer’s disease reported in the HCV cohort during follow-up periods of 1,122,436 person-years, with incidence rates of 73.9 cases per 100,000 person-years (95% CI, 69.1-79.2). The multivariate-adjusted HR for Alzheimer’s disease was 1.14 (95% CI, 1.01-1.26) for HCV-infected patients. The HR for HCV-infected patients in the sixties (1.18, < .05) was higher than for other subgroups. There were 5,243 HCV-infected patients (44.8%) who completed antivirus therapy. The HR for treated patients was 0.31 (95% CI 0.15-0.67) after adjusting for age, gender, income, urbanization and the presence of other medical diseases. CONCLUSIONS: HCV infection may increase the risk for Alzheimer’s disease. HCV antiviral therapy could lower the risk of AD in HCV-infected patients.