PHARMACOECONOMIC EVALUATION OF THE INTRODUCTION OF UNIVERSAL VACCINATION AGAINST TUBERCULOSIS IN SLOVAKIA

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OBJECTIVES: To analyze the cost-effectiveness of mass primovaccination of newborns against tuberculosis in Slovakia. The evaluation was performed from the societal perspective.

METHODS: A Markov cohort model was used to determine direct cost of illness and minimization of costs of tuberculosis. Within the model, the closeness of latent tuberculosis infection to exogenous immunity boosting on zoster incidence was taken into account.

RESULTS: We found that in the fifth year the ICER was €13,765 and €12,911 per QALY gained for the MMRV and MMR, respectively. For the eighth year, the ICER was €7,991 and €8,171 per QALY gained. The analysis indicates that the implementation of MMRV would provide a benefit in terms of vaccination was assessed. Outcomes were measured by reduction in disease burden (IPD) and pneumonia has been extrapolated based on 7-valent PCV (PCV7) and 13-valent pneumococcal conjugate vaccine (PCV13) in Slovakia.

CONCLUSIONS: The cost-effectiveness analysis showed that the introduction of MMRV vaccination was cost-effective compared to alternative therapies. The cost and health care resources utilization data used, depict Greek clinical rules in economic evaluations of DAA in the future, unavoidable costs of non-cured patients: salvage treatment and/or potential disease progression.

PHARMACOECONOMIC EVALUATION OF THE PRIMOVACCINATION OF NEWBORNS AGAINST TUBERCULOSIS IN FINLAND

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OBJECTIVES: Chickenpox is an infectious disease caused by the varicella-zoster virus (VZV). The disease has been recognized as a serious health care problem for children that can lead to serious complications and high costs both for society and health system. Published studies indicate that in Italy about 50,000 people are affected by varicella each year. This analysis estimates the incremental cost-effectiveness ratio (ICER) of replacing MMR vaccine by introducing MRV vaccine in the current schedule in Italy. The higher risk of fewer episodes and febrile seizures associated with MMR compared with MMR vaccination and the conservative assumption on exogenous immunity boosting on zoster incidence were taken into account.

METHODS: An age-structured dynamic model was used to simulate the evolution of varicella and herpes zoster, both in current schedule and with replacement of MMR by MMRV with a lifetime horizon. Two scenarios were evaluated on the basis of first and second dose of vaccination coverage: 85% and 70% for the first scenario, 70% and 50% for the second scenario. It was assumed that MMR would be completely replaced by MMRV within 5 years. RESULTS: For both scenarios evaluated at the fifth year, was 81% and 25% respectively and the ICER was €13,739 and €11,325 respectively for the first and second scenario. There were significant savings for outpatient, hospitalization and indirect costs. Varicella cases avoided following the complete implementation of MMRV in 5 years were respectively 637,738 and 537,584.

CONCLUSIONS: This analysis, that considers benefits and risks of each of MMRV vaccines, indicates that the implementation of MMRV would provide a benefit in terms of cases and costs avoided and is likely to be cost-effective. From the NHS perspective the ICER supports the introduction of MMRV. Benefits of vaccination increase in correspondence to high vaccination coverage.

COST-EFFECTIVENESS ANALYSIS OF THE PRIMOVACCINATION OF NEWBORNS AGAINST TUBERCULOSIS IN SLOVAKIA

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OBJECTIVES: To analyze the cost-effectiveness of mass primovaccination of newborns against tuberculosis in Slovakia. The evaluation was performed from the societal perspective. The model considered benefits and risks of each of MMRV vaccines, indicates that the implementation of MMRV would provide a benefit in terms of cases and costs avoided and is likely to be cost-effective. From the NHS perspective the ICER supports the introduction of MMRV. Benefits of vaccination increase in correspondence to high vaccination coverage.

THE HEALTH ECONOMIC IMPACT OF INFANT VACCINATION PROGRAM WITH PHID-CV AND PCV13 USING NEW EFFICACY/EFFECTIVENESS DATA. EXAMPLE OF FINLAND

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OBJECTIVES: To estimate the disease burden and economic impact of the 10-valent pneumococcal non-typeable Haemophilus influenzae (NTHi) protein D conjugate vaccine (PHID-CV) compared with 13-valent pneumococcal conjugate vaccine (PCV13) in Finland based on recently generated vaccine efficacy/effectiveness data. To date, vaccine efficacy of the second generation pneumococcal conjugate vaccines (PCV) on invasive pneumococcal disease (IPD) and pneumonia has been extrapolated based on 7-valent PCV efficacy data and serotype distribution. Impact of PCVs on IPD and pneumonia is now observed in post-marketing settings in several countries and the effectiveness of PHID-CV against IPD has recently been demonstrated in a clinical trial in Finland.

METHODS: A Markov cohort model was used to estimate the clinical and cost burden of pneumococcal and NTHi-related diseases in a birth cohort over lifetime and to measure the clinical and economic impact of PHID-CV compared with PCV13 in Finland. Age-specific incidences of IPD, pneumonia and acute otitis media (AOM) and direct medical costs were calculated and used as input data. Only the direct effect of vaccination was included. Outcomes were measured in terms of years of healthy life, costs, quality-adjusted life-years (QALYs) and incremental cost-effectiveness ratio.

RESULTS: The model predicts that PHID-CV and PCV13 may have a similar impact on IPD and pneumonia in a pediatric population. PHID-CV is estimated to prevent an additional 26,576 AOM cases and 2,502 myringotomy procedures versus PCV13 in a country with a birth cohort of 57,000 infants. This translates in an additional reduction of medical costs by EUR 8,470,547 (discounted with 3%). Cost-effectiveness analysis showed that PHID-CV provides 135 more QALYs (discounted) saving cost compared with PCV13. Universal infant vaccination with PHID-CV provides more HE benefits than PCV13.

CONCLUSIONS: Nation-wide infant vaccination with PHID-CV in Finland is projected to improve health outcomes and be a cost-saving strategy. Funding: GlaxoSmithKline Biologicals SA.