

Cost-effectiveness of hepatitis B vaccination strategies in the Irish Healthcare System: An economic evaluation.

Abstract

Aim: In accordance with WHO recommendations, many European countries have introduced universal hepatitis B vaccination policies. The UK and Ireland are exceptions. In this study we conducted an economic evaluation of a universal infant hepatitis B vaccination programme in Ireland, using a six-component vaccine, compared with the current selective strategy of vaccinating high-risk infants with a monovalent hepatitis B vaccine.

Method: A cost effectiveness analysis was conducted using a Markov model. The perspective of the analysis was the Irish Health Service Executive. Unit cost and resource utilisation data were derived from expert clinical opinion, published sources, Diagnosis Related Group (DRG) costs for hospital admissions and local cost estimates for medical fees and laboratory investigations. Both costs and outcomes were modelled over a period of 80 years and discounted at 3.5%.

Results Assuming an incidence of acute hepatitis B virus (HBV) infection in Ireland of 8.4 per 100,000 population, the incremental cost effectiveness of the universal compared with the selective vaccination program is €37,018 per life year gained (LYG) in the base case scenario. The cost effectiveness of universal versus selective hepatitis B vaccination was sensitive to the risk of acute HBV infection and the cost of the universal infant vaccination programme.

Conclusion: Conclusions of this study are sensitive to assumptions regarding the burden of HBV infection and the cost of the vaccination programme. In the base case scenario, the results suggest that universal infant hepatitis B immunisation would be a cost effective intervention in Ireland.