The cost-effectiveness of routine childhood varicella vaccination in Germany.

This study explores the economic value of a routine varicella vaccination program for Germany. An age-structured decision analytic model was used to assess the benefits, costs and cost-effectiveness of an immunization program for a period of 30 years. Three interventions were compared with no vaccination: universal vaccination of around 15 months old healthy children, vaccination of susceptible adolescents (11-12 years of age), and the combined strategy. The analysis was conducted from both the societal perspective and the payers', i.e. sickness funds, perspective. Input data were mainly derived from a retrospective survey (analyzed were 1334 patient records) and from a seroprevalence study (n = 4602 sera). Using a coverage rate of 85% and a vaccine efficacy rate of 86% routine children vaccination could prevent around 611,000 varicella cases and over 4700 major complications per year. Average yearly cost savings for the society are 51.3 million Euro. The benefit-cost ratio (BCR) is 4.12. From the third-party payer’s perspective, the BCR is 1.75 which is a consequence of significant reimbursement of parent's lost earnings by German sickness funds. The adolescent vaccination strategy has a favorable BCR ratio of 8.44 from the societal perspective, but clearly inferior medical effects. The combined vaccination strategy showed similar results as the children strategy.
Routine childhood varicella vaccination appears to be a highly efficient strategy to reduce the burden of varicella and results in significant savings for both the society and the payers.