Abstract:

Varicella (chickenpox) has traditionally been regarded as a benign, inevitable disease of childhood. In Germany information on the clinical and economic impact of varicella is limited. This study assessed the health risks and economic burden of varicella with a special focus on the relevance of complications as a cost driver. We used an age-structured, dynamic infectious disease model for the spread of infection in the German population combined with a module modeling the course of disease and medical management in the case of infection. Model input data were derived mainly from a retrospective epidemiological survey of 1,334 varicella cases in Germany. This survey included detailed information on outpatient care, complications, inpatient treatment, and sick leave. In the base case analysis the model predicted approx. 740,000 varicella cases per year. Some 40,000 experienced complications, of which 5,700 required inpatient care. Total annual costs for payers, i.e., sickness funds, was 78 million euro, the largest portion of which was due to the significant coverage of work loss costs incurred by parents caring for their sick children ("Kinderpflegekrankengeld"). For the society total annual costs were 187.5 million euro, 82% of which was indirect. Complications account for disproportionate 32% (25%) of cost from the payers' (societal) perspective. However, the vast majority of costs are due to uncomplicated cases. The burden of varicella in Germany is thus...
significant, not only in terms of morbidity but also from an economic viewpoint. Vaccination strategies targeting groups with high risk of complications might fail to reduce the considerable burden of varicella substantially. Routine vaccination against varicella would be a meaningful measure to reduce the burden of VZV infection in Germany.