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## Cost effectiveness of a pentavalent rotavirus vaccine in Oman

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**Background:** Rotavirus gastroenteritis (RGE) is the leading cause of diarrhea in young children in Oman, incurring substantial healthcare and economic burden. We propose to formally assess the potential cost effectiveness of implementing universal vaccination with a pentavalent rotavirus vaccine (RV5) on reducing the health care burden and costs associated with rotavirus gastroenteritis (RGE) in Oman.

**Methods:** A Markov model was used to compare two birth cohorts, including children who were administered the RV5 vaccination versus those who were not, in a hypothetical group of 65,500 children followed for their first 5 years of life in Oman. The efficacy of the vaccine in reducing RGE-related hospitalizations, emergency department (ED) and office visits, and days of parental work loss for children receiving the vaccine was based on the results of the Rotavirus Efficacy and Safety Trial (REST). The outcome of interest was cost per quality-adjusted life year (QALY) gained from health care system and societal perspectives.

**Results:** A universal RV5 vaccination program is projected to reduce, hospitalizations, ED visits, outpatient visits and parental work days lost due to rotavirus infections by 89%, 80%, 67% and 74%, respectively. In the absence of RV5 vaccination, RGE-related societal costs are projected to be 2,023,038 Omani Rial (OMR) (5,259,899 United States dollars [USD]), including 1,338,977 OMR (3,481,340 USD) in direct medical costs. However, with the introduction of RV5, direct medical costs are projected to be 216,646 OMR (563,280 USD). Costs per QALY saved would be 1,140 OMR (2,964 USD) from the health care payer perspective. An RV5 vaccination program would be considered cost saving, from the societal perspective.

**Conclusions:** Universal RV5 vaccination in Oman is likely to significantly reduce the health care burden and costs associated with rotavirus gastroenteritis and may be cost-effective from the payer perspective and cost saving from the societal perspective.

### Biography

Salah Thabit Al Awaidy is a medical Doctor and holds a Master's in Epidemiology. He is currently the Adviser on Communicable Disease Surveillance, Elimination and Eradication of Communicable Diseases of Public Health Importance, EPI, vaccine supply chain system and IHR at the Ministry of Health, Oman. He was the Director of Communicable Disease Surveillance and Control at MoH, HQ, Oman between 1997-2011, IHR national focal point 2002-2013 and was a member in several of the professional committees namely: Strategic Advisory Group on Immunization (SAGE), WHO Geneva (2005-2007); Strategic Advisor Group on Vaccine and Store Management Training Courses (2005-2008), WHO Geneva; Strategic TB Advisory Board (STAG) 2007-2011 2014- till date.

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