**Impact and cost-effectiveness of RSV maternal immunization in Gavi countries**

Ranju Baral, Clint Pecenka\*

\*Corresponding author. PATH, [cpecenka@path.org](mailto:cpecenka@path.org), +1 206 285 3500

**Background and aims**

Childhood immunization has been a cornerstone of cost-effective reductions in child mortality globally. As childhood mortality falls, a larger share of the global disease burden is centered among young infants and women. These trends have heightened interest in new interventions to address this burden, including maternal immunization. Maternal vaccines to protect young infants from respiratory syncytial virus (RSV) are in advanced stages of development and may be available as early as 2023. Gavi, the Vaccine Alliance is also considering RSV vaccines as part of the 2018 Vaccine Investment Strategy. RSV is estimated to result in approximately 120,000 deaths annually, mostly among young infants in low-resource settings. The purpose of this study is to evaluate the impact and cost-effectiveness of RSV maternal immunization across Gavi countries and a focus on Africa.

**Methods**

This analysis estimates the costs and benefits of RSV maternal immunization in 73 Gavi countries using a static population-based cohort model. We examine costs and impacts from 2023 to 2035 in comparison to no intervention, from government perspective. Disease burden inputs as well as cost inputs were primarily derived from recently published comprehensive systematic reviews. Costs are expressed in 2016 US$. Both costs and DALYs are undiscounted.

**Results**

Under baseline assumptions across Gavi countries, RSV maternal immunization averts nearly 15 million cases, 3 million hospitalizations, and 150,000 deaths. At a vaccine cost of $2 per dose, the average annual cost of vaccination program across all countries for the duration of analysis was estimated to be about $211 million. The economic value of care averted was about $10 million. The incremental cost-effectiveness ratio (ICER) per Disability Adjusted Life Years (DALYs) is estimated to be $185. Results are discussed for all countries as well as the African Region.

**Conclusions**

RSV maternal immunization is projected to be an impactful and cost-effective intervention in Gavi countries and the African Region. As the infant vaccine schedule becomes increasingly crowded and disease burden shifts toward neonates, maternal immunization offers the opportunity to protect young infants from disease and may also enhance maternal health.