

## Towards the introduction of pneumococcal conjugate vaccines in Bhutan: A cost-utility analysis to determine the optimal policy option

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### INTRODUCTION

- There are competing health priorities and limited resources
- Need of evidence on cost and benefit of introducing PCV in the routine immunization program of Bhutan.
- Should Bhutan opt for PCV10 or PCV13?

### METHODS

1. A government perspective, Cost-utility analysis of PCV 10 and PCV13 vs No PCV using a Markov model
2. Health outcomes in terms of pneumococcal-episode and death averted due to PCV and Quality-Adjusted-Life-Year (QALY) gained
3. Uncertainty analysis- PSA and one-way SA
4. Budget and Human Resource impact analysis

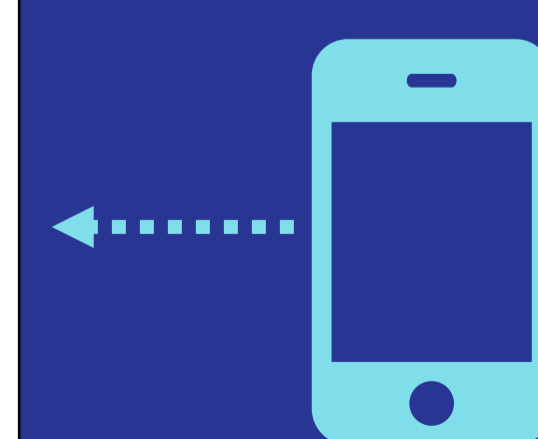
### RESULTS

- Compared to no vaccination, both PCV10 and PCV13 are cost-effective at Gavi price with ICERs per QALY gained of USD 36 and USD 40, respectively.
- FTE of health assistant would increase by 2 while the FTE of other health workers would decrease, particularly for specialists and nurses
- Total budgetary requirement are USD 3.77 million and USD 3.75 million for PCV10 and PCV13, respectively.

### DISCUSSION

- PCV at Gavi access price would be cost-effective in Bhutan, at the threshold of 1 time GDP per capita per QALY gained.
- PCV13 would be a preferable choice as it would yield better health out-comes and would incur a lower five-year budget.
- The vaccination program would significantly reduce the work-load of health workers, especially specialists and nurses. As there is only handful of pediatricians in the country, reducing one FTE of a pediatrician could be very significant.
- Inclusion of PCV into the routine immunization program in Bhutan is recommended and PCV13 is a preferable choice

Introduction of PCV into the routine immunization is cost-effective for Bhutan and PCV13 would be a preferable choice.



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