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## COST-EFFECTIVENESS ANALYSIS OF THE INTRODUCTION OF THE PNEUMOCOCCAL CONJUGATE VACCINE (PCV-13) IN THE EGYPTIAN NATIONAL IMMUNIZATION PROGRAM, 2013 Sibak Mohammed

Egypt

**Introduction:** Pneumonia is one of the most important causes of morbidity and mortality in children under 5 in Egypt, and the Ministry of Health of Egypt is considering introducing pneumococcal conjugate vaccine (PCV) in its national immunization program. We performed an economic analysis to evaluate the cost-effectiveness of this vaccine in Egypt and to provide the decision-makers with needed evidence.

**Methods:** The analysis was done using the TRIVAC model. Data included demographic characteristics, burden of disease, coverage and efficacy of the vaccine, health resource utilization and costs of pneumococcal disease vaccination and treatment. Whenever possible, we used national or regional data. Two alternatives were compared: (1) general vaccination of children younger than 5 years with the 13-valent pneumococcal conjugate vaccine (PCV13), using a three-dose schedule without booster, and (2) no vaccination. Outcomes of 10 cohorts from birth to 5 years were analyzed. The study was performed from the governmental perspective and selected public health providers.

**Results:** In comparison to no vaccine, the introduction of PCV13 would be cost-effective, with an incremental cost-effectiveness ratio of US\$ 3916 per disability-adjusted life-year (DALY) averted (government perspective). The total incremental cost of the PCV vaccination program (10 cohorts) would be approximately US\$ 1.09 billion. Over the 10 cohorts, the program would avert 8583 pneumococcal deaths-42% of all pneumococcal-related deaths.

**Conclusion:** The introduction of PCV13 would be a good value for money from the government perspective. It would represent a high-impact public health intervention for Egypt and respond to the National Immunization Technical Advisory Group (NITAG) resolution on reducing pneumonia burden and overall child mortality. Strengthening surveillance will be critical in generating high-quality national data, improving future economic analyses that support evidence-based decisions for introducing vaccines and public health interventions, and in monitoring their impact.

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