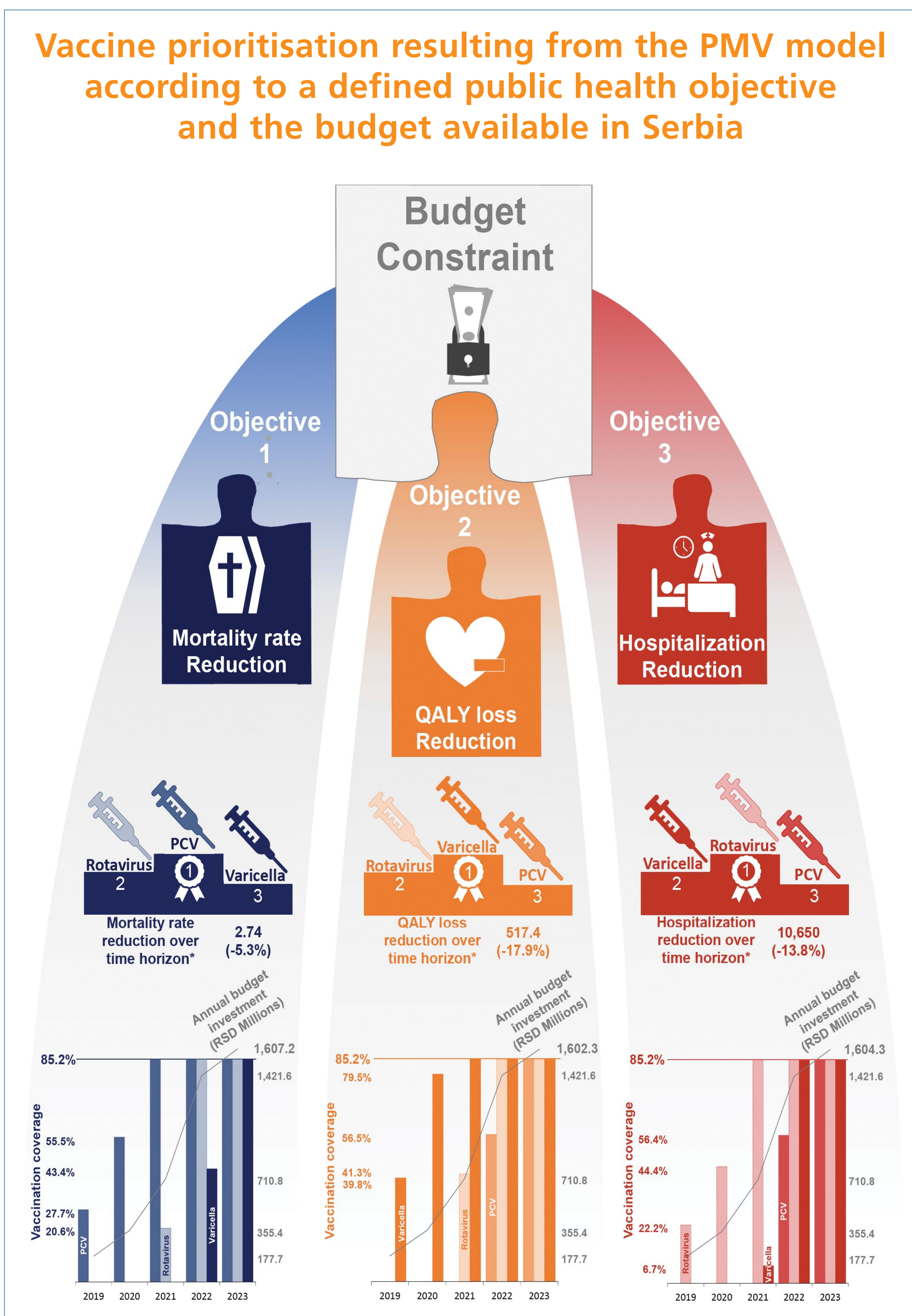


Decision-makers need a comprehensive approach to assess vaccination program expansion options in function of their public health objectives. We propose the PMV model that was implemented in the case of Serbia and perceived as helpful by external experts

Vaccine prioritisation resulting from the PMV model according to a defined public health objective and the budget available in Serbia



A NEW WAY TO INFORM DECISION-MAKER AND ENHANCE VACCINATION PROGRAMS IN COUNTRIES WITH LIMITED BUDGETS: THE CASE OF SERBIA

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Background

- Many countries with limited budget strive to develop a comprehensive vaccination program
- Information for NITAG and decision-makers often focused to a single new vaccine impacting one specific disease in a specific target group, showing cost-effective results

Objective

- We developed an approach to simultaneously compare multiple paediatric vaccines which enabled their ranking according to multiple pre-defined outcomes applied to the Serbian setting

Methods

- We developed the PMV to analyse a comprehensive paediatric immunization program, to prioritise vaccine selection and plan the budget over time
- PMV includes all the vaccines that could be added to the immunization programme in children with the evaluation of improvement of various outcome measures such as mortality reduction, QALY lost reduction, cost offsets, hospitalisation and medical visits reduction
- Using a constrained optimisation algorithm, the model provides an optimal path of vaccine introduction, budget requirements for vaccination planning over several years, cost-offsets obtained to be reallocated in the system for the selected country

Results

- PMV presented in Nov 2018 to external experts including NITAG members
- Based on the 3 vaccines that were evaluated (rotavirus, varicella, pneumococcal), the PMV proposed rotavirus and varicella vaccines as the priority choices when looking for reducing hospitalizations and QALY loss, respectively
- The pneumococcal vaccine was prioritized for mortality reduction
- The experts felt better informed about the proposals made because of the comparison among different vaccines resulting in priority setting and a concrete budget plan
- As a follow-up, they requested in-depth evaluation of those two vaccines

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*Percentage calculated by comparison with No vaccination. NITAG, National Immunization Technical Advisory Group; PCV, Pneumococcal Conjugated Vaccine; PMV, Portfolio Model for Vaccination; QALY, Quality Adjusted Life Year.

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