

# COST-EFFECTIVENESS AND BUDGET IMPACT ANALYSES OF PNEUMOCOCCAL VACCINATION IN INDONESIA

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## INTRODUCTION

As a country with high prevalence of pneumococcal disease, Indonesia has not yet implemented nationwide pneumococcal vaccination. This study aimed to analyze the cost-effectiveness and budget impact of pneumococcal vaccination in Indonesia.

## METHODS

An age-structured cohort based on a decision tree model was developed by making comparison between two vaccines (PCV-10 and PCV-13) within two pricing scenarios (UNICEF and government contract price) in a 6-year time horizon analyses.

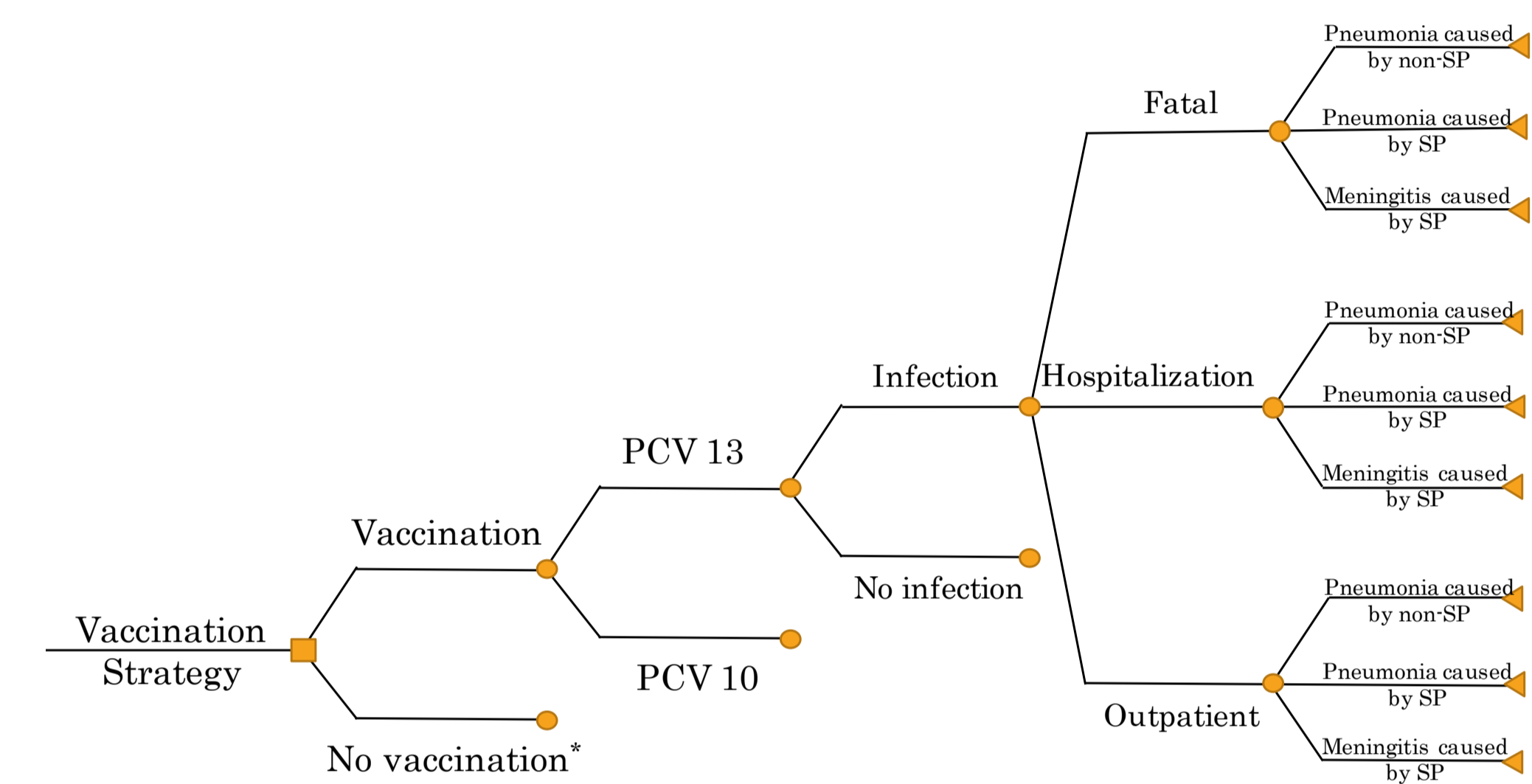


Figure 1. Decision tree model

## RESULTS

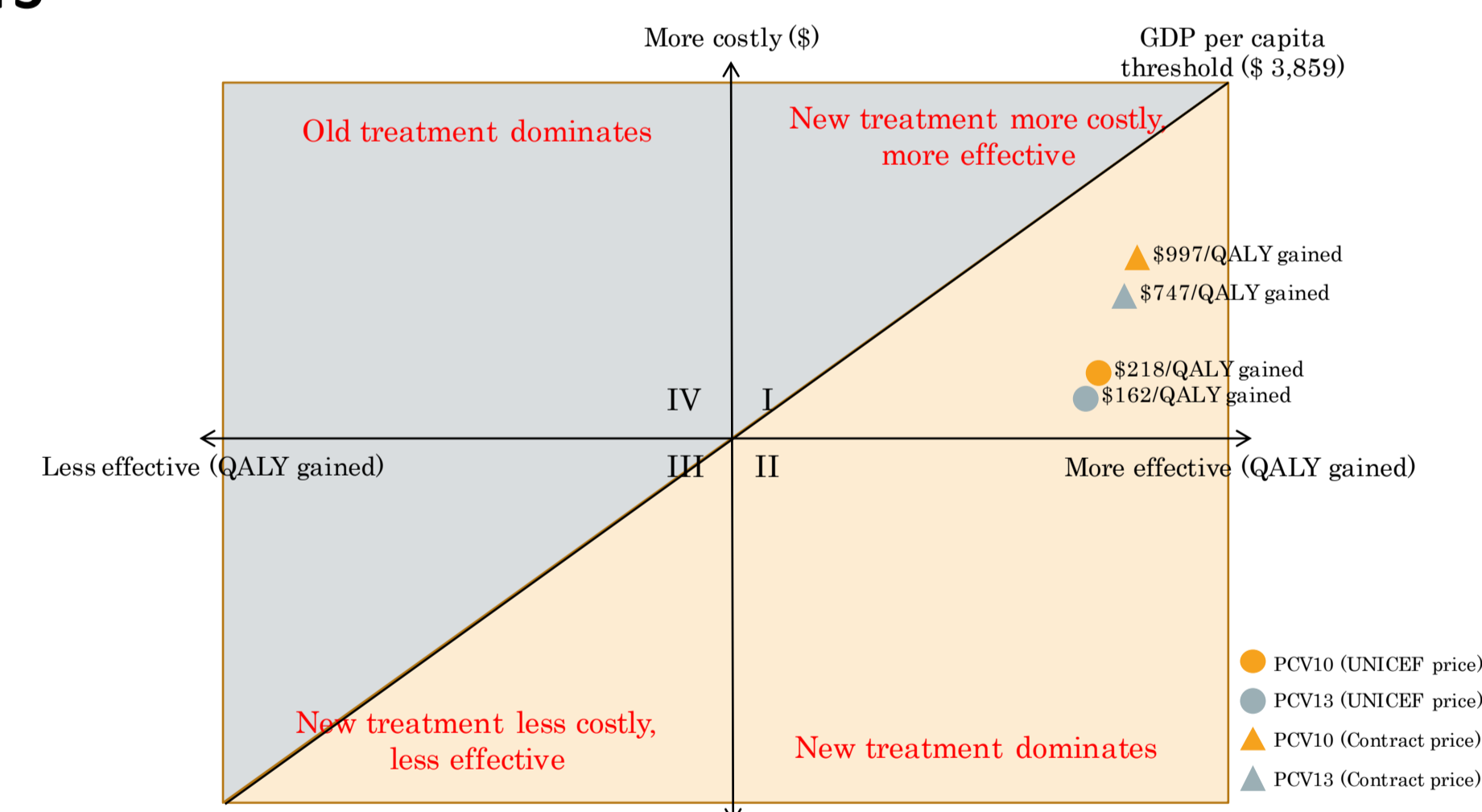


Figure 2. Cost-effectiveness plane

Table 1. Total cost of pneumococcal vaccination (PCV13) in 2019-2024

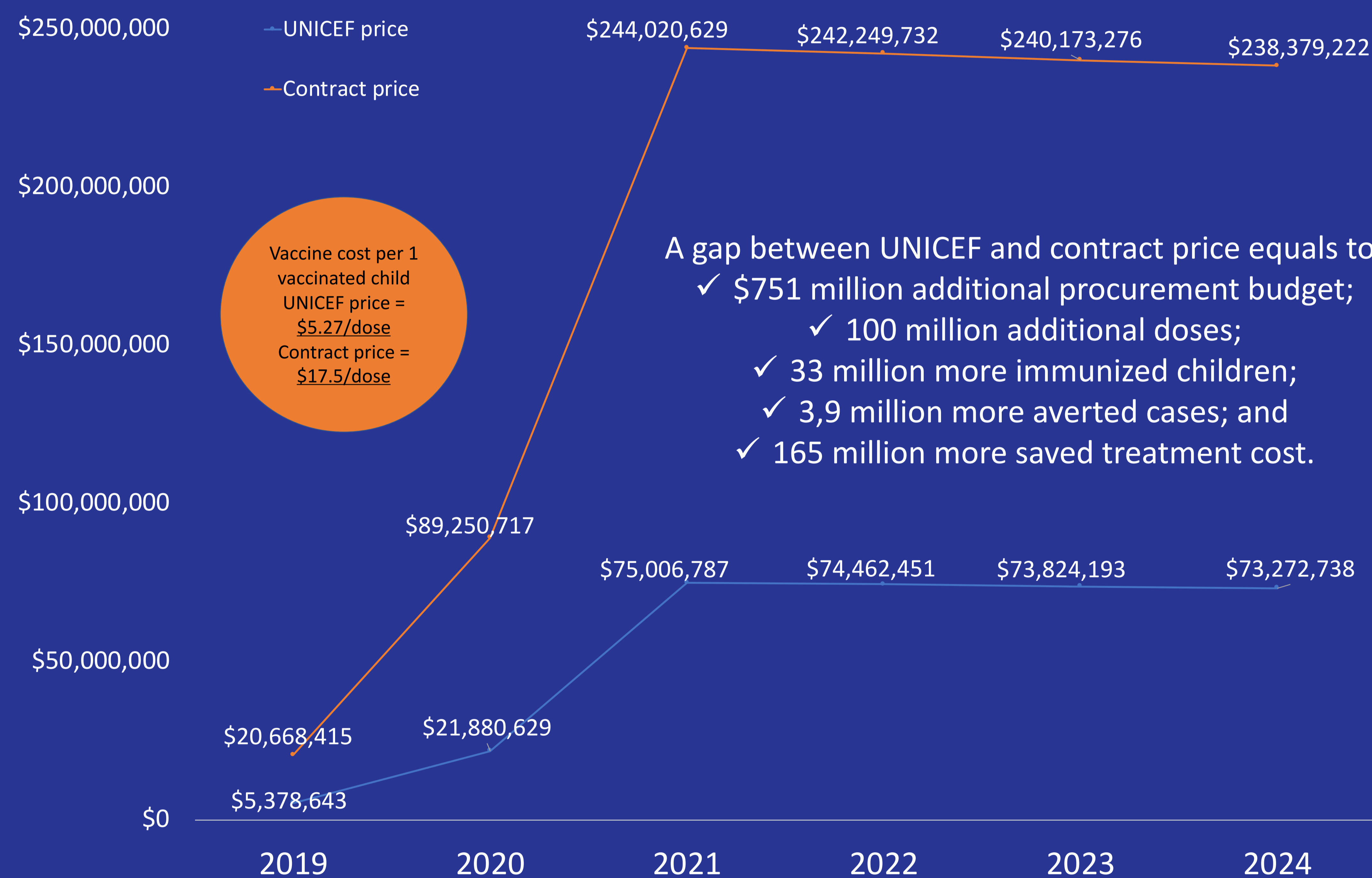
	2019	2020	2021	2022	2023	2024
Routine immunization budget	\$279,239,499	\$292,515,137	\$307,072,148	\$323,453,288	\$339,186,019	\$355,260,333
PCV13 immunization (UNICEF price)	\$5,378,643	\$21,880,629	\$75,006,787	\$74,462,451	\$73,824,193	\$73,272,738
PCV13 immunization (Contract price)	\$30,668,415	\$89,250,717	\$244,020,629	\$242,249,732	\$240,173,276	\$238,379,222
PCV compared to routine (UNICEF price)	1.93%	7.48%	24.43%	23.02%	21.77%	20.63%
PCV compared to routine (Contract price)	7.40%	30.51%	79.47%	74.89%	70.81%	67.10%

## DISCUSSION

- PCV13 is more cost-effective than PCV10.
- Pneumococcal vaccination is highly cost-effective.
- Is it affordable to be implemented nationwide?

- Vaccine cost per 1 vaccinated child was estimated to be \$5.27/dose and \$17.5/dose under UNICEF and contract price, respectively.
- Nationwide vaccination would require 21-24% and 67-79% of routine immunization budget under UNICEF and contract price, respectively.

## PCV13: UNICEF vs Contract Price

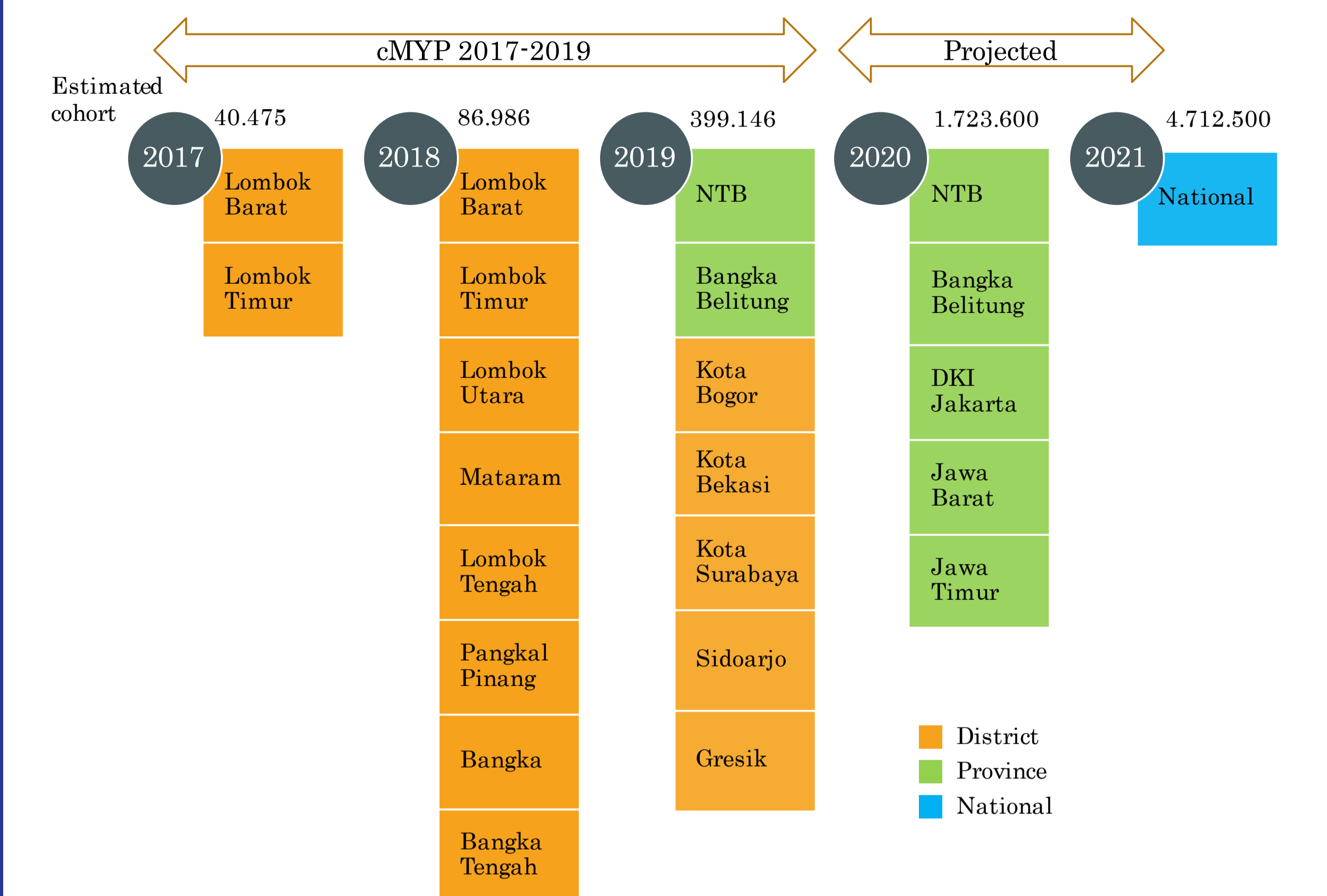


Vaccine cost per 1 vaccinated child  
 UNICEF price = \$5.27/dose  
 Contract price = \$17.5/dose

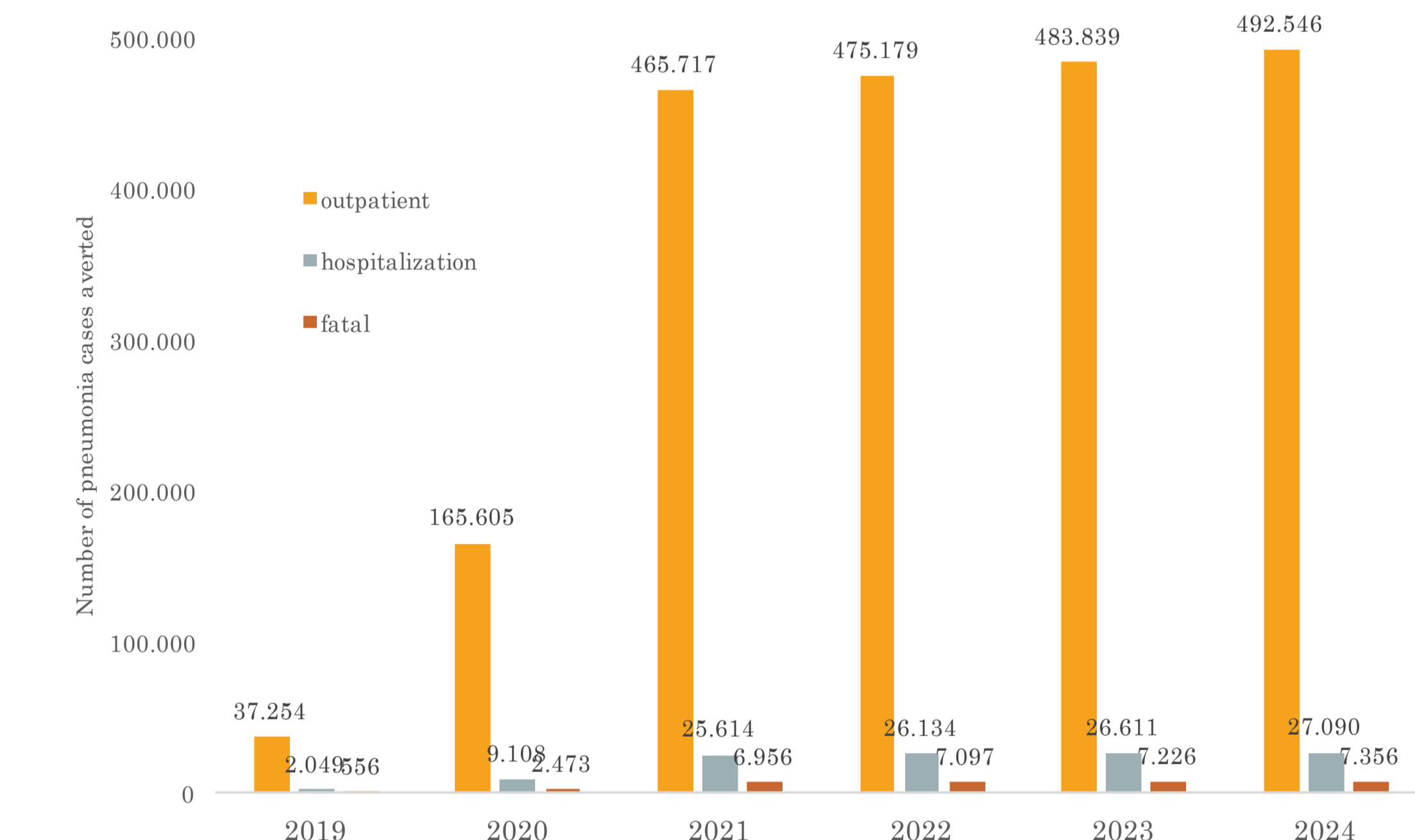
A gap between UNICEF and contract price equals to:

- ✓ \$751 million additional procurement budget;
- ✓ 100 million additional doses;
- ✓ 33 million more immunized children;
- ✓ 3,9 million more averted cases; and
- ✓ 165 million more saved treatment cost.

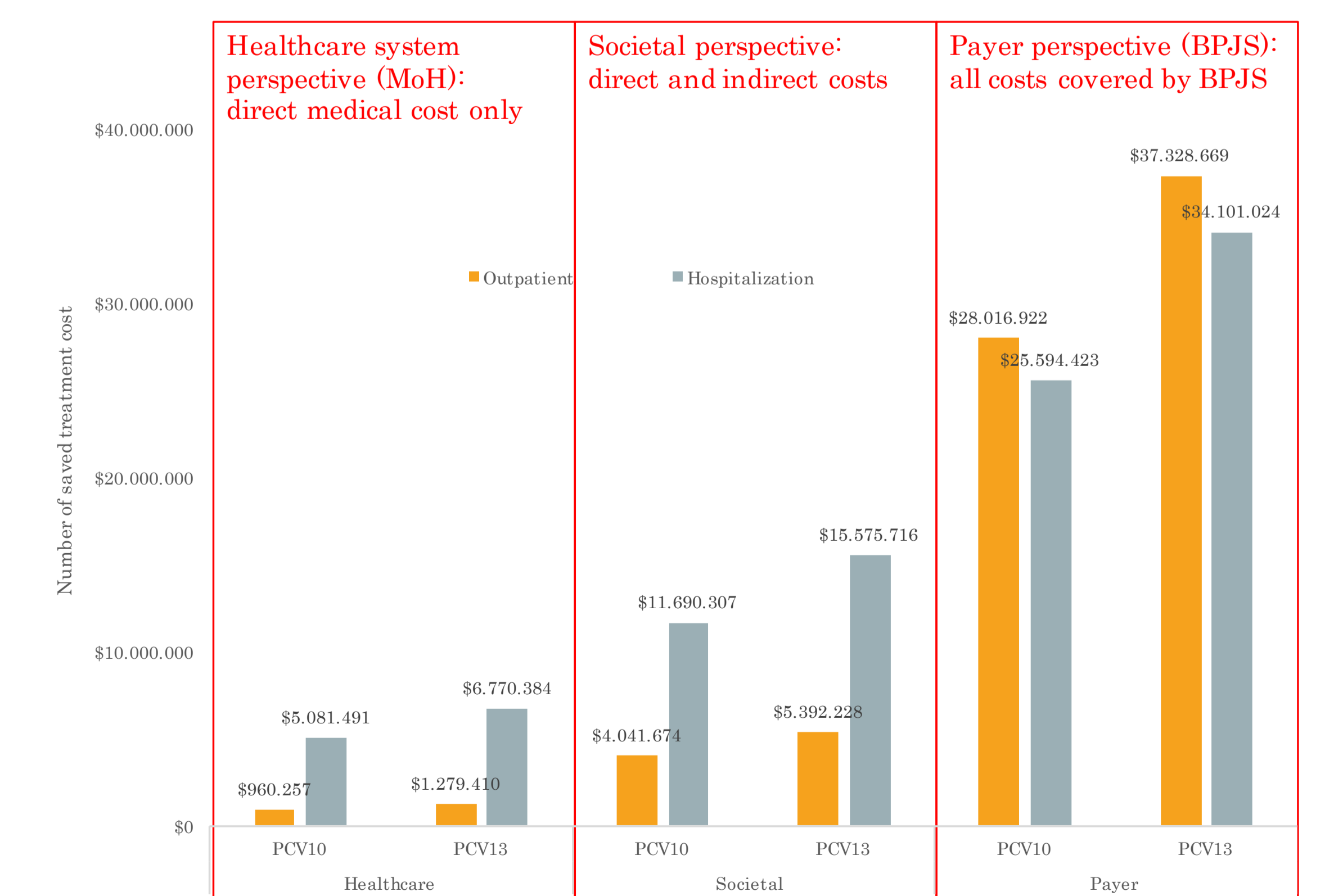
## POTENTIAL TARGETED REGION FOR PCV VACCINATION



## POTENTIAL NUMBER OF CASES AVERTED (<5 YEARS OLD) THROUGH PCV13 VACCINATION IN A PERIOD OF 2019-2024



## CUMULATIVE NUMBER OF SAVED TREATMENT COST (2019-2024)



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