

# THE VALUE OF VACCINE PROGRAMS

BRIEF ON NEW RETURN ON INVESTMENT (ROI)  
ESTIMATES FROM THE DECADE OF VACCINE  
ECONOMICS STUDY

## **ROI estimates help mobilize immunization investments**

As the global community works toward establishing a new vision and strategy for the next decade, estimating the value of global investment in immunization programs is critical to helping funders and countries plan and mobilize immunization programs and allocate resources required to realize their full benefits.

In the coming decade funders and governments will continue to face high demand for health investments to make

progress toward the United Nations Sustainable Development Goals and the achievement of universal health coverage by 2030.

In addition, new challenges such as the COVID-19 pandemic, humanitarian crises, climate change, and vaccine hesitancy require further political commitment and contributions to protecting hard-won gains achieved during the past decade.

# WHAT VALUE DO VACCINES OFFER?

## ROI estimates highlight the strong economic value of vaccines

Social return-on-investments help compare investments in health, such as vaccine programs, with other public social investments such as infrastructure, education, and social safety nets—all of which have different success metrics. Health planners now have two updated estimates for what economic return investments in immunization programs will recoup over the course of a decade.

A US\$1 investment in vaccines for ten infectious diseases in 73 low- and middle-income countries that have received support from Gavi, the Vaccine Alliance will return US\$21 according to the cost-of-illness approach, and \$54 according to the value-of-a-statistical life approach, from 2021-2030.

**\$21**  
USD

**ROI FOR \$1 IN  
COST OF  
ILLNESS  
APPROACH**

**\$54**  
USD

**ROI FOR \$1 IN  
VALUE-OF-A-  
STATISTICAL-  
LIFE  
APPROACH**

**73**

**GAVI  
COUNTRIES  
STUDIED**

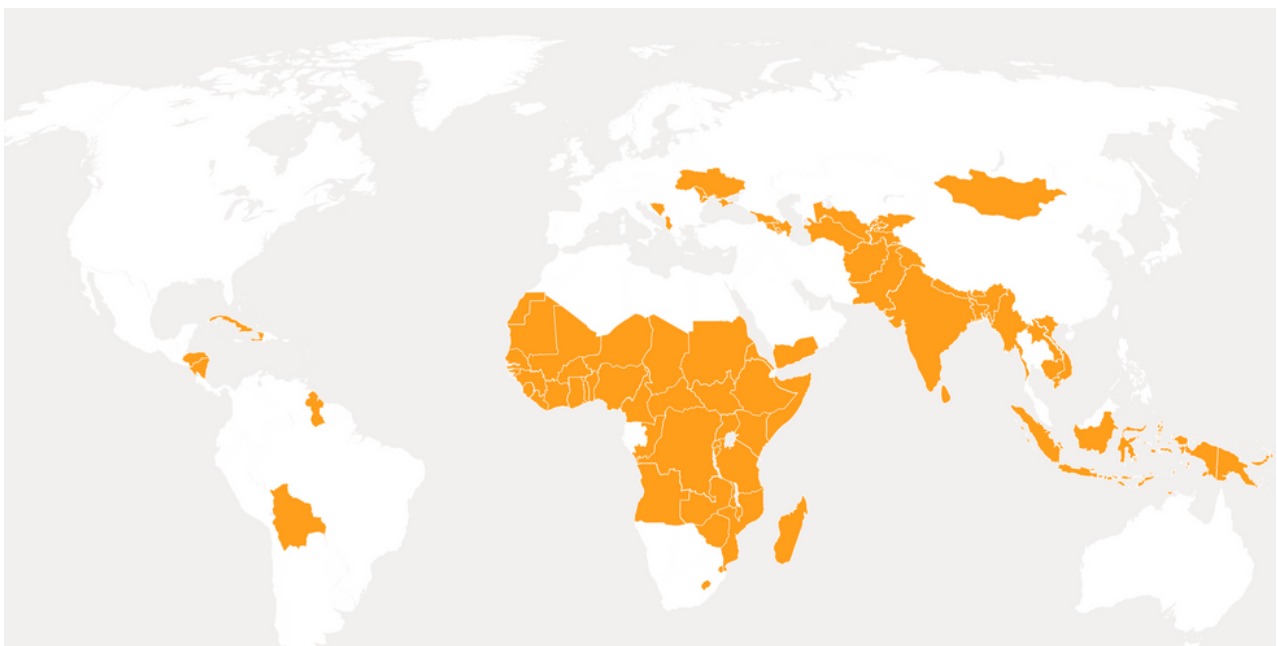
**\$782**  
BILLION USD

**TOTAL  
ECONOMIC  
BENEFITS  
ACROSS THE  
DECADE**

# WHICH VACCINES WERE STUDIED?

## Study's scope included 10 vaccines routinely used in childhood and adolescence

This study measured the impact of immunization programs against ten pathogens: Haemophilus influenzae type b, hepatitis B, human papillomavirus, Japanese encephalitis, measles, Neisseria meningitidis serotype A, Streptococcus pneumoniae, rotavirus, rubella, and yellow fever. The study projected costs and economic benefits for seventy-three current and former Gavi-supported countries across six World Health Organization regions for the period 2021-30 (see map).



73 low- and middle-income countries were included in the DOVE analysis.

# HOW ECONOMISTS MEASURED ROI FOR VACCINES

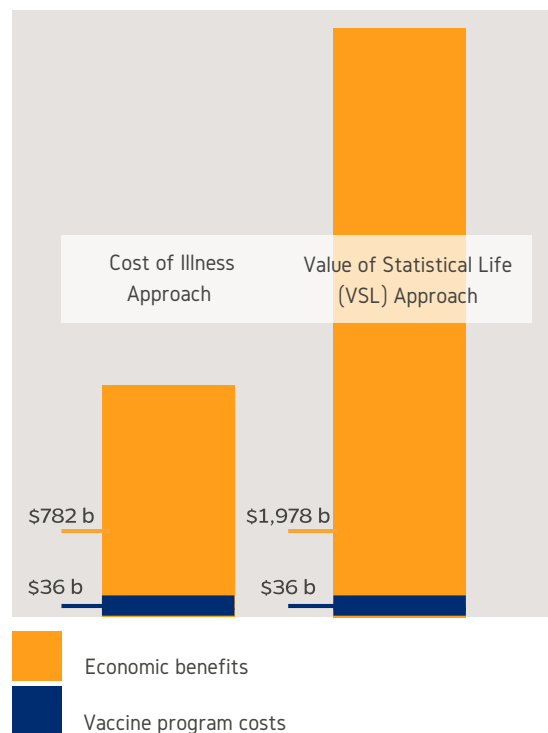
## Cost of vaccine programs

To calculate the return on investment (ROI) for vaccine programs, economists first total all costs for routine immunization and supplemental immunization activities: vaccine costs, including injection supplies; and freight and immunization delivery costs, including labor, storage, transportation-related costs, and other capital and recurrent costs. The total for 2012-2030 is projected to be US\$36.2 billion.

## Comparing economic benefits

Then economists tally vaccine program benefits. Using the Cost of Illness (COI) model, economists count up treatment costs, transportation costs, and caregiver wages, plus productivity losses due to child death and disability. Productivity losses account for more than 98.9% of costs. Costs averted via immunization programs in 73 countries will amount to an estimated US\$781.6 billion for the next decade. With the COI approach, the estimated net benefit of vaccine programs is about 21 times larger than forecasted costs from 2021-30.

$$ROI = \frac{\text{Benefits} - \text{Investments}}{\text{Total Costs}}$$



Improvements in health also have value beyond health system costs averted and losses in economic productivity. To capture other benefits, the DOVE model estimates the benefits of vaccines from a Value of a Statistical Life (VSL) approach. A rigorously derived VSL finds that vaccine programs in the same Gavi countries are expected to generate approximately US\$2 trillion in benefits from 2021-2030, making the anticipated future ROI US\$54 for every US\$1 invested in vaccine programs.

# THANK YOU

THE DECADE OF VACCINE ECONOMICS (DOVE) PROJECT WAS CARRIED OUT BY THE JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH'S INTERNATIONAL VACCINE ACCESS CENTER (IVAC) FOR NEARLY TEN YEARS. FOR MORE INFORMATION ON THE ESTIMATES, VISIT [VACCINEROI.ORG](https://vaccineroi.org).