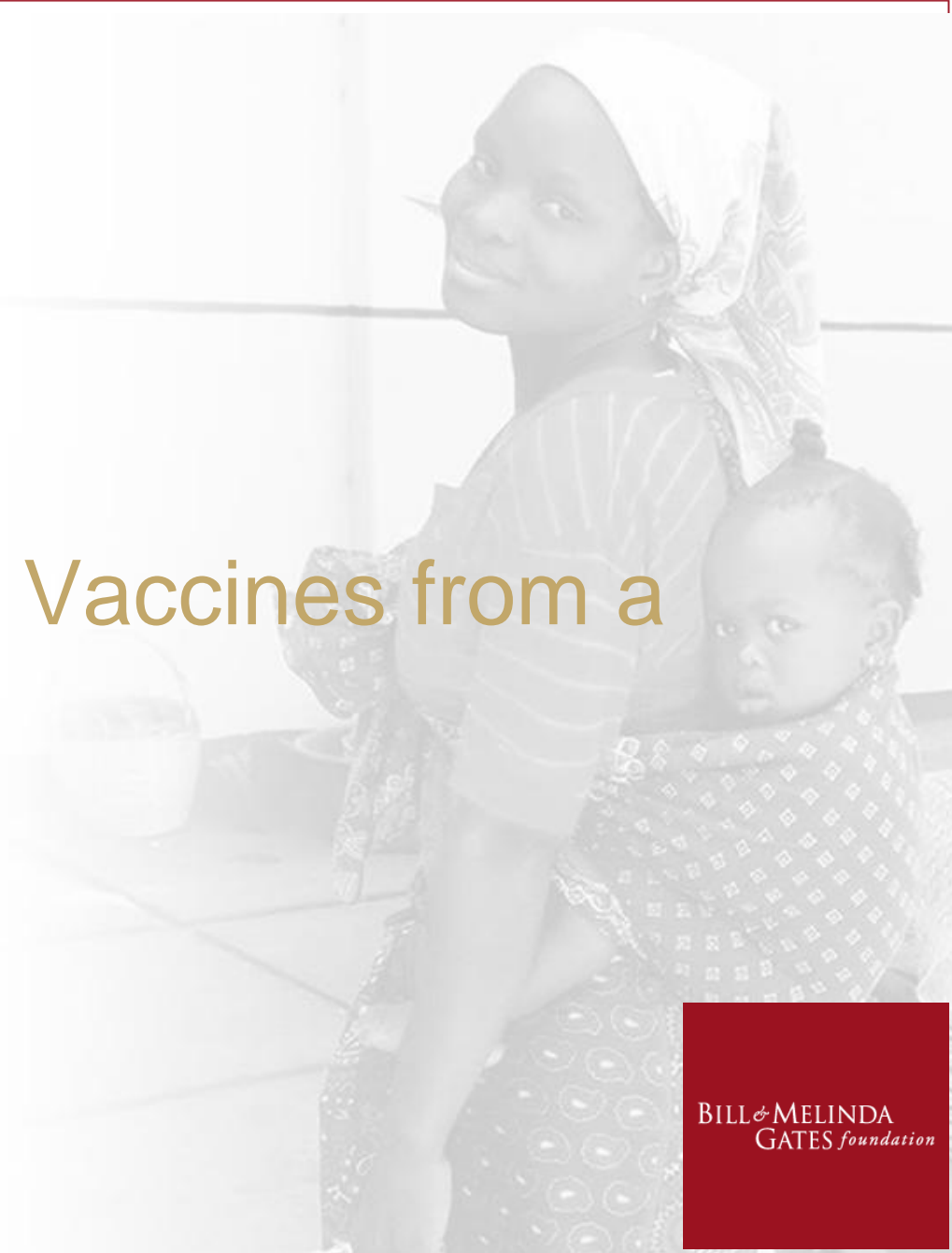


# Global Health and Vaccines from a donor perspective



# Contents

- The global health triple problem
- Snapshot of the foundation
- Foundation and vaccines

# The Global Health Problem

## **Burden:**

6 m annual AIDS, TB,  
malaria deaths

1.7m annual child deaths  
due to VPDs

## **Uptake & Coverage:**

5 years for US Drug  
launch to peak sales;

20 years and counting  
since Safe Motherhood  
Initiative to 55%  
coverage

## **10/90 Medical Research:**

\$70 billion annual  
medical research;

<10% for the diseases  
causing 90% of global  
morbidity / mortality

# Proven Successes in Global Health – case studies

Eradicating smallpox

Preventing HIV/STDs in Thailand

Trachoma in Morocco

Health in Mexico

Infant diarrhea deaths in Egypt

Onchocerciasis in Africa

Polio in the Americas

TB in China

Safe motherhood in Sri Lanka

Guinea worm control in Africa and Asia

Tobacco use in Poland

Measles in Southern Africa

Hib in Chile and Gambia

Iodine deficiency in China

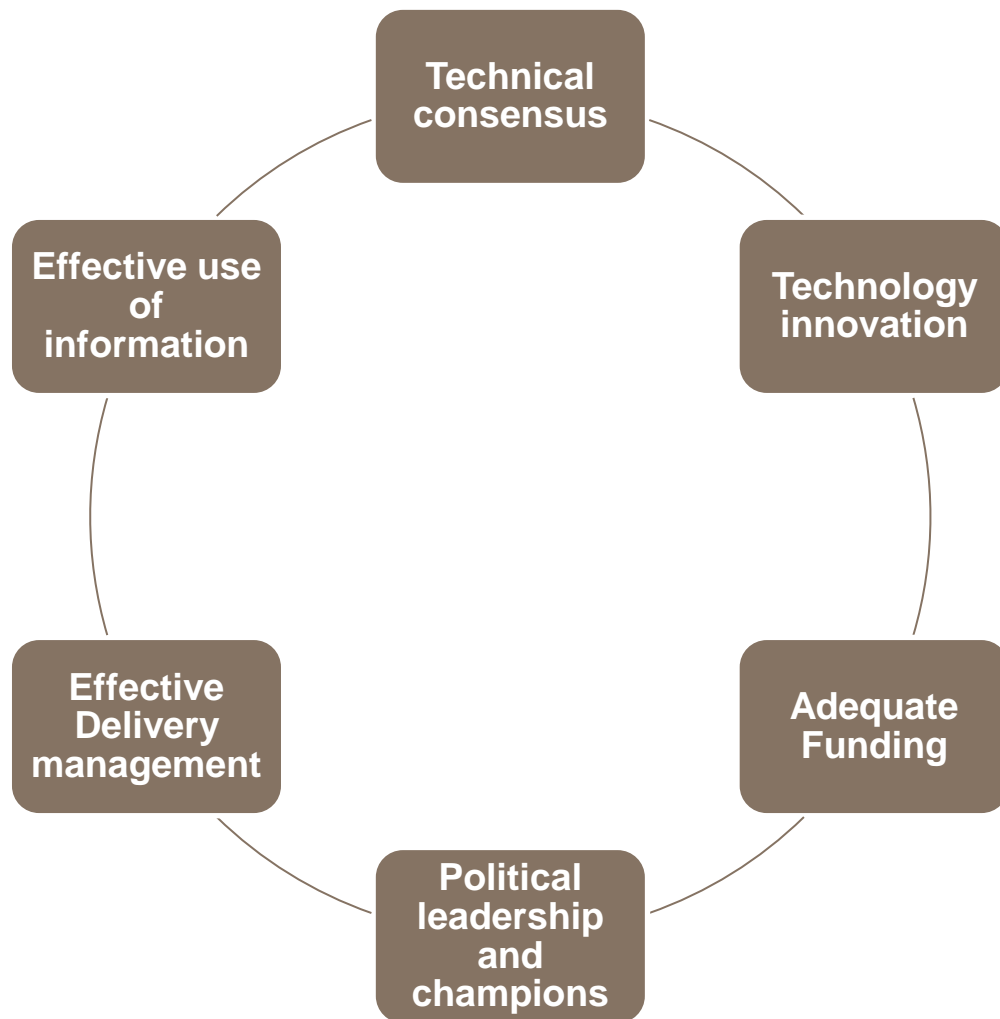
Flouridation in Jamaica

Chagas in Southern Cone through vector control

Fertility in Bangladesh

Source: Levine, R., *Millions Saved: Proven Successes in Global Health*, Center for Global Development, What Works Working Group, 2005

# Proven Successes in Global Health – common elements



Source: Levine, R., *Millions Saved: Proven Successes in Global Health*, Center for Global Health, What Works Working Group, 2005 . [www.cgdev.org/globalhealth](http://www.cgdev.org/globalhealth)

# Snapshot of the Foundation

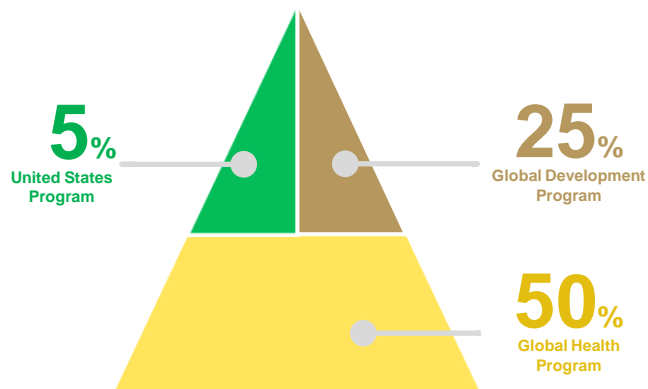
## What We Focus On

- What affects the most people?
- What has been neglected?
- Where can we make the greatest impact?

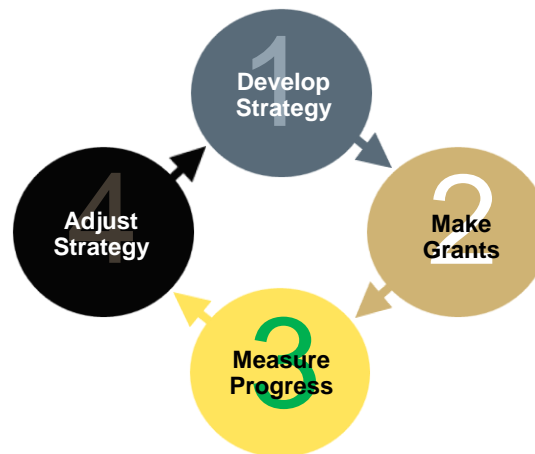
## How We Focus

- Form critical partnerships.
- Take big risks.
- Find scalable, sustainable solutions.
- Leverage science and technology.

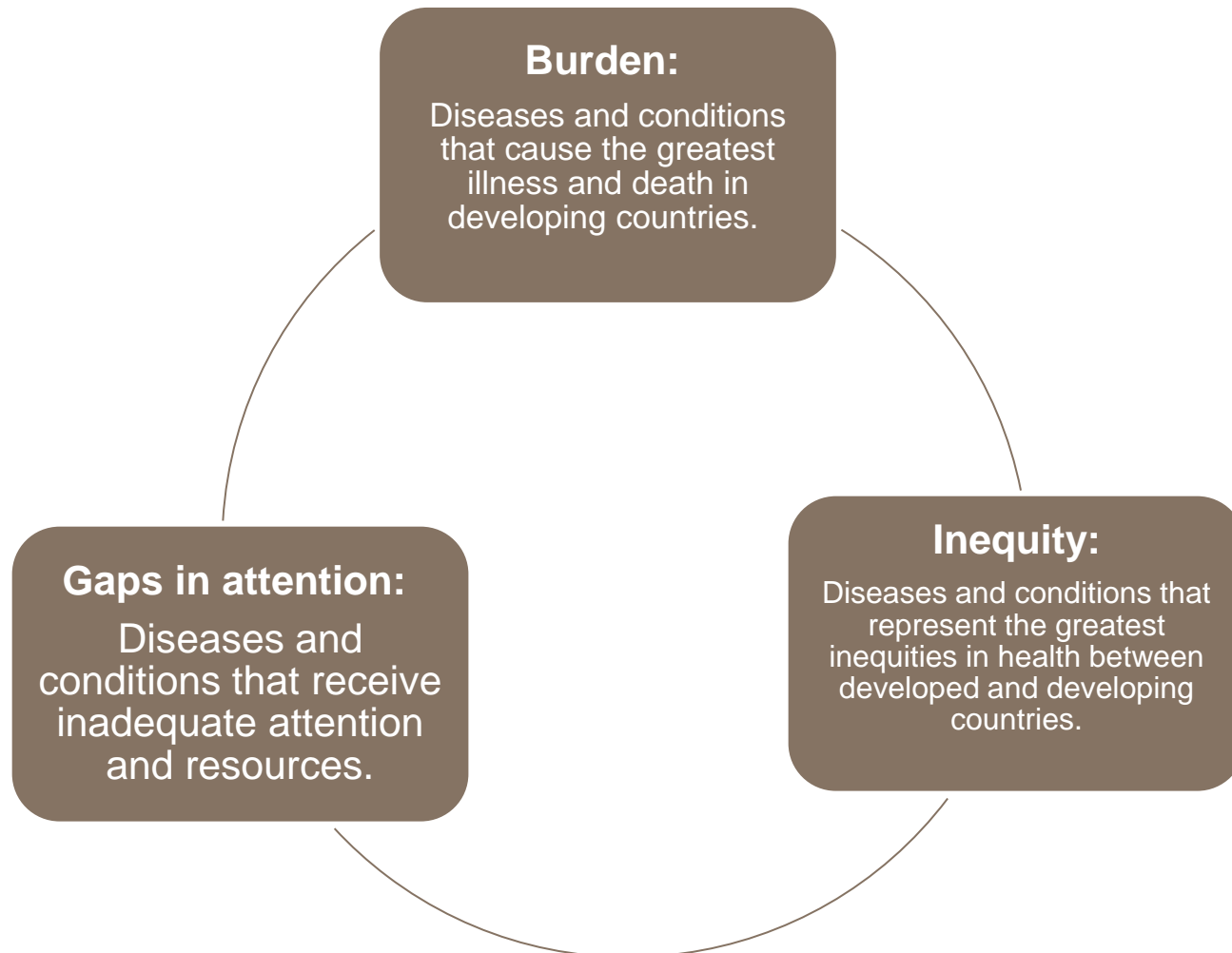
## Our Program Areas



## Our Approach to Giving



# Foundation criteria for focus diseases and conditions



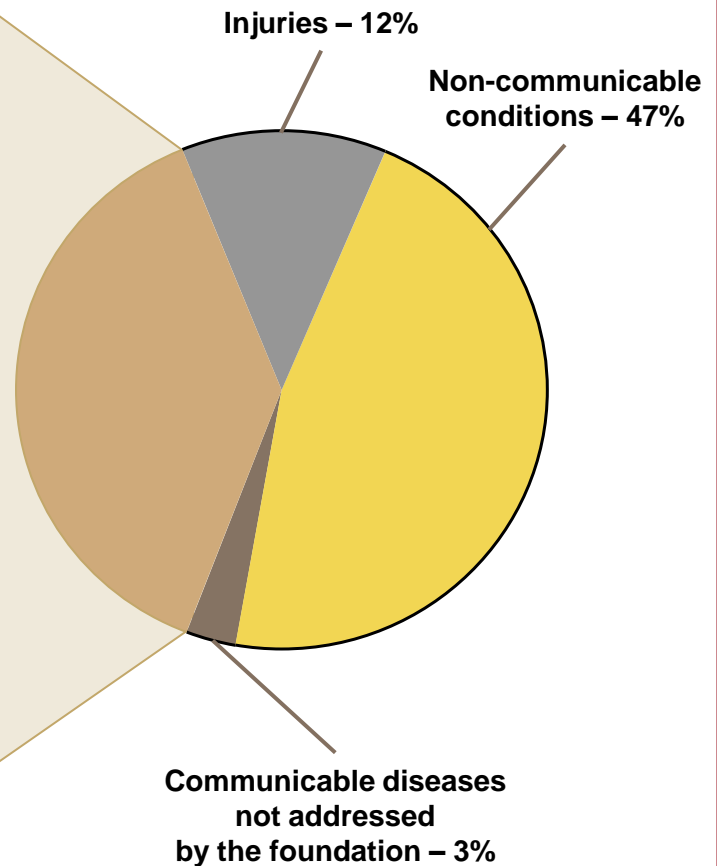
# Foundation Global Health Priorities

## Our Areas of Focus

- **Infectious Diseases**
  - Malaria
  - Tuberculosis
  - Diarrheal Illness
  - Pneumonia
- **HIV/AIDS**
- **Family Health**
  - Nutrition
  - Maternal, neonatal, child
  - Family planning
- **Vaccine Preventable Diseases (e.g. Polio)**

**38% of the global health burden**

## Global Health Burden





## The Foundation's Strategic Approach to Global Health

### 1 Creating & Improving Health Interventions

- **Research and development to:**
  - Develop new health technologies, tools, and strategies, including conducting clinical trials
  - Modify existing technologies

### 2 Accelerating Access to Interventions

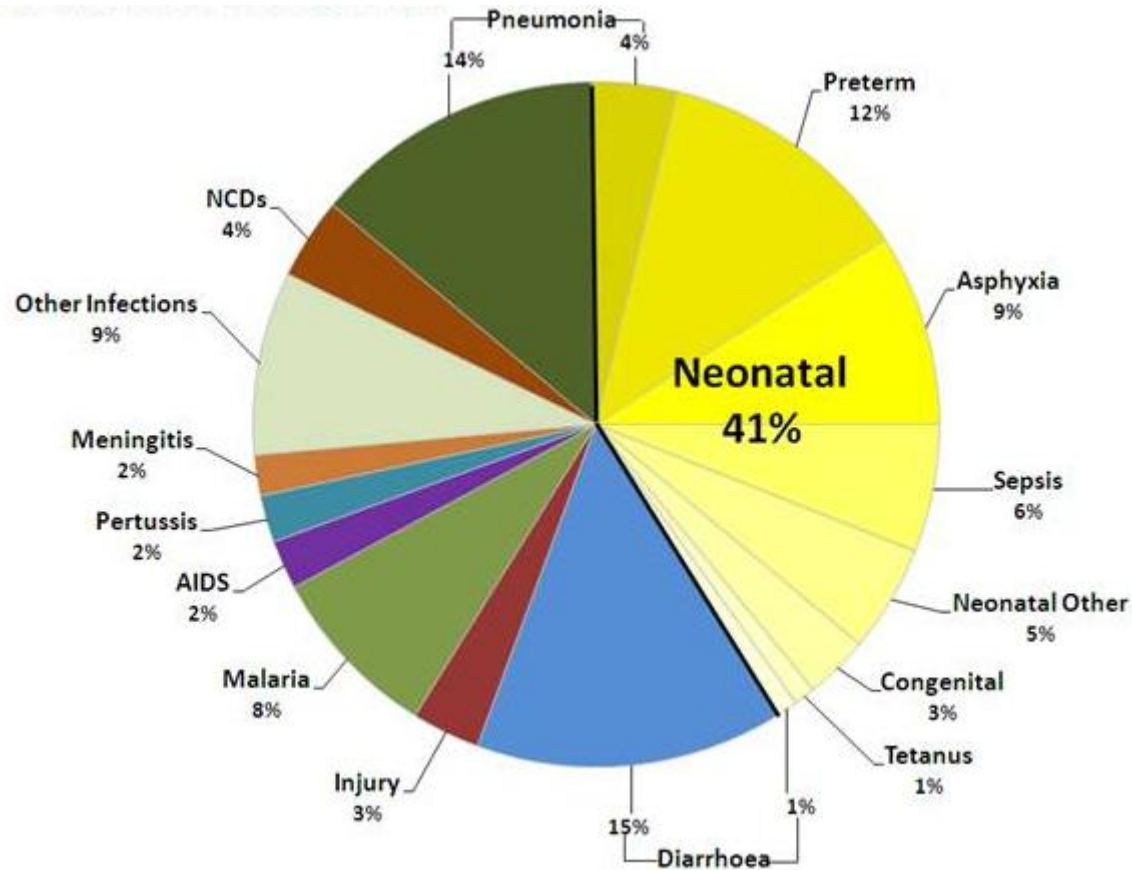
- **Product introduction**, including mechanisms for financing, procurement, delivery, and access
- **Large-scale demonstrations of health interventions**, including effectiveness trials and operational research
- **Facilitating widespread access, through:**
  - Advocacy
  - Financing mechanisms
  - Public health leadership development
  - Evidence to guide decision-making
  - Initiatives to improve product delivery and demand

# A Call for the Decade of Vaccines

- Call to donors, governments, private sector to advance global immunization goals
- Committed \$10 billion over 10 years
- Efforts for vaccine discovery, development, delivery
- Potential to save 8 million child lives by 2020 with existing vaccines
- Insufficient to address global immunization needs – others must join



# Global causes of child deaths



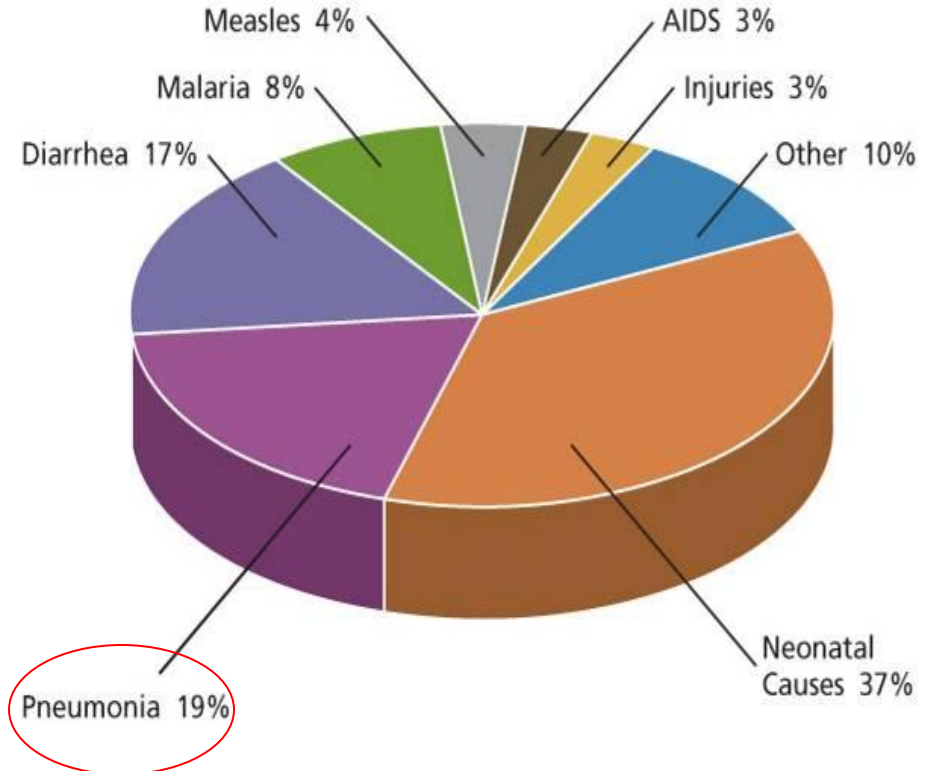
Robert E. Black,<sup>1</sup> Simon Cousens,<sup>2</sup> Hope L. Johnson,<sup>1</sup> Joy E. Lawn,<sup>3</sup> Igor Rudan,<sup>4</sup> Diego G. Bassani,<sup>5</sup> Prabhat Jha,<sup>5</sup> Harry Campbell,<sup>4</sup> Christa Fischer Walker,<sup>1</sup> Richard Cibulskis,<sup>6</sup> Thomas Eisele,<sup>7</sup> Li Liu<sup>1</sup> and Colin Mathers<sup>8</sup> for the Child Health Epidemiology Reference Group of the World Health Organization and UNICEF.

Global, Regional and National Causes of Child Mortality, 2008.  
Lancet, in press

# Global burden of acute respiratory infections

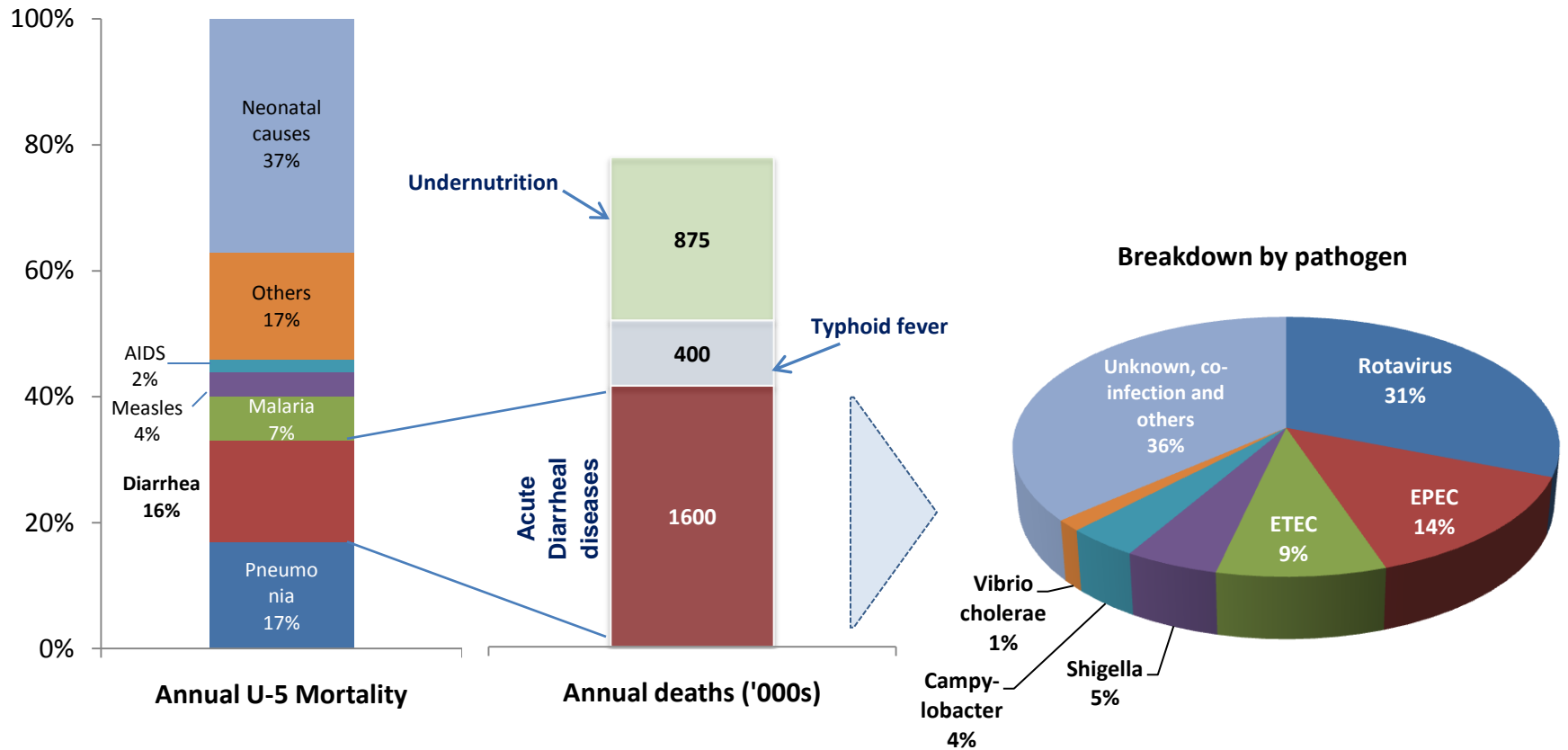
- Pneumonia: 2 M child deaths < 5 years of age each year.
- Pneumococcal disease: 1.6 M deaths each year, 1 M of which are children under age 5.

Major causes of death in children under age five



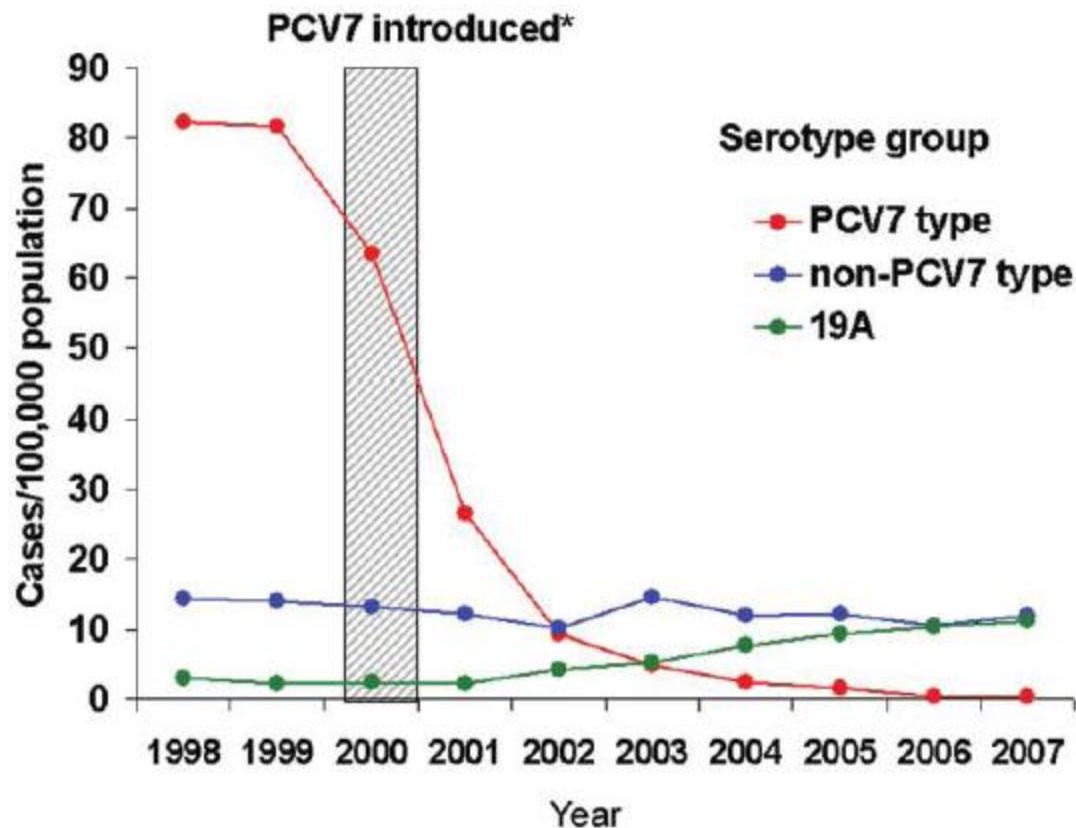
(Source: WHO. World Health Statistics 2009.)

# Enteric and Diarrheal Disease Burden



# Routine use of 7-valent pneumococcal conjugate vaccine (PCV-7) has resulted in substantial health benefits

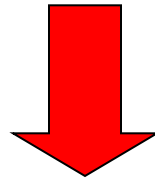
## *Invasive pneumococcal disease in children under 5, USA*



- > 30M children safely and effectively vaccinated
- Routine use in U.S. has virtually eliminated serious childhood pneumococcal disease caused by serotypes included in the vaccine
- Indirect effects are pronounced among adults and children

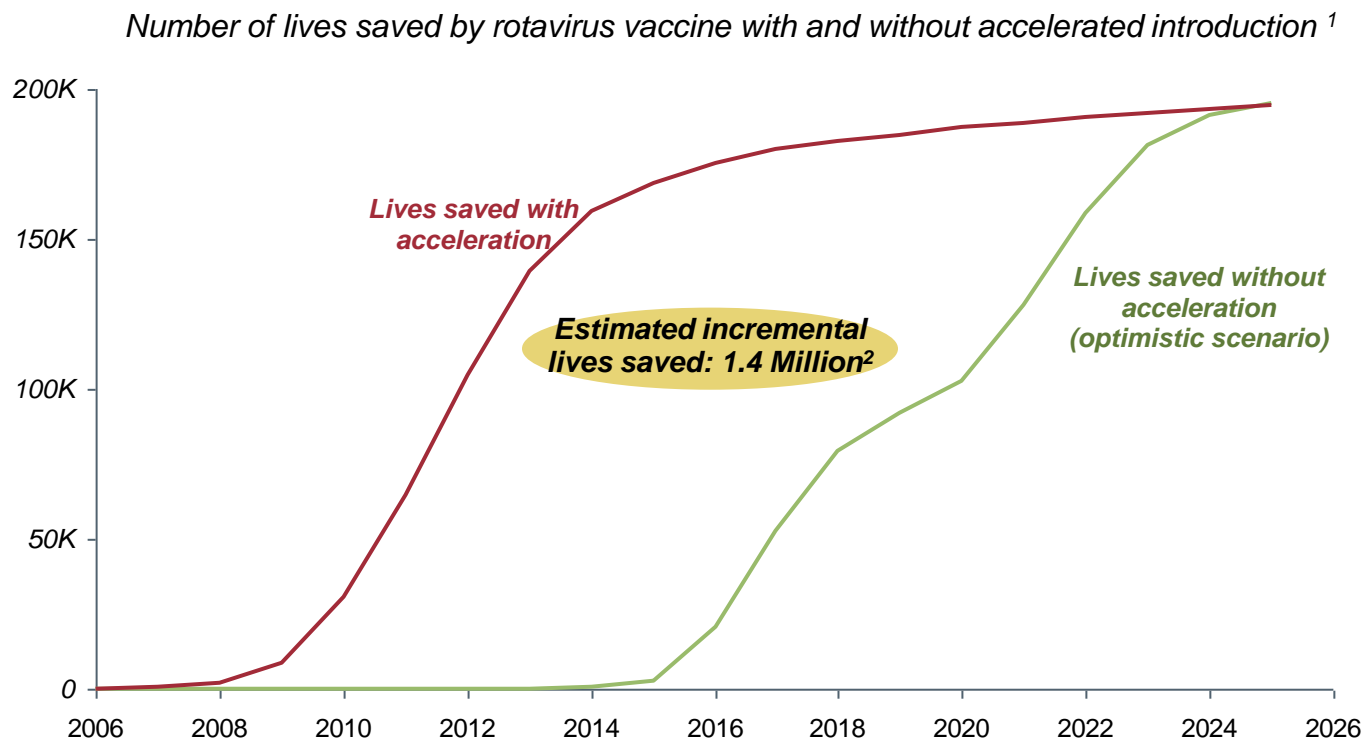
# Pneumococcal vaccine significantly improves child survival in the Gambia

All-cause mortality was decreased by 16% (95% CI 2-38%) in children vaccinated with 9-valent pneumococcal vaccine



7 deaths were prevented for every 1000 children vaccinated

# Acceleration of rotavirus vaccine adoption by Rotavirus Vaccine Program (RVP) is predicted to save 1.4M lives



**Rotavirus Vaccine Program (RVP) is one of the several Accelerated Development and Introduction Plans (ADIPs) funded by GAVI to speed uptake and introduction of new vaccines. The RVP program is carrying out this mission in a number of ways:**

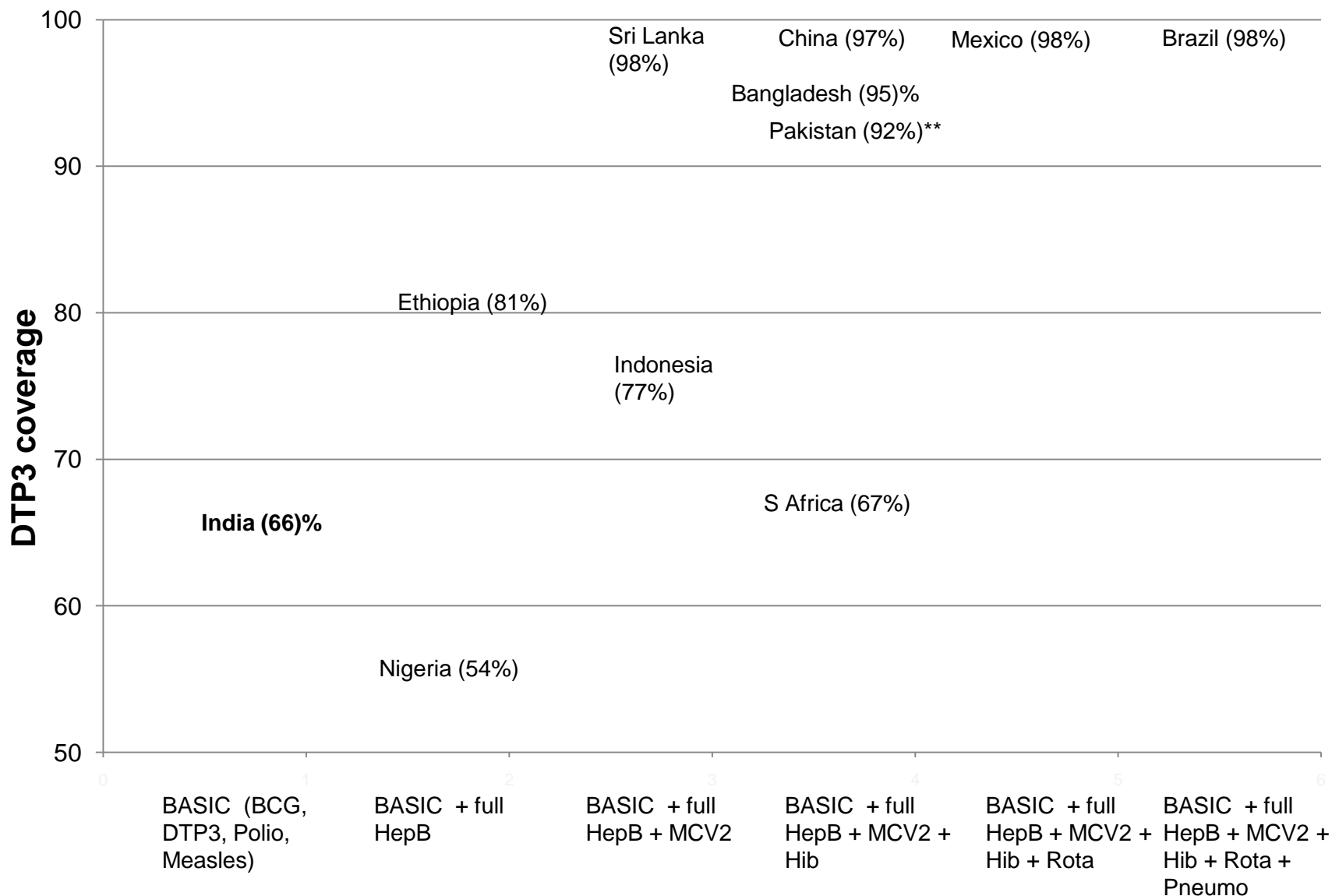
- Redesign product and packaging to fit existing cold chains
- Support PII/PIII efficacy trials in developing countries
- Build investment case and show cost effectiveness of rotavirus vaccine
- Improve demand forecasts
- Increase evidence base: burden of disease
- Advocate for quick, sound decisions

*RVP is only focusing on speeding adoption. Amount and equity of uptake will largely be determined by EPI coverage in individual countries*

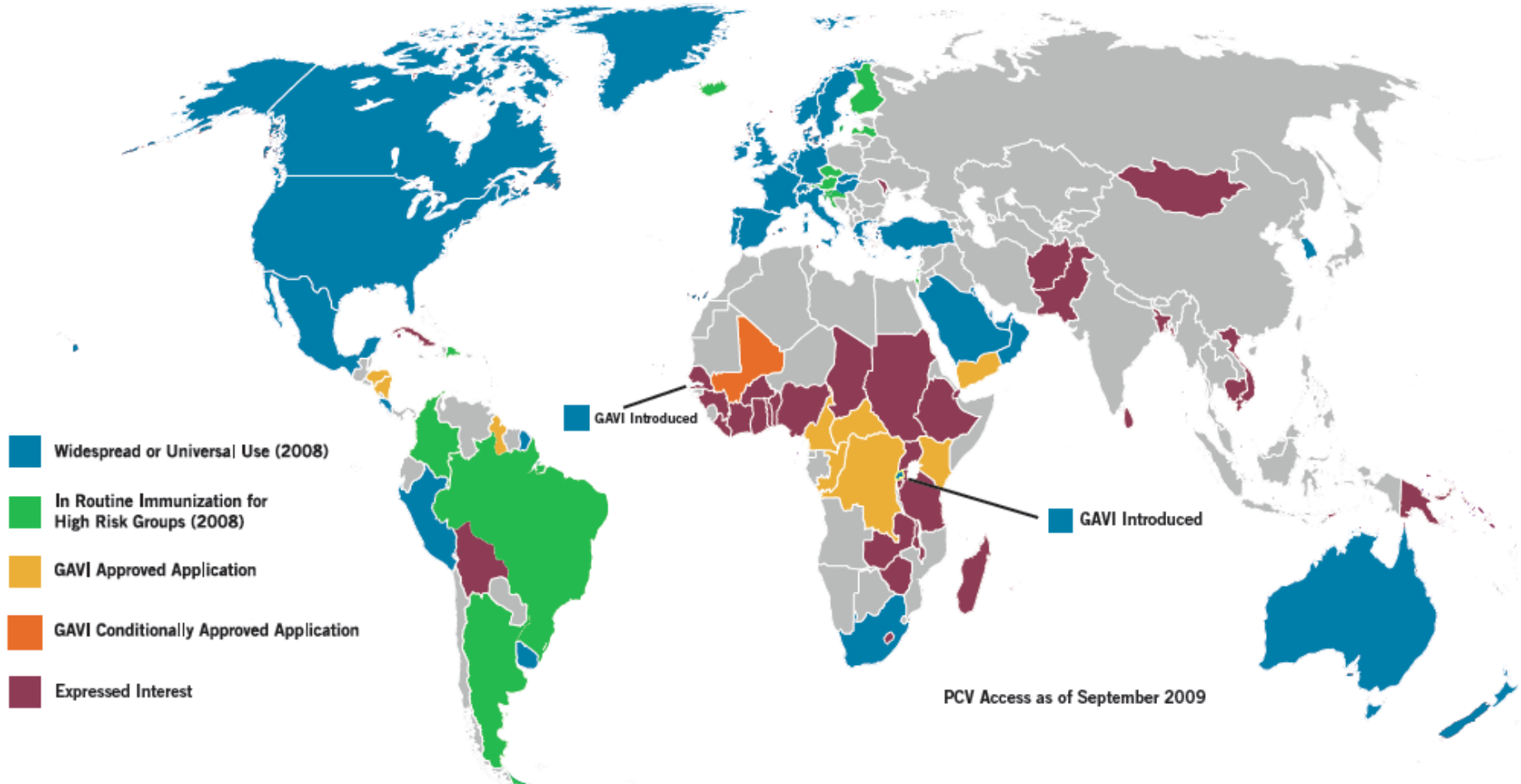
\*Source: Rotavirus Vaccine Program (Rotavirus ADIP); 1. Draft Version January 2006 2. Adapted from Rheingans et.al 2005 (unpublished) and Parashar 2003; Range: 0.9 to 2.3 Million Lives Saved 3. Adapted from Rheingans et.al. 2005 (unpublished) and Parashar 2003: 130 hospitalizations and outpatient visits avoided per 1000 infants vaccinated



# Illustrative coverage of childhood vaccines in developing countries



# Status of Global Pneumococcal Vaccine Introductions, 2009



## Foundation response: Push & Pull Mechanisms to jumpstart better products, increased uptake

- Product Development Partnerships
- Initiatives to increase uptake

# PDPs for product development

- HIV Vaccine Enterprise
- Medicines for Malaria Venture (MMV)
- Malaria Vaccine Initiative (MVI)
- PATH Vaccine Solutions (PVS)
- Aeras (TB Vaccines)
- Global Alliance for TB Drug Development (GATB)
- IVI/PDVI

# Improving Access: Illustrative Vaccine Delivery Investments

<b>Product Profile</b>	<ul style="list-style-type: none"> <li>• TechNet Consultation/TechNet Continuum</li> <li>• Development of generic Target Product Profiles</li> </ul>	<b>WHO</b> <b>PATH/WHO</b>
<b>Research &amp; Development</b>	<ul style="list-style-type: none"> <li>• Thermostable Vaccines</li> <li>• Disposable-Cartridge Jet Injector for Vaccine Delivery</li> </ul>	<b>PATH</b> <b>PATH</b>
<b>Building Evidence Base Global Regulatory and Policy</b>	<ul style="list-style-type: none"> <li>• Assess disease burden of Typhoid in Africa</li> <li>• Cholera surveillance in Africa</li> <li>• Actions to accelerate uptake of cholera vaccines in India</li> <li>• Barriers to access in middle income countries</li> <li>• Prequalification &amp; Improved capacity of NRAs</li> </ul>	<b>IVI</b> <b>AMP</b> <b>IVI</b> <b>WHO</b> <b>WHO</b>
<b>Region / Country Policies and Decision-Making</b>	<ul style="list-style-type: none"> <li>• National processes to enhance evidence-informed decision</li> <li>• ProVac Initiative – cost effectiveness capacity building</li> <li>• Assessing impact of new product adoption on health systems                             <ul style="list-style-type: none"> <li>• Cholera vaccine introduction in India</li> </ul> </li> </ul>	<b>AMP</b> <b>PAHO</b> <b>LSHTM</b> <b>IVI</b>
<b>Financing</b>	<ul style="list-style-type: none"> <li>• <b>GAVI</b></li> </ul>	<b>Sabin</b>
<b>Supply Procurement and Distribution</b>	<ul style="list-style-type: none"> <li>• Immunization Systems and Technologies for Tomorrow</li> <li>• Vaccine Supply analyses and supply strategy development</li> </ul>	<b>PATH</b> <b>GAVI</b>

END

# Foundation response: Support global efforts to prevent and treat diarrheal disease

## Sub-initiatives:

- » Enteric disease vaccines
- » Therapeutics.
- » Epidemiology and burden assessment
- » Disease biology and mechanisms
- » EDD-Nutrition
- » [Water] Sanitation and Hygeine.

## Foundation response – Support global efforts to prevent & treat pneumonia and diarrhea

- GAVI support for access to Hib and pneumococcal vaccines in the developing world
- “Push” and “Pull” funding for new and better vaccines
  - » \$80M of direct funding for pneumococcal vaccine R&D
  - » \$50M in Advance Market Commitments to attract additional manufacturers to the pneumococcal vaccine arena