Dynamics of vaccine uptake in developing country markets:
Achieving impact through successful partnership—a case study with JE vaccines

Debbie Atherly PhD, Global Head Policy, Access, & Introduction

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PATH snapshot

Work in more than 70 countries. 150 million people reached each year on average.

We harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity…

…to save the lives of women and children.

6 billion vaccine vial monitors ensuring that vaccines are potent when given

6.3 million people reached with rice fortified with critical micronutrients

6.2 million lives saved with PATH-pioneered approaches to malaria control
PATH’s Center for Vaccine Innovation and Access

CVIA’s primary objective is to accelerate the development and introduction of lifesaving vaccines for optimal public health impact in the world’s lowest resource settings. We focus on vaccines that protect women and children from the leading causes of disease and death.

**DISEASE AREAS**

**Enteric and Diarrheal Diseases**
- rotavirus
- enterotoxigenic *Escherichia coli*
- *Shigella ssp.*
- poliovirus

**Malaria**
- *Plasmodium falciparum*
- *Plasmodium vivax*

**Respiratory Infections and Maternal Immunization**
- pneumococcus
- meningococcus
- group B *streptococcus*
- *B. pertussis*
- influenza virus
- respiratory syncytial virus

**Zoonotic, Emerging, and Sexually Transmitted Infections**
- human papillomavirus
- Japanese encephalitis virus
- dengue virus
- yellow fever virus
- outbreaks
Our work spans the entire vaccine development and delivery spectrum

**RESEARCH/DESIGN**
- Identify potential vaccine leads and approaches
- Conduct initial candidate evaluations
- Address country needs and priorities in product development

**DEVELOP/VALIDATE**
- Assess proof of concept/efficacy in low-resource settings
- Generate evidence for regulatory review and approval
- Support quality manufacturing and adequate supply

**APPROVE/RECOMMEND**
- Facilitate World Health Organization prequalification and regulatory approval at national level
- Enable evidence-based decision making for public financing and global and national policies

**INTRODUCE/OPTIMIZE**
- Support countries on planning, preparation, and introduction
- Capture learnings from early adopters
- Ensure sustainable supply

**SCALE-UP/APPLY**
- Facilitate wide-scale use
- Measure impact
Japanese encephalitis vaccine impact:
Achieving success through collaboration
Japanese encephalitis (JE): A brief introduction

- JE: mosquito-borne flavivirus; closely related to dengue and West Nile viruses.
- Leading viral cause of encephalitis in Asia.
- Nearly 3 billion people live in JE-endemic regions.
- Children and rural poor suffer the greatest disease burden.

6th PATH-CNBG Overall Steering Committee Meeting
10th Anniversary of Partnership

第六届中生-帕斯全方位指导委员会会议——合作十周年纪念
Our Partnership with Chengdu Institute of Biological Products (CDIBP)

- Partnered on pivotal clinical trials to establish vaccine safety and immunogenicity outside of China
- Provided technical and financial support to pursue WHO prequalification and meet rigorous international standards of quality, safety, and efficacy
- Assisted in the design and financing of a new manufacturing facility to ensure high-quality, adequate, stable vaccine supply, while scaling up production for international export
- Provide continued technical and manufacturing support to advance vaccine availability and maintain good manufacturing practice standards
- Established a low, public-sector vaccine price for JE-endemic countries through our collaborative agreement
- Monitor JE vaccine supply to meet country demand
Historic Moment: JE Vaccine WHO Prequalification
Other Key Wins

- **A 180 percent increase** of CDIBP’s JE vaccine annual production capacity as result of a newly constructed, GMP-compliant facility
- CDIBP can produce **70 million doses per year on average**, versus the 25 million doses per year produced in the older, recently-retired facility
- Within months of WHO PQ, **Gavi opened a funding window to support JE vaccination catch-up campaigns** for children less than 15 years of age
- From 2003 – 2017, an **estimated 308 million children** outside of China will be vaccinated by CDIBP’s vaccine
- Through recent negotiations of a fair public health price that reflects actual vaccine production cost at CDIBP, we increased the likelihood of vaccine uptake by all countries with a high JE burden, not just Gavi countries. It also ensured sustainable vaccine production until 2033. **CDIBP’s JE vaccine remains one of the most cost effective vaccines on the market.**
Key Milestones in JE Control and Prevention

- **2006**: First WHO JE position paper published, which recommended replacing older, more expensive vaccines with new generation JE vaccines, given their advantageous safety profile and affordability.
- **2012**: New manufacturing facility complete; dose capacity raised from 25M to 70M.
- **2013**: WHO "Prequalification" status obtained for CD-JEV, which means a safe, effective vaccine is more widely affordable and accessible.
- **2014**: Gavi applications open, which provides financing for CD-JEV introduction for low and lower-middle income countries.
- **2015**: WHO JE position paper updated: Strongly endorses integrating vaccine into all national immunization schedules where JE is recognized as a public health priority.

**Country introductions of CD-JEV**

- **1988**: China
- **2002**: South Korea, Sri Lanka
- **2006**: India
- **2007**: Nepal, Thailand
- **2008**: DPRK
- **2008**: DPRK
- **2014**: Gavi applications open, which provides financing for CD-JEV introduction for low and lower-middle income countries.
- **2015**: WHO JE position paper updated: Strongly endorses integrating vaccine into all national immunization schedules where JE is recognized as a public health priority.
- **2016**: Nepal
- **2018**: Bangladesh
- **2017**: Myanmar, Vietnam, Indonesia, Philippines
Countries that have introduced CD-JEV

Country-financed introduction of CD-JEV followed by Gavi-supported expansion

Anticipated Gavi-supported JE vaccine introduction or program expansion

Note: Years correspond to year that CD-JEV was incorporated into childhood vaccination programs
Thank you!

Questions?