JUNE 17, 2025 | 9 AM-ET (1PM-UTC) | WEBINAR

Economics of adult vaccination

The latest evidence on the cost of reaching and mobilizing various adult populations in low- and middle-income countries

Alba Vilajeliu
WHO

Flavia Moi
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Ranju Baral
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Nina Schwalbe
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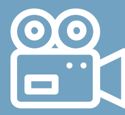
Economics of adult vaccination

Introduce yourself and **chat** with participants and panelists using the **chat** at the bottom of your screen

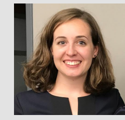
Submit **questions** using the Q&A at the bottom of your screen at any point



This webinar will be **recorded**

Agenda

Welcome & opening – Christina Banks, ThinkWell/ImmunizationEconomics.org



Alba Vilajeliu, WHO
Global status of adult immunization

Flavia Moi, ThinkWell
Cost of reaching adults with COVID-19 vaccines in 7 countries

Ranju Baral, PATH
Cost of maternal immunization delivery

Nina Schwalbe, Spark Street Advisors
Vaccine incentives: Do they work?

Q&A

Dr Alba Vilajeliu

WHO

Covering...
the global status of adult immunization

Global status of adult immunization

Alba Vilajeliu, MD, MPH, PhD

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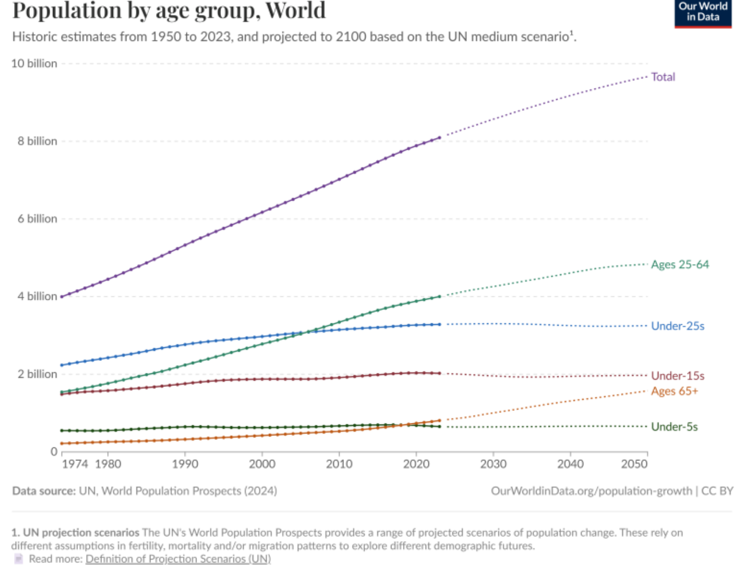
17 June 2025

Why extend the benefits of immunization to the entire life-span?

World ageing population



- In 2025, there are more people ≥65 than children younger than 5[1]
- By 2030, almost 1 billion people will be over 65 years of age[2]

Immunization Agenda 2030 vision

A world where everyone, everywhere, at every age fully benefits from vaccines for good health and well-being

1. https://ourworldindata.org/age-structure; 2. World Population Prospects 2022: https://population.un.org/wpp/

Benefits of receiving all recommended vaccine doses along the life course

Individual

- Extending **life expectancy** by preventing **deaths**
- Improving **life quality** by preventing **disabilities**
- Allowing the elderly to be **active and productive longer**

Wider society: promote economic prosperity

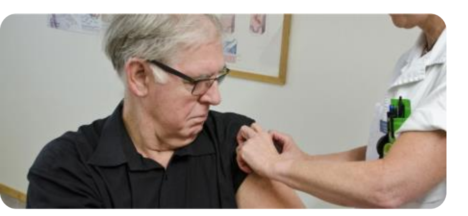
- **Touch-points for catch-up** to increase population protection
- Fight against antimicrobial resistance (**AMR**)
- A **cost-effective / cost-saving intervention**

Health system sustainability

- Reducing the **burden on healthcare and costs saved**
- Providing infrastructure to **deliver other primary health care services**

https://www.immunizationagenda2030.org/strategic-priorities/life-course-integration
https://www.ohe.org/publications/the-socio-economic-value-of-adult-immunisation-programmes/
https://www.ifpma.org/publications/implementing-a-life-course-approach-to-immunization/

Global status: disparities in adult immunization policies



In 2024 (2023 data), for vaccines targeting **older adults:**

- **>90% of countries** across all income groups reported **COVID-19 vaccine**
- **59% seasonal influenza vaccine** (89% of HICs vs 8% of LICs)
- **17% pneumococcal vaccine** (40% HICs vs 0% LICs)
- **7% herpes zoster vaccine** (all HICs)

A) COVID-19 vaccine

B) Seasonal influenza vaccine

C) Pneumococcal vaccine

D) Herpes zoster vaccine

Countries reporting vaccination for older adults
- Yes
- No
- No data available
- Not applicable

0 10 20 30 40 km

Data Sources: WHO/UNICEF electronic Joint Reporting Form (eJRF), WHO/UNICEF COVID-19 vaccination information hub,and COVID-19 Maternal Immunization Tracker (COMIT)
Map Creation Date: 3 April 2025
Map Production: WHO/IVB/EPI
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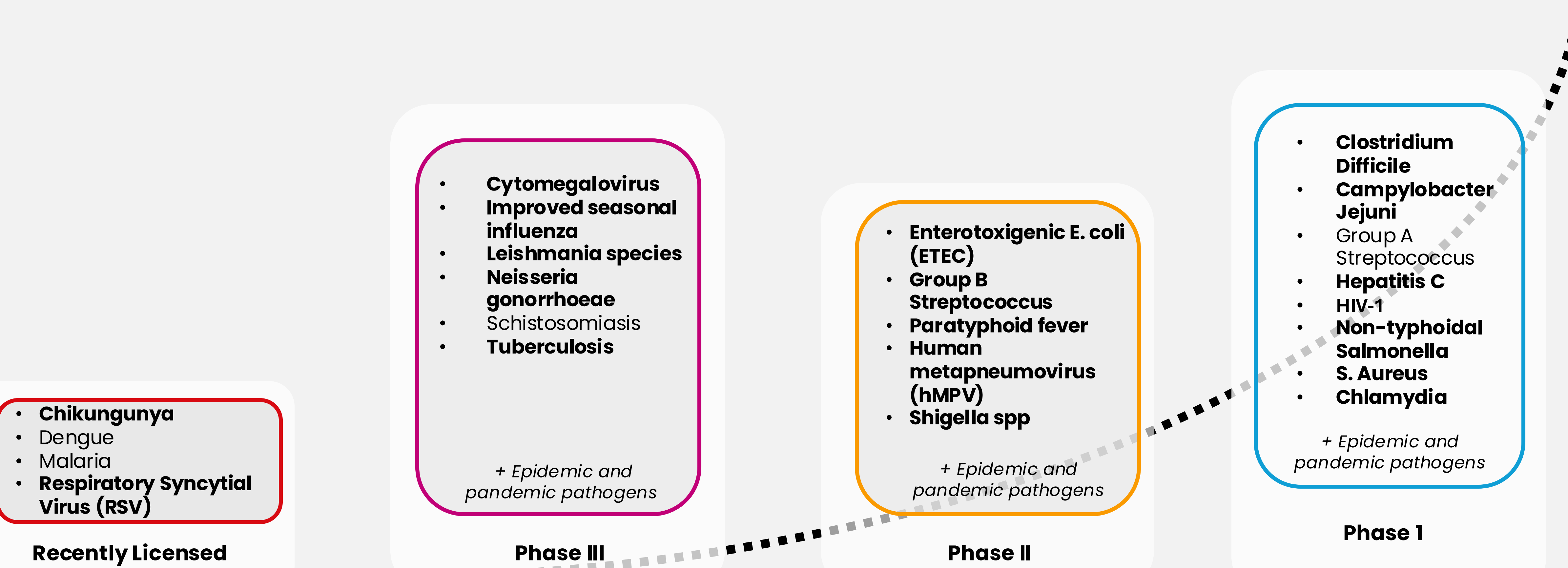
The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country,territory,city or area or of its authorities,or concerning the delimitation of its frontiers or boundaries.Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Source: 1. Vilajeliu, A.; Vega, V.;et al. Global Status of Adult Immunization Post COVID-19 Pandemic. Vaccines 2025, 13, 401. https://doi.org/10.3390/vaccines13040401
Notes: Data derived from official country reporting WHO/UNICEF Joint Reporting Form. Data represents 2024 reporting (191 MS reported through eJRF 2023 data). For countries that did not report 2023 data (n=3), the most recent year of reporting was included.

The adult vaccine portfolio is likely to expand in the short and medium term



Note: **In bold** those vaccines targeting adolescent/adult population. Not exhaustive list as of June 2025. Source: WHO Bacterial vaccines in clinical and preclinical development 2021; Pipeline of bacterial vaccines for priority drug-resistant pathogens (who.int)

Looking ahead: routine adult immunization programmes

- Over the last 50 years, **EPI** has become one of the greatest public health achievements in history.
- **To date**, adult immunization efforts in most LMICs and LICs have been limited to routine vaccination of pregnant women as part of ANC and mass vaccination efforts in response to public health emergencies.
- Now, with an intense focus on the role of prevention of chronic diseases in **healthy ageing** and a **rapidly expanding pipeline of adult vaccines**, there is an unprecedented opportunity to build on the success of existing adult immunization efforts.
- Urgent need to break down the artificial divide between efforts to encourage **healthy lifestyles** and those to encourage **routine adult immunization**.
- Potential to look back 50 years from now at **how Routine Adult Immunization programmes** became a **central pillar in adding productive and healthy years** to societies at all income levels.

https://www.who.int/news/item/05-06-2025-vaccinating-at-every-age-is-key-to-unlocking-the-full-potential-of-immunization

Thank you

avilajeliu@who.int

Flavia Moi

ThinkWell

Covering...
the cost of reaching adults with COVID-19 vaccines in 7 low- and middle-income countries

IMMUNIZATION
ECONOMICS.ORG

The cost of reaching adults with COVID-19 vaccines

Evidence from a multi-country costing study

Flavia Moi

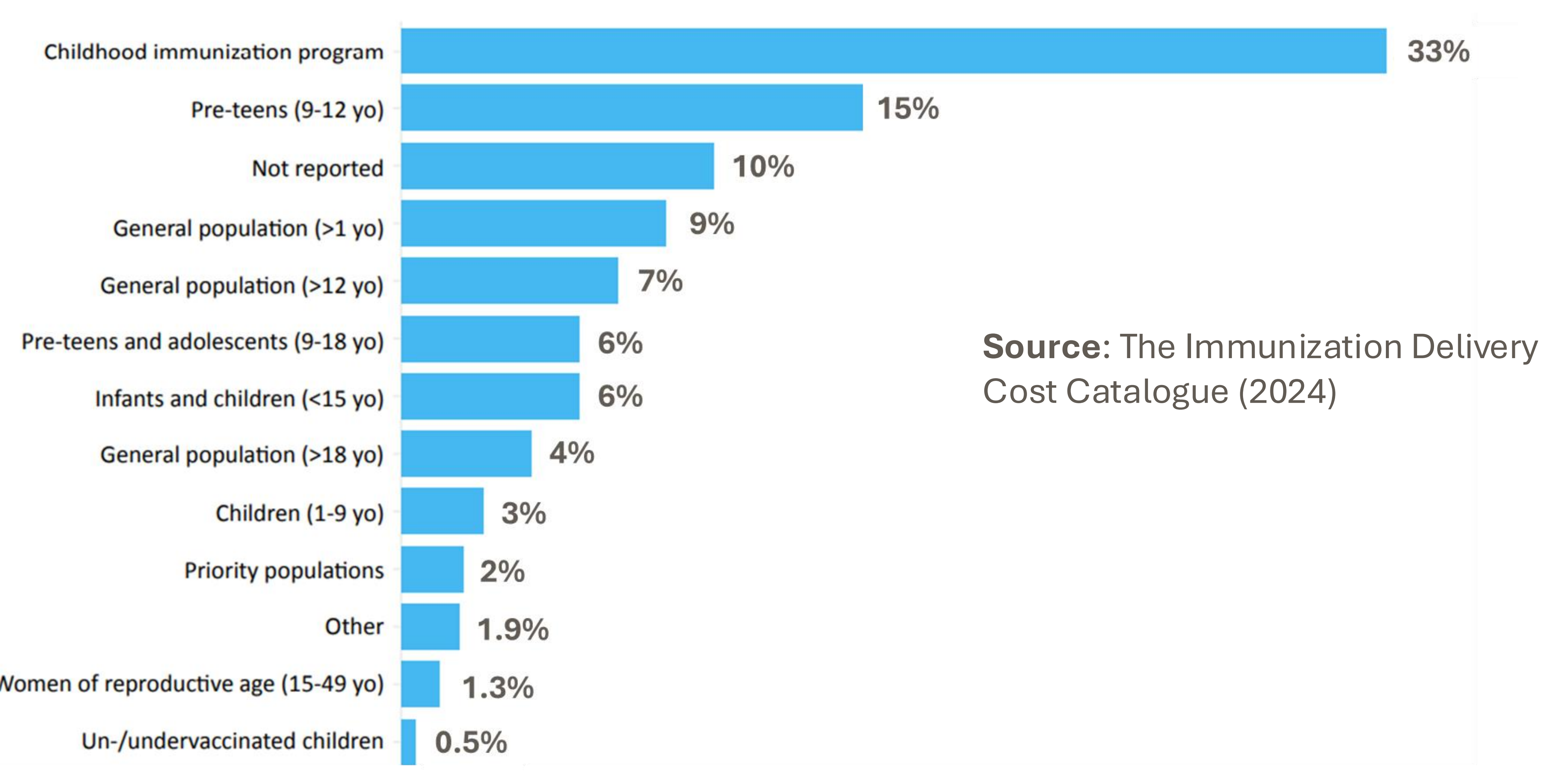
June 17th 2025

Outline

1. The cost of vaccinating adults
2. C19 vaccination programs
3. Cost of C19 adult vaccination
4. Takeaways

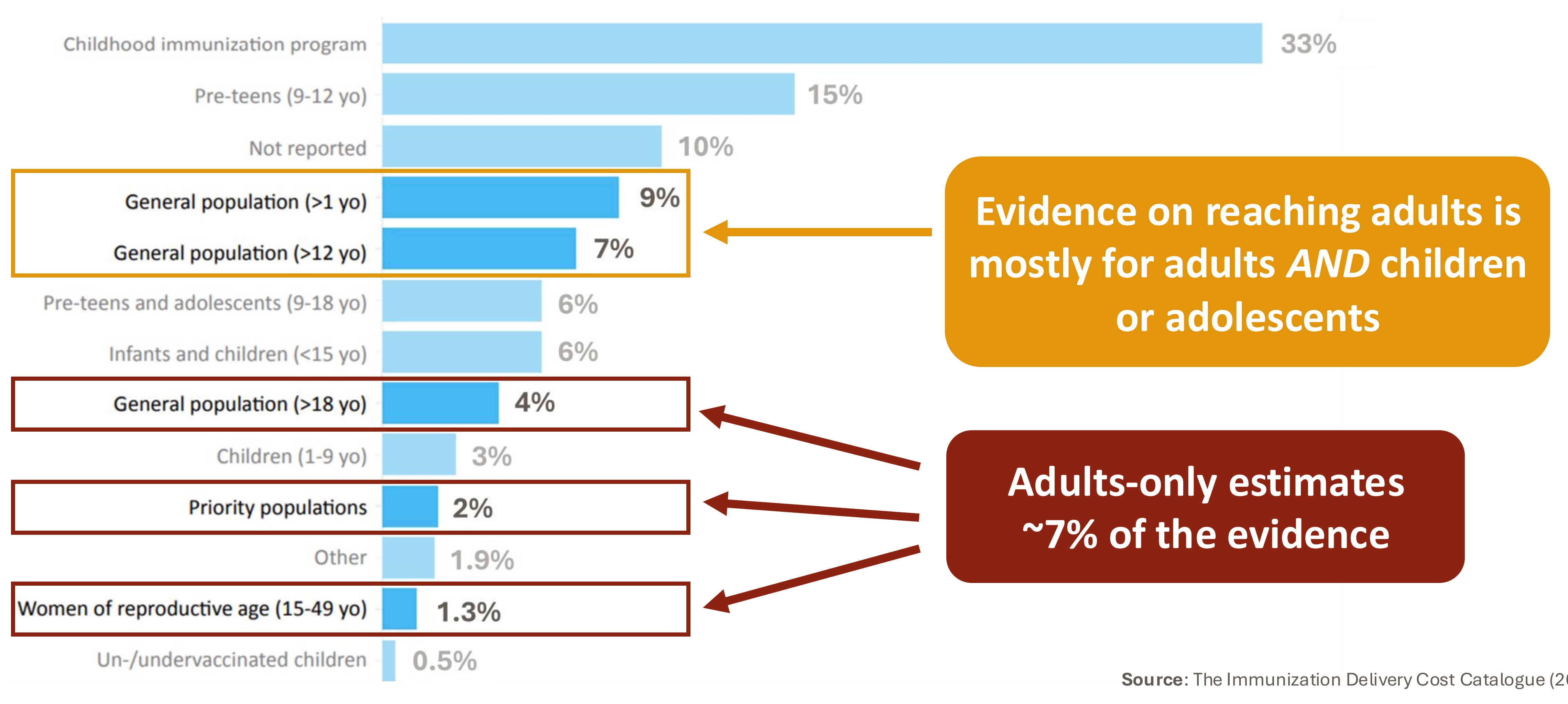
What do we know about the cost of vaccinating adults?

Most delivery cost evidence is for childhood vaccination programs and pre-teens



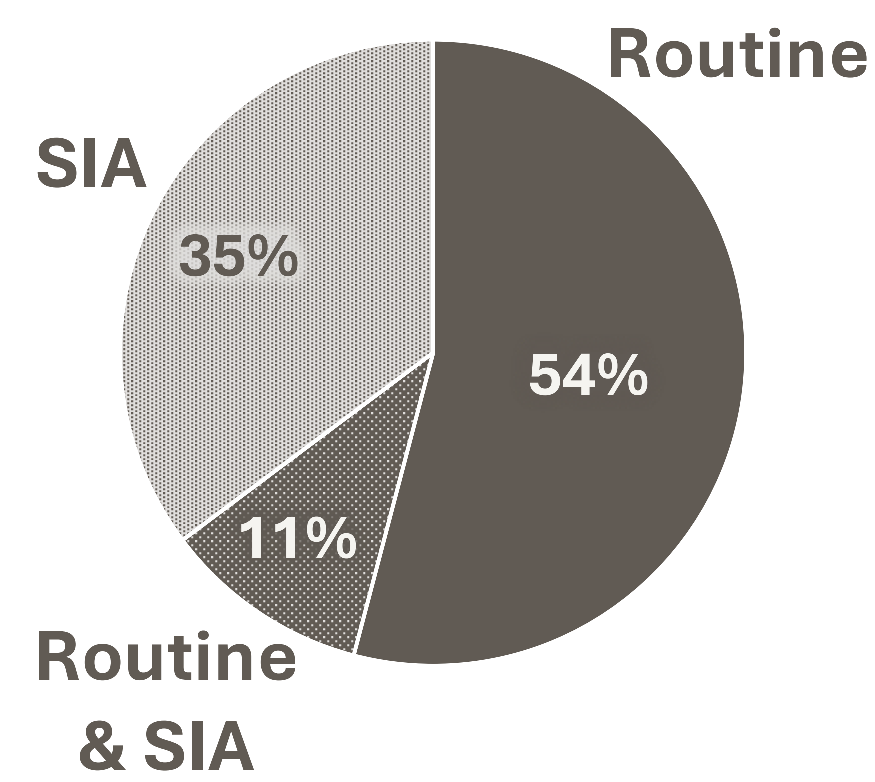
Source: The Immunization Delivery Cost Catalogue (2024)

Cost per dose for reaching adults ~23% of the evidence base



Source: The Immunization Delivery Cost Catalogue (2024)

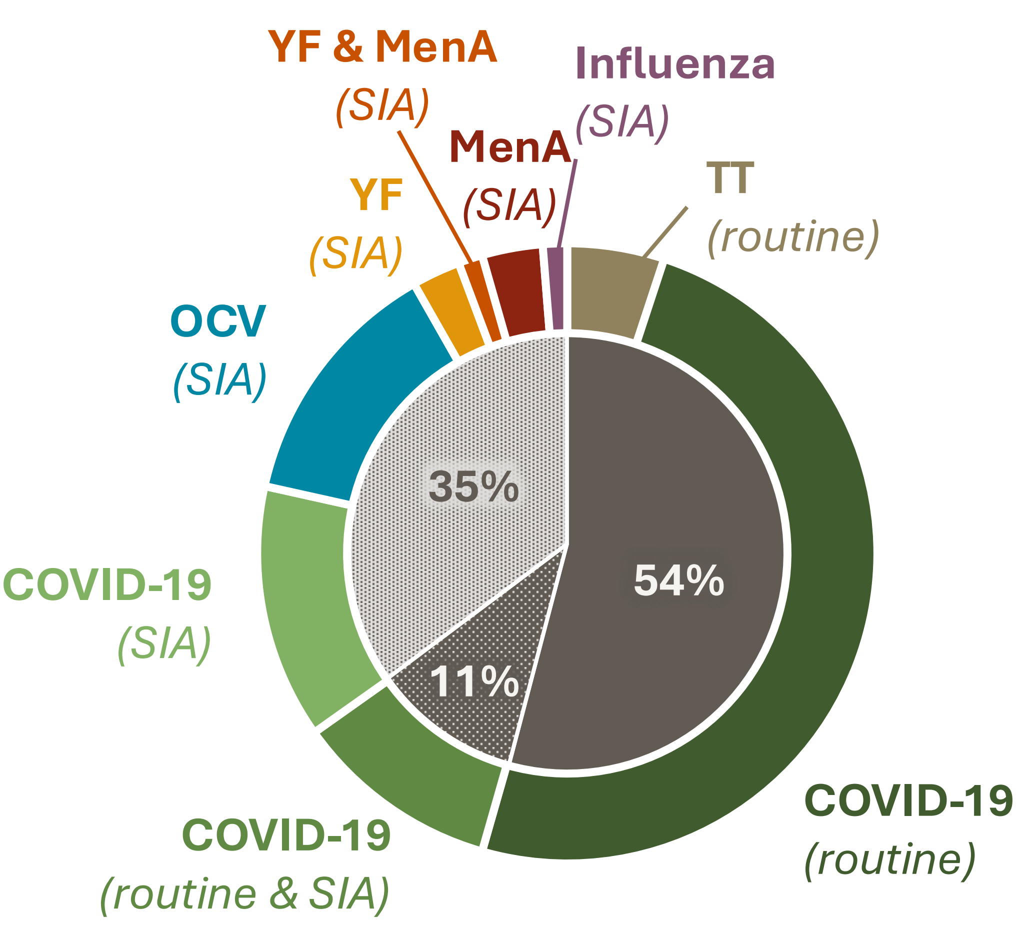
Most of the cost evidence on reaching adults with vaccines is for routine delivery



» Delivery strategies include fixed sites, temporary sites, outreach and a combination of multiple strategies

Source: The Immunization Delivery Cost Catalogue (2024)

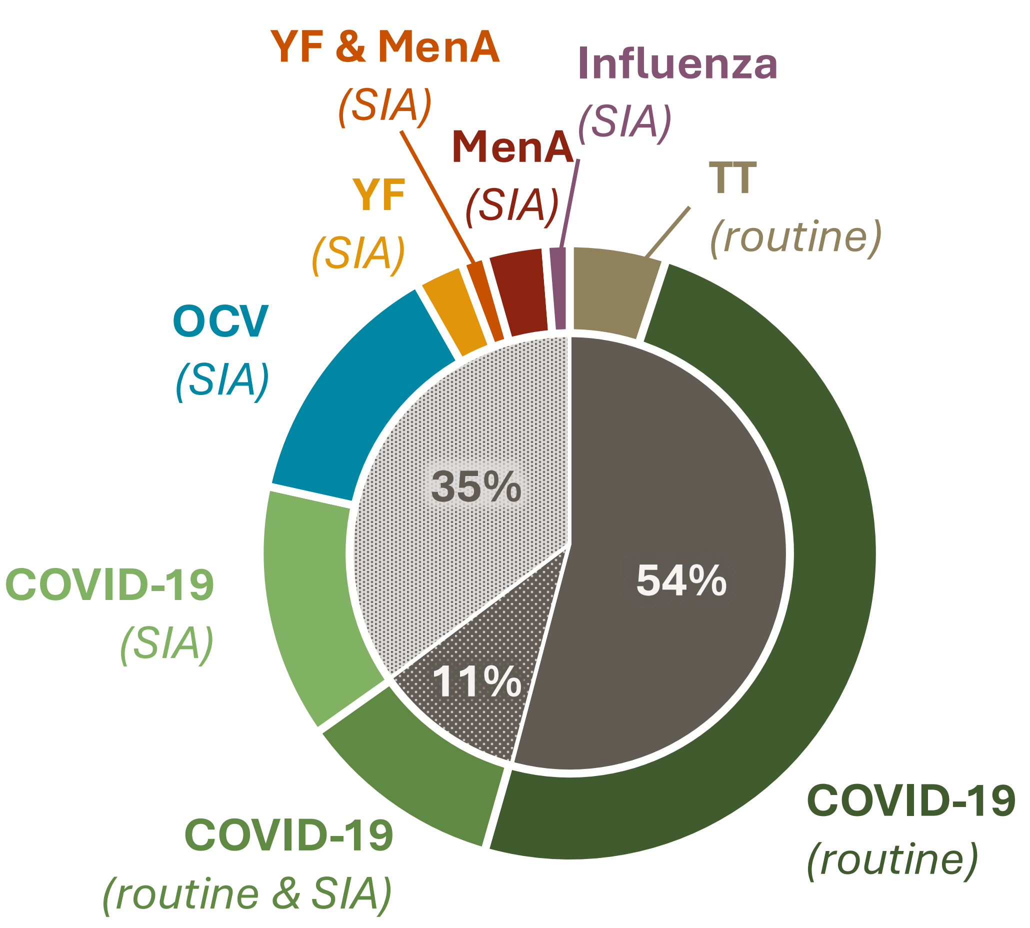
Almost all of routine evidence is from COVID-19 programs



- **73% of all unit costs** are for COVID-19 vaccine delivery
- Nearly all the evidence for routine delivery is from **COVID-19 programs**
- Limited evidence on routine **TT delivery** to women of reproductive age
- Everything else is for **supplementary immunization activities (SIAs)**

Source: The Immunization Delivery Cost Catalogue (2024)

Almost all of routine evidence is from COVID-19 programs



Understanding the C19 cost evidence can help us answer key questions:

- What delivery strategies were leveraged to cost-efficiently reach adults?
- Is reaching adults with vaccines costlier than vaccinating children?
- What can other programs learn from the cost of vaccinating adults with C19 vaccines?

Source: The Immunization Delivery Cost Catalogue (2024)

An evaluation of 7 COVID-19 vaccination programs

Ingredient-based, bottom-up costing of C19 vaccine introductions in 7 countries

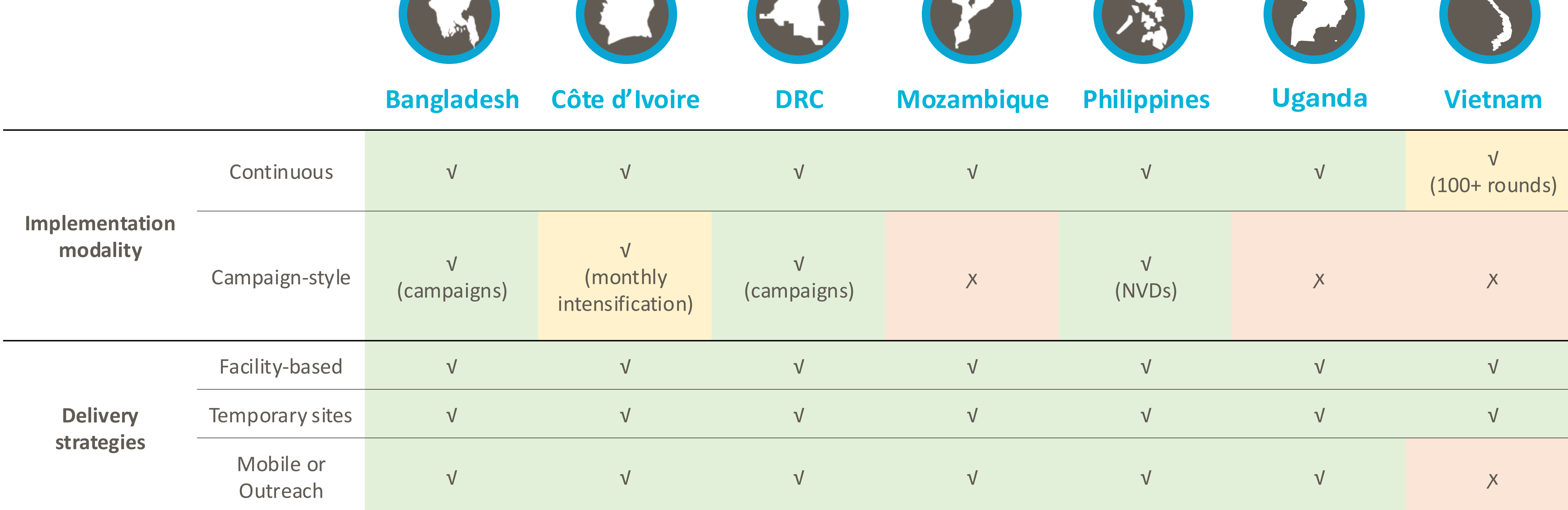
290 sampled sites
Collected data at 26-38 immunization sites per country, as well as intermediary levels, MOH, partners

Payer perspective
Included costs incurred by the MOH, partners, and private sector if relevant

Economic and financial costs
Captured economic and financial costs for all standard resources and activities

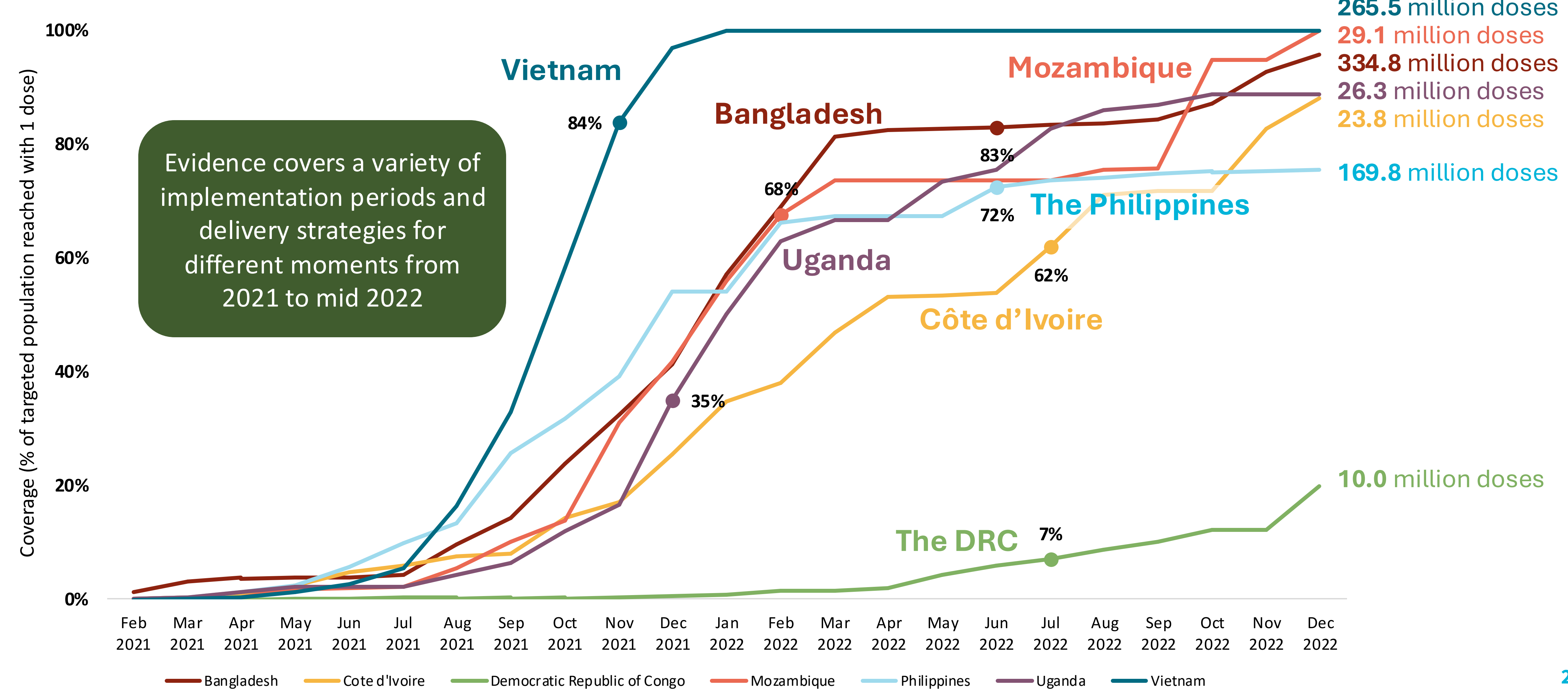
Qualitative assessment
Capturing operational and financial challenges and enablers

During the first year of introduction, all delivered vaccines **continuously** through **multiple strategies**



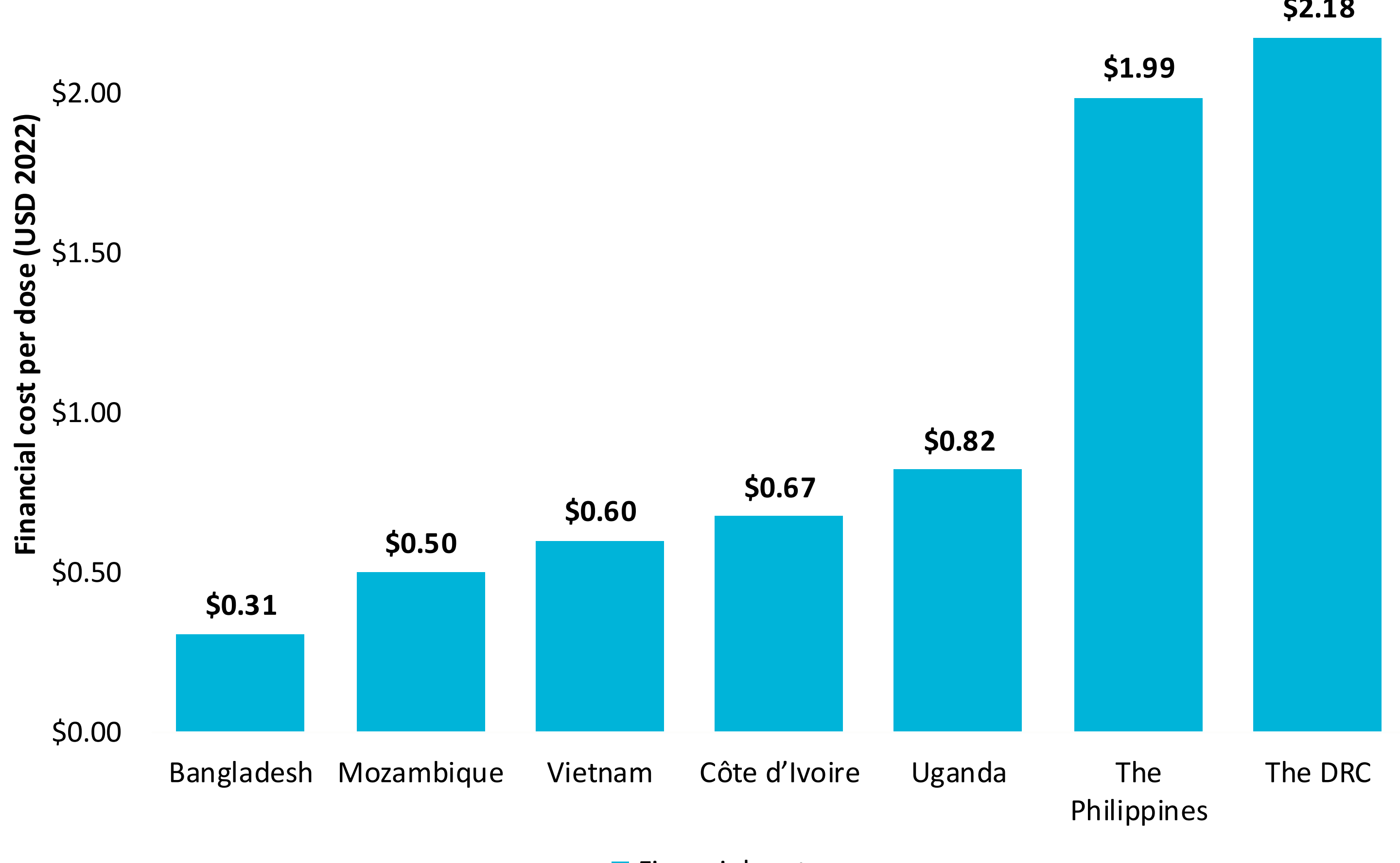
		Bangladesh	Côte d'Ivoire	DRC	Mozambique	Philippines	Uganda	Vietnam
Implementation modality	Continuous	√	√	√	√	√	√	√ (100+ rounds)
	Campaign-style	√ (campaigns)	√ (monthly intensification)	√ (campaigns)	x	√ (NVDs)	x	x
Delivery strategies	Facility-based	√	√	√	√	√	√	√
	Temporary sites	√	√	√	√	√	√	√
	Mobile or Outreach	√	√	√	√	√	√	x

Volume delivered and coverage varied widely across countries



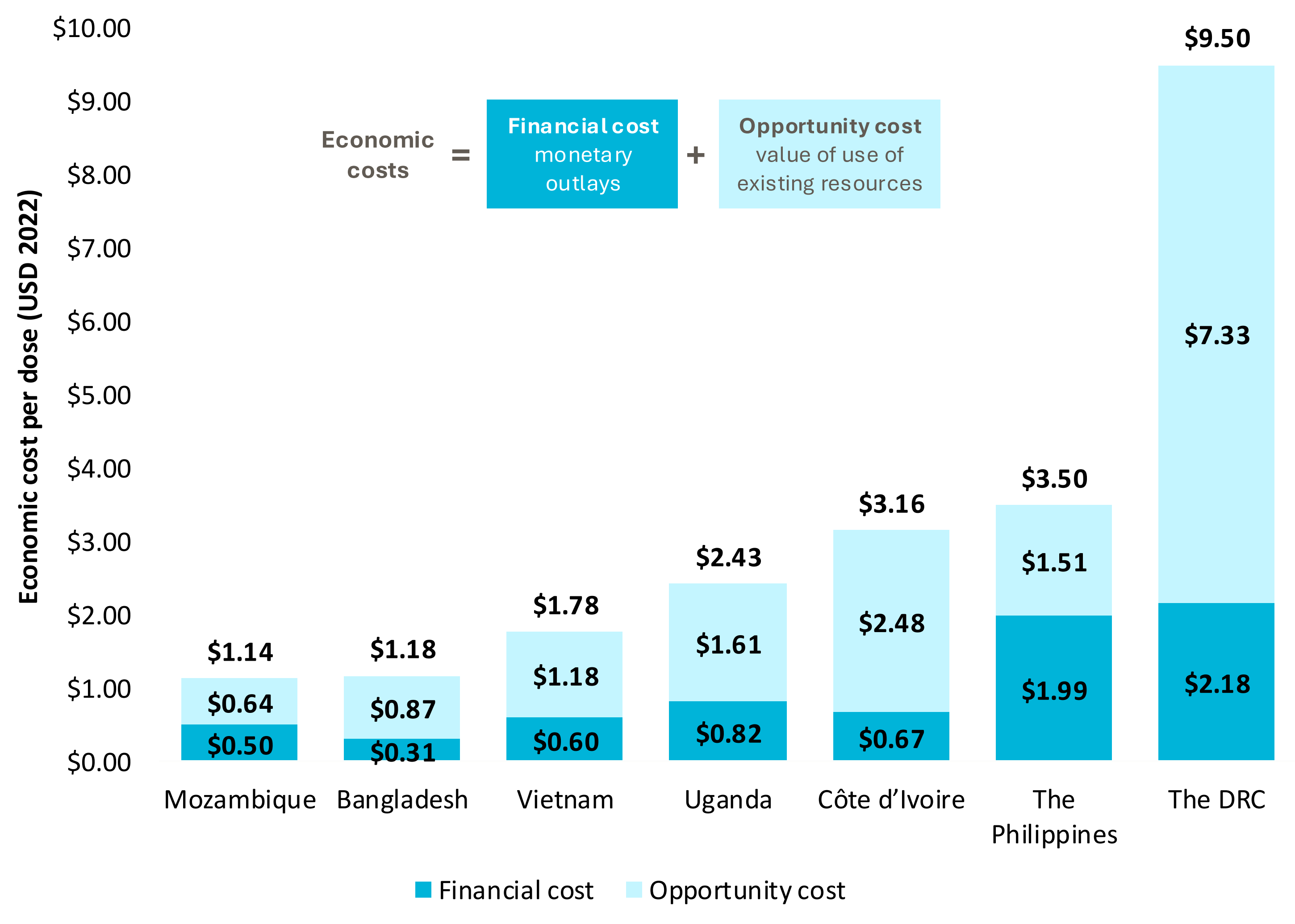
The cost of COVID-19 adult vaccination

The financial cost of delivering C19 vaccines ranged from $0.31 to $2.19



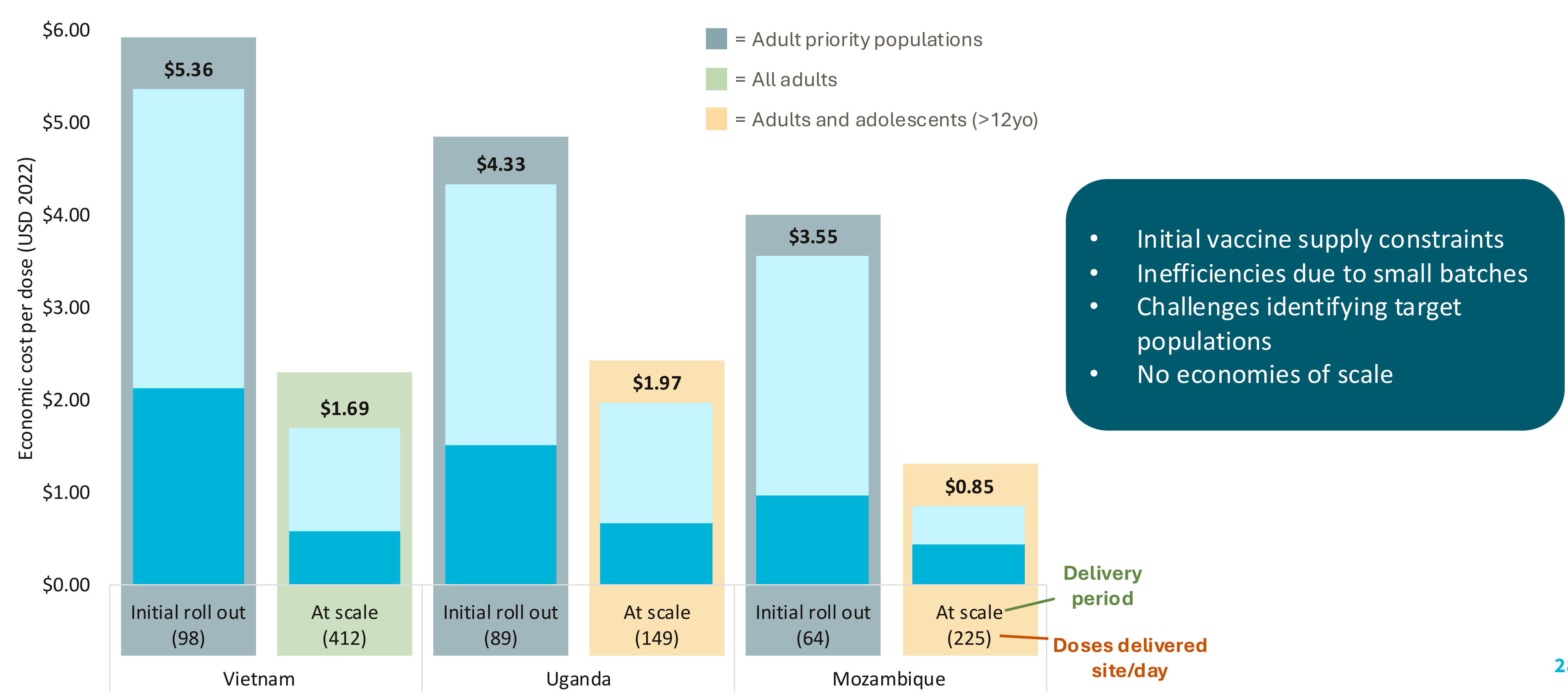
- Mass hiring only in the Philippines
- Severe health staff shortages
- Delays in disbursements
- Insufficient funding at impl. Level
- Insufficient and unpaid allowances
- Health workers OOP to fill funding gaps
- Non-health private companies support to vax distribution & storage

Economic costs ranged more widely from $1.14 to $9.50, driven by labor costs



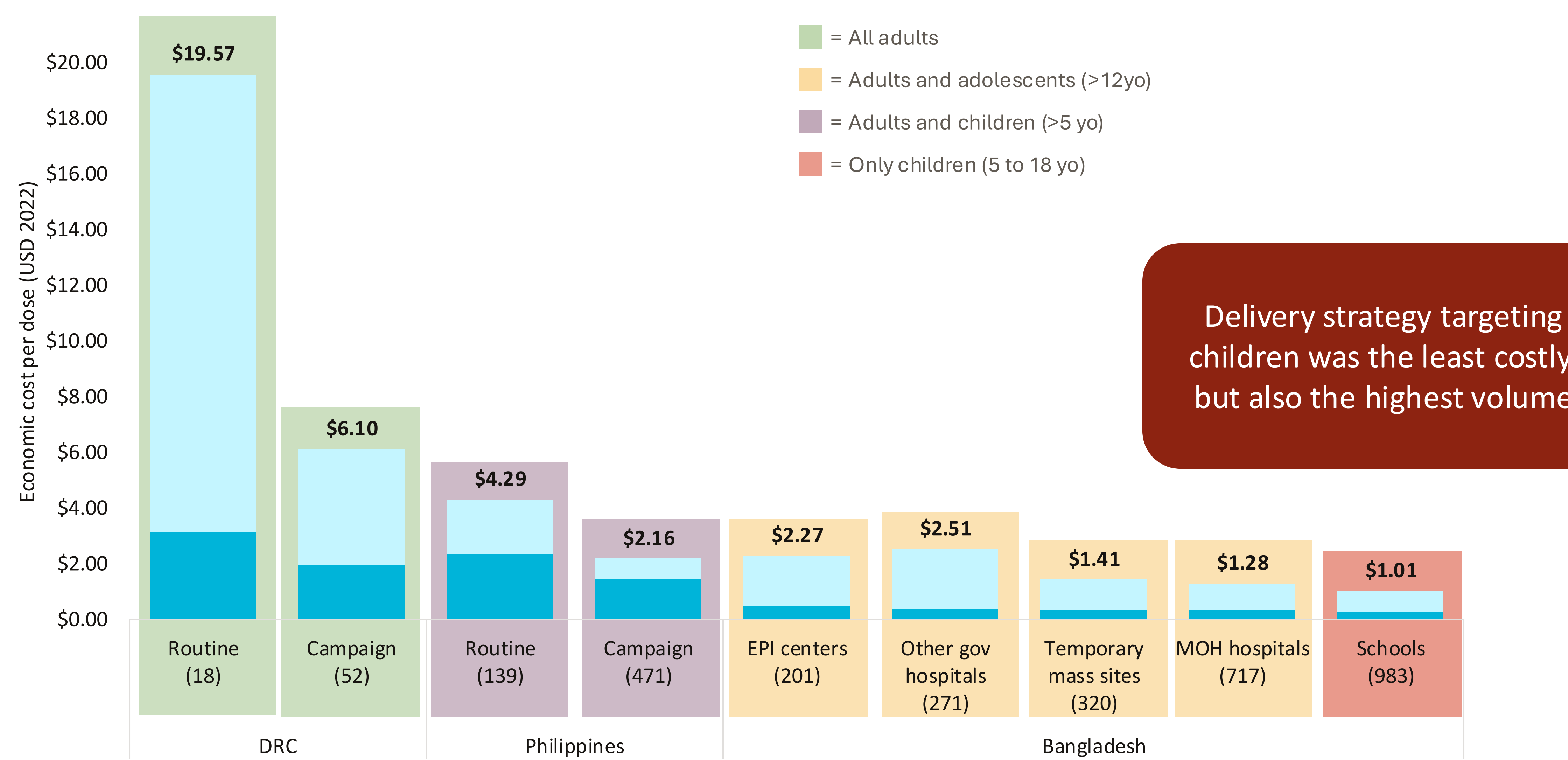
- Heavy reliance on existing health staff, resulting in overburdened workforce
- Mass hiring of volunteers
- Exceptional commitment at all levels to reach targets
- Political prioritization and coordination across levels and entities

Reaching priority populations in the initial rollout was costlier than reaching the general population later on



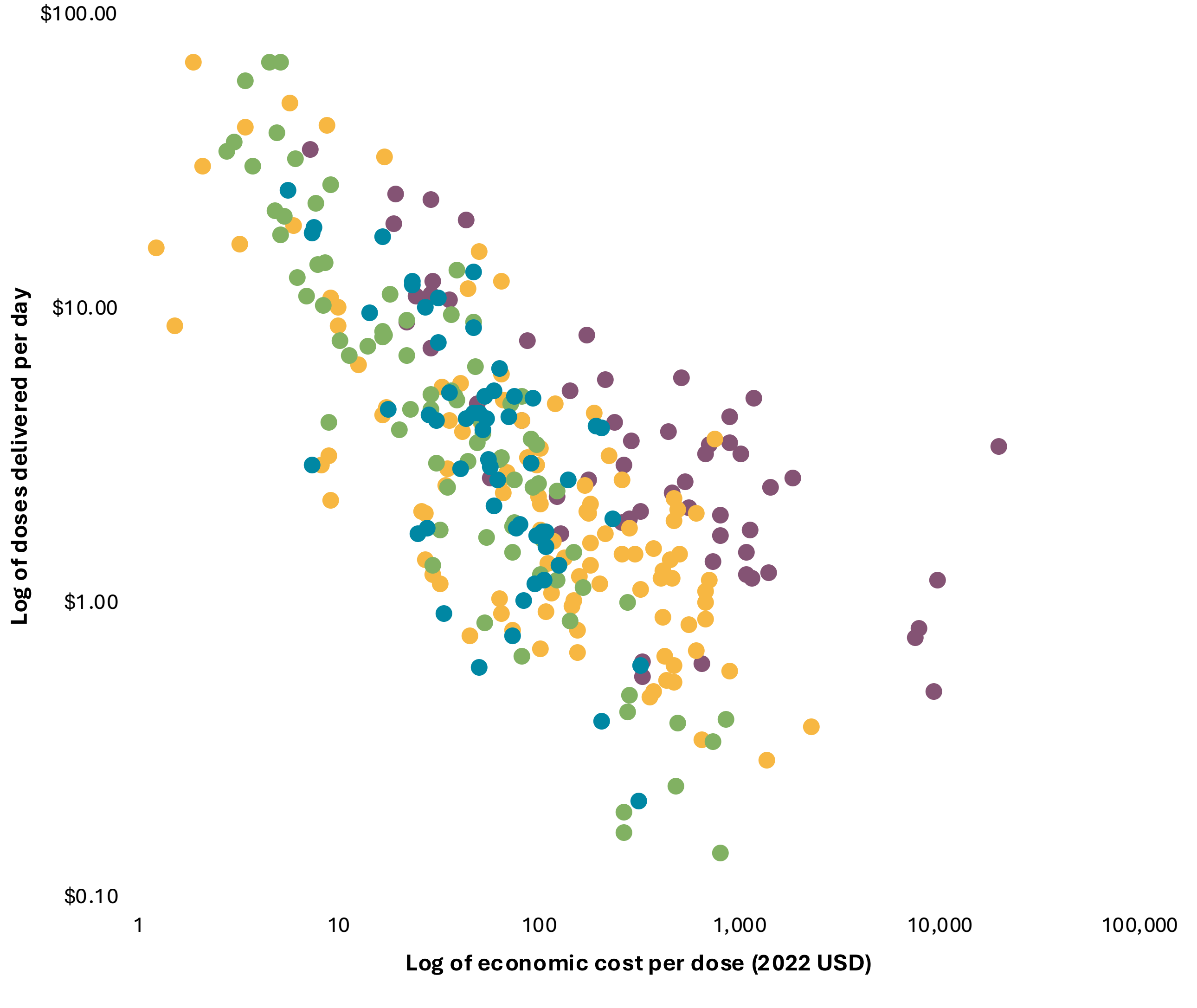
- Initial vaccine supply constraints
- Inefficiencies due to small batches
- Challenges identifying target populations
- No economies of scale

After the initial roll out, costs differed widely depending on the delivery strategy used



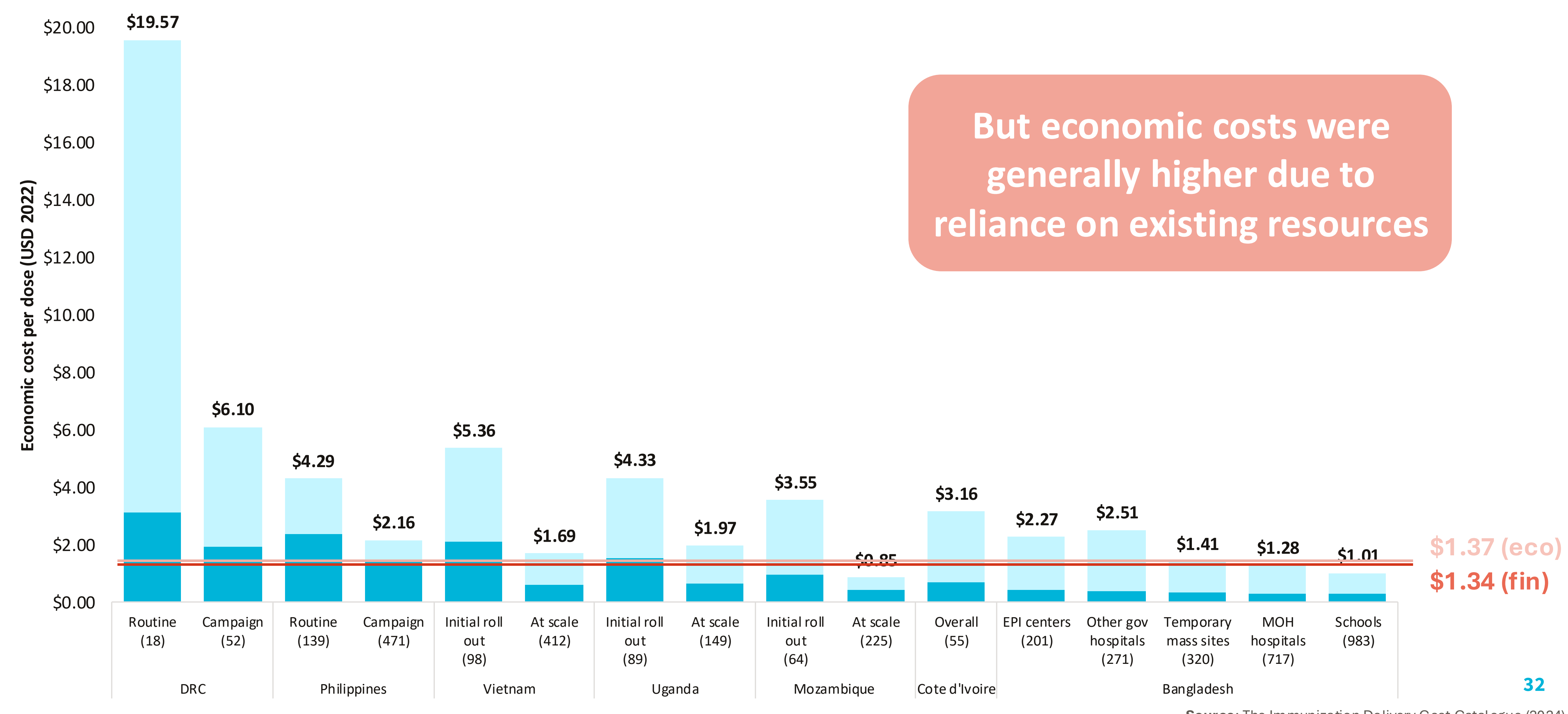
Volume delivered rather than target population or delivery strategy explains the variation in cost

Costs were lower at vaccination sites that delivered more doses



- Holds true across target **populations**, **countries**, delivery **periods** and delivery **strategies**

At high enough delivery volumes, financial cost is comparable to childhood routine immunization



Source: The Immunization Delivery Cost Catalogue (2024)

5 Takeaways

Takeaways from C19 vaccine introductions

- COVID-19 programs were **very effective** at reaching adults through a mix of delivery strategies, including temporary sites and outreach
- The **financial cost per dose was relatively low** due to limited additional investment, exceptional commitment from health workers and very high delivery volume
- **Volume delivered** was a key determinant of the cost per dose delivered
- At high enough delivery volumes, delivery costs were similar to those for childhood routine vaccination
- When targeting small adult populations **outside the context of a pandemic**, delivery costs will likely be higher
- **Integration through existing platforms** will be essential to achieve efficiencies and contain costs

Thank you!

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Want to know more?

Find our **country reports** at: **https://immunizationeconomics.org/c19-vaccine-delivery-costing/**

ANALYSIS OF THE COST OF COVID-19 VACCINE DELIVERY AT SELECTED SITES IN BANGLADESH
STUDY REPORT | JANUARY 2024

THE COST OF DELIVERING COVID-19 VACCINES IN CÔTE D'IVOIRE
STUDY REPORT | JULY 2023

THE COST OF DELIVERING COVID-19 VACCINES IN THE DEMOCRATIC REPUBLIC OF THE CONGO
STUDY REPORT | APRIL 2024

THE COST OF DELIVERING COVID-19 VACCINES IN MOZAMBIQUE
STUDY REPORT | OCTOBER 2023

THE COST OF DELIVERING COVID-19 VACCINES IN THE PHILIPPINES
STUDY REPORT | DECEMBER 2023

THE COST OF DELIVERING COVID-19 VACCINES IN KAMPALA,UGANDA
STUDY REPORT | MAY 2024

THE COST OF DELIVERING COVID-19 VACCINES IN VIETNAM
STUDY REPORT | AUGUST 2023

More questions? **fmoi@thinkwell.global**

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Dr Ranju Baral

PATH

Covering...
the cost of maternal immunization delivery

Cost of Maternal Immunization Delivery

Findings from five low-and middle-income countries

June 17, 2025

Ranju Baral, PhD, MPH
Senior Health Economist

Acknowledgments

Ministries of Health in study countries (Bangladesh, Kenya, Ghana, Mozambique, and Nepal)

Partner organizations and collaborators including KEMRI (Kenya) and BPKIHS (Nepal)

Funding: The Gates Foundation

- Agenda

Introduction

Study methods and approach

Results

Summary

• Rationale for maternal immunization (MI) cost of delivery (COD) studies

- COD is a critical consideration in vaccine introductio decisions as it can be a significant cost borne by countries and a potential barrier to equitable access
- COD estimates for vaccines given to pregnant wome in LMICs are nearly non-existent and delivery strategies and costs may differ from pediatric vaccines.
- PATH conducted studies in **Bangladesh, Ghana, Kenya, Mozambique, and Nepal** in collaboration with local partners.
- The COD estimates generated from this study enhance understanding of the economic feasibility of implementing maternal immunizations.

Costing methods summary

Prospective costing study	A cost projection for the anticipated delivery strategies stakeholders identified for future MI interventions.
Government's perspective	Assumes a government's perspective irrespective of external funding from donors that may be available during introduction.
Incremental costs only	Considers only the additional costs to the existing program in creating a conducive platform for MI interventions.
Activity-based costing	• Each activity associated with vaccine introduction and delivery are identified and costed individually. • Activities were regrouped into major cost categories (e.g., planning and coordination, communication, training, procurement, distribution, and service delivery).
Time horizon	Costs projections cover a 5-year period and assume national introduction across all districts.
Financial and economic costs	Evaluates both financial (direct financial outlays) and economic costs (including opportunity cost of existing resources and donated goods)

- The COD study process

1. Stakeholders workshop

Convene in-country stakeholders and deliberate on MI strategies

2. Prospective costing

Conduct detailed costing study to generate cost projection

3. Validation

Validate costing inputs and results with the ministry of health (MOH)

• Stakeholder workshop

Stakeholder workshop: In collaboration with the respective Ministry of Health (MOH), we hosted a one-day stakeholder workshop in each country in 2022 or 2023.

Purpose: To discuss feasible delivery strategies for successfully implementing future MI programs within the respective health systems.

Participants: Between 35 and 57 participants including national and select sub-national MOH representatives, academics, researchers, and representatives from various non-governmental organizations.

Kenya

Ghana

Bangladesh

• Data collection process

- A **detailed activity map** of implementation activities was developed via interviews with Expanded Program on Immunization (EPI) and maternal, newborn, child health (MNCH) program leads at National and sub-national levels in each country.
    - Included specific calls for any **system-wide changes and adaptations** of the existing health care delivery system needed to create conducive platforms for future MI interventions.
- Recent **experiences with new vaccine introductions and program expectations** informed activity mapping as well as detailed resource needs.
- **Primary data** from representative health administrative units, vaccine stores, and health facilities informed the potential recurring costs at regions/provinces, districts, and facility levels.
- Cost data were collected in local currency units (LCU) and presented in both LCU and USD 2023 units.

- MI cost categories and program activities evaluated

Economic costs

Financial costs

Direct financial outlays or expenditures for MI program (across EPI and ANC programs)

- Per diems
- Meeting costs
- Vehicle rental and public transport
- Fuel-energy, and maintenance
- Communications materials
- Shipping, handling, and customs
- Other costs

Opportunity costs

The value of using existing resources by MI program (across EPI and ANC programs)

- Health worker time
- Non-health worker time, such as community stakeholders
- Value of donated good (vaccine)

Cost categories evaluated for each program activity as relevant

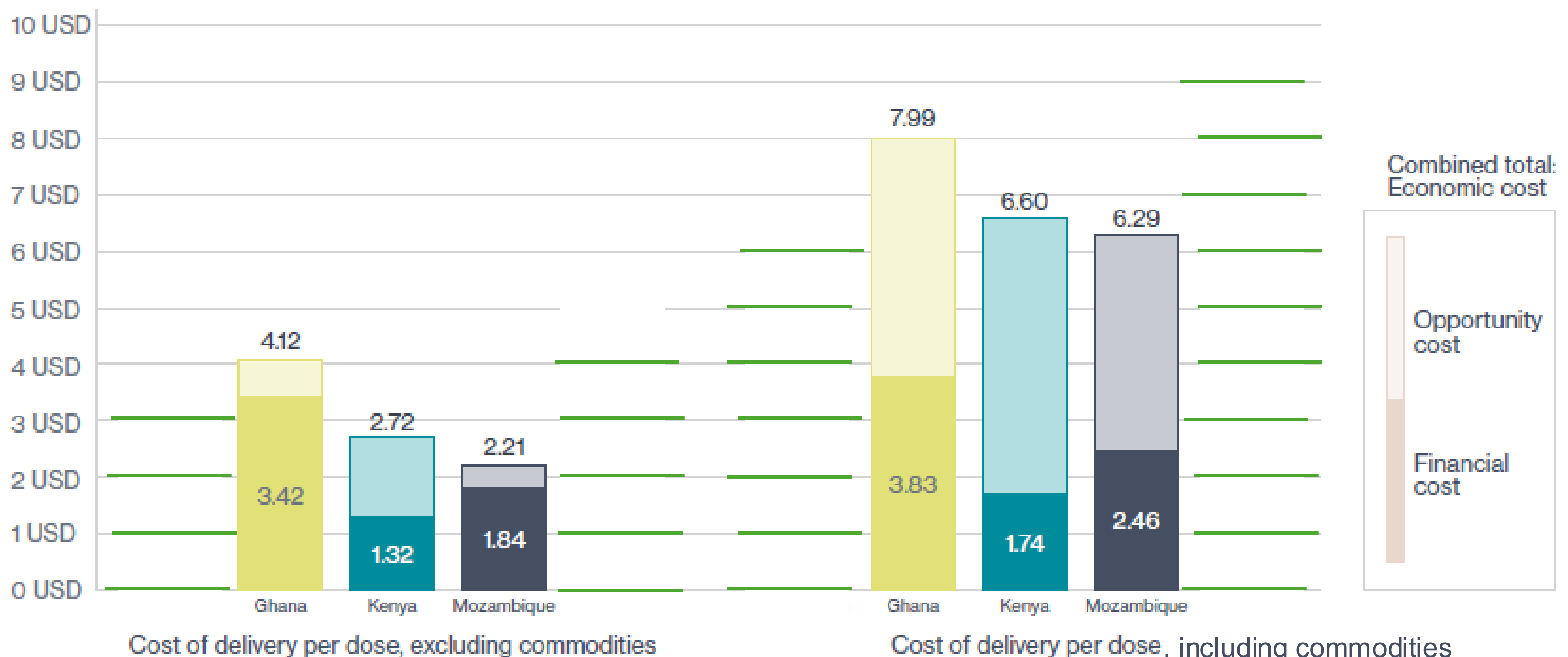
MI program activities evaluated

- Program planning and coordination
- Procurement
- Monitoring and evaluation
- Training
- Supervision
- Initial sensitization
- Demand creation
- Service delivery
- Waste management
- Distribution and storage
- Cold chain expansion
- Other capital equipment purchases

- Key data inputs and assumptions

Inputs	Bangladesh	Ghana	Kenya	Mozambique	Nepal
Cost of vaccine per dose, (USD), assumed donated	**$3.00 ($1 and $5 for sensitivity analyses)**				
Syringes and safety boxes per dose	$0.12	$0.11	$0.26	$0.20	$0.11
Total procurement add-on charges as a % of product cost (freight, insurance, inspection, handling, taxes)	18%	11%	7.6%	12.9%	35%
Vaccination coverage	90%	88%	50%	50%	75%
Target population (pregnant women) for a given year	4,007,544	1,283,521	1,668,242	1,620,987	515,533

- Financial, opportunity, and economic unit cost estimates for MI delivery



References:

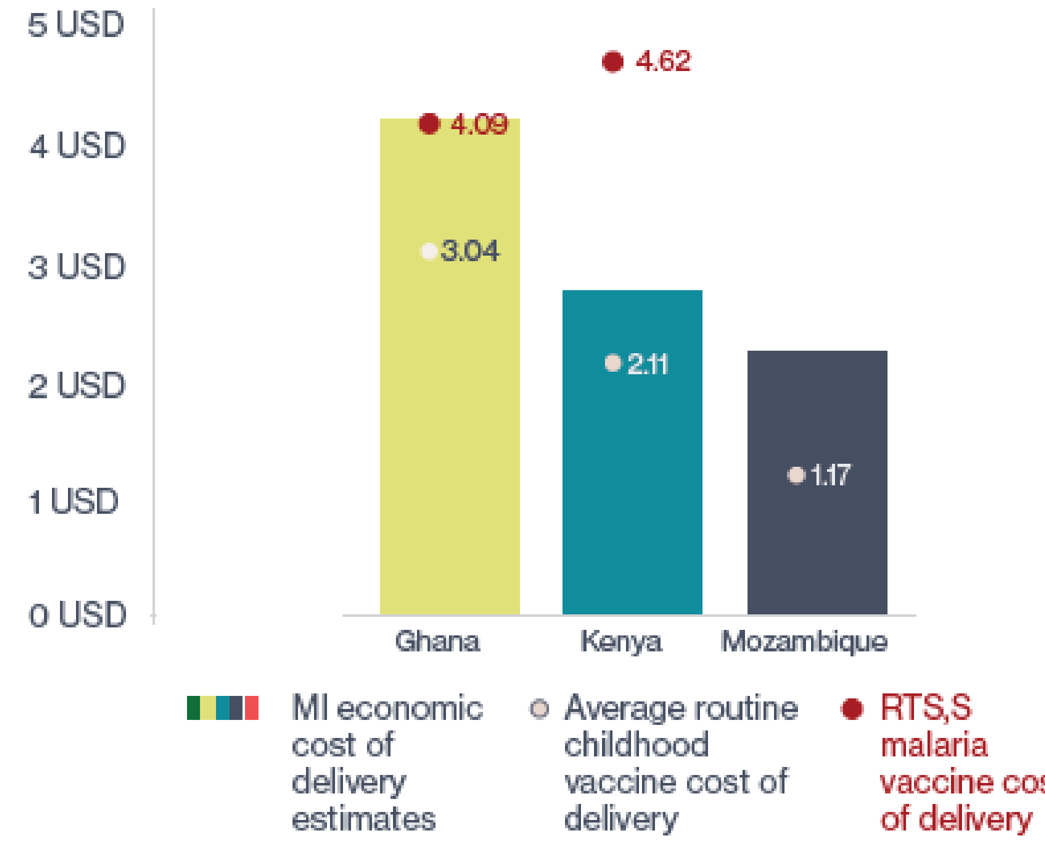
Baral et al., 2024. Cost of delivering childhood RSV prevention interventions to the health system in Kenya: a prospective analysis. BMJ Open. https://pubmed.ncbi.nlm.nih.gov/39578037/

Baral et al., 2025. What will introducing and delivering new maternal vaccines cost in Ghana and Mozambique? A prospective analysis. Vaccine. https://pubmed.ncbi.nlm.nih.gov/39892111/

- Comparison with other routine childhood and malaria immunization delivery costs

Note: Any direct comparisons of the cost estimates across studies should be made cautiously because the methods, delivery strategies, settings, and context are different.

This graph plots non-commodity economic cost estimates for MI together with other estimates available for study countries.[1,2]

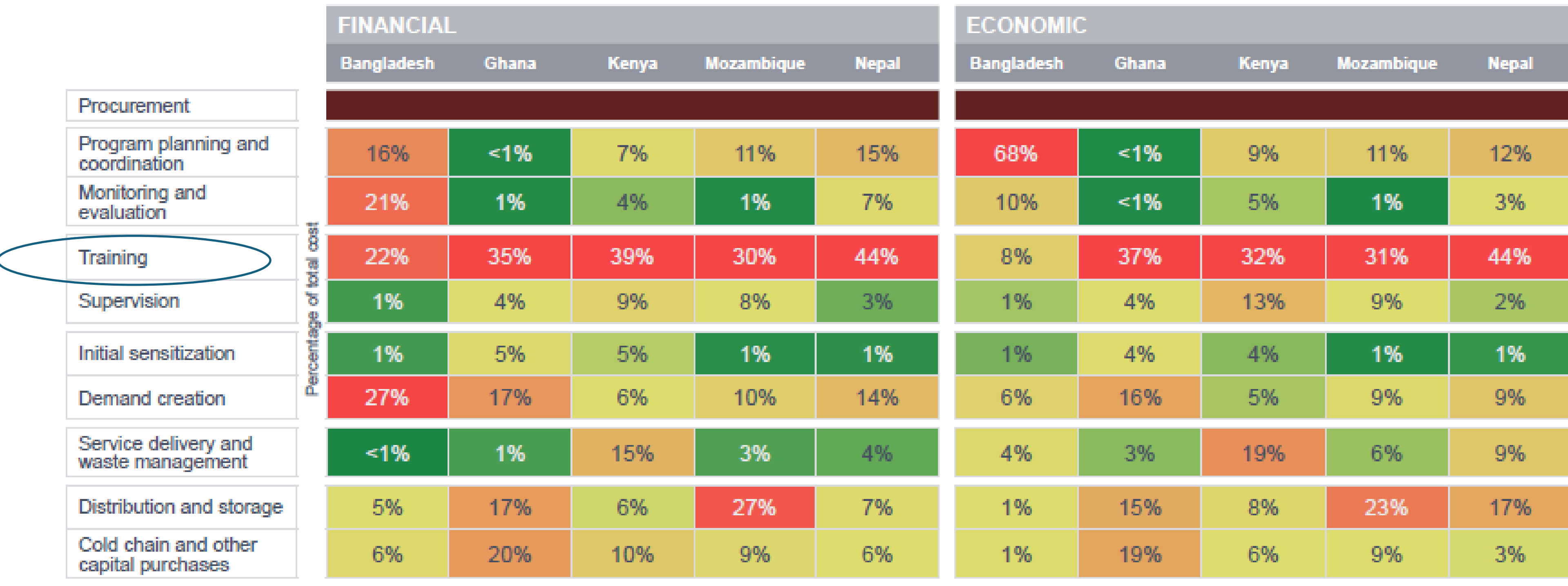


Sources

[1]Baral et al. 2023 https://pubmed.ncbi.nlm.nih.gov/36710234/

[2]Portnoy et al. 2020 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7437655/

• Financial and economic cost drivers for new maternal vaccine delivery by cost share percentage



Percentage of total cost	FINANCIAL					ECONOMIC				
	Bangladesh	Ghana	Kenya	Mozambique	Nepal	Bangladesh	Ghana	Kenya	Mozambique	Nepal
Procurement										
Program planning and coordination	16%	<1%	7%	11%	15%	68%	<1%	9%	11%	12%
Monitoring and evaluation	21%	1%	4%	1%	7%	10%	<1%	5%	1%	3%
Training	22%	35%	39%	30%	44%	8%	37%	32%	31%	44%
Supervision	1%	4%	9%	8%	3%	1%	4%	13%	9%	2%
Initial sensitization	1%	5%	5%	1%	1%	1%	4%	4%	1%	1%
Demand creation	27%	17%	6%	10%	14%	6%	16%	5%	9%	9%
Service delivery and waste management	<1%	1%	15%	3%	4%	4%	3%	19%	6%	9%
Distribution and storage	5%	17%	6%	27%	7%	1%	15%	8%	23%	17%
Cold chain and other capital purchases	6%	20%	10%	9%	6%	1%	19%	6%	9%	3%

NOTE: "Procurement" is the biggest overall cost driver across countries among the cost categories evaluated in this study, but it is not included in this table so that other key cost drivers can be seen more clearly.

Non-major cost drivers — Major cost drivers

• Summary

- The estimated incremental costs of MI delivery (excluding commodity cost) range between **$1.32 and $3.42 (financial) and $2.21 and $4.12 (economic)** across study countries.
- The economic cost of MI delivery estimates are within the range of routine vaccine delivery cost projections and other recently introduced vaccines.
- These estimates can help countries to evaluate resource needs and can inform other health economic analyses (e.g., cost effectiveness and budget impact).
- Cost data from this study would be strengthened by **validation via a retrospective cost analysis** in a few countries upon MI implementation.

Thank you!

Dr Nina Schwalbe

Spark Street Advisors

Covering...
the use of incentives for adult vaccination

Use of financial incentives to increase adult vaccination coverage: A narrative review of lessons learned from COVID-19 and other adult vaccination efforts

Nina Schwalbe, PhD, MPH

CEO and Founder, Spark Street Advisors, New York

17 June 2025

Based on a review by: Nina Schwalbe , Layth Hanbali , Marta C Nunes , Susanna Lehtimaki

Visit www.sparkstreetadvisors.org/

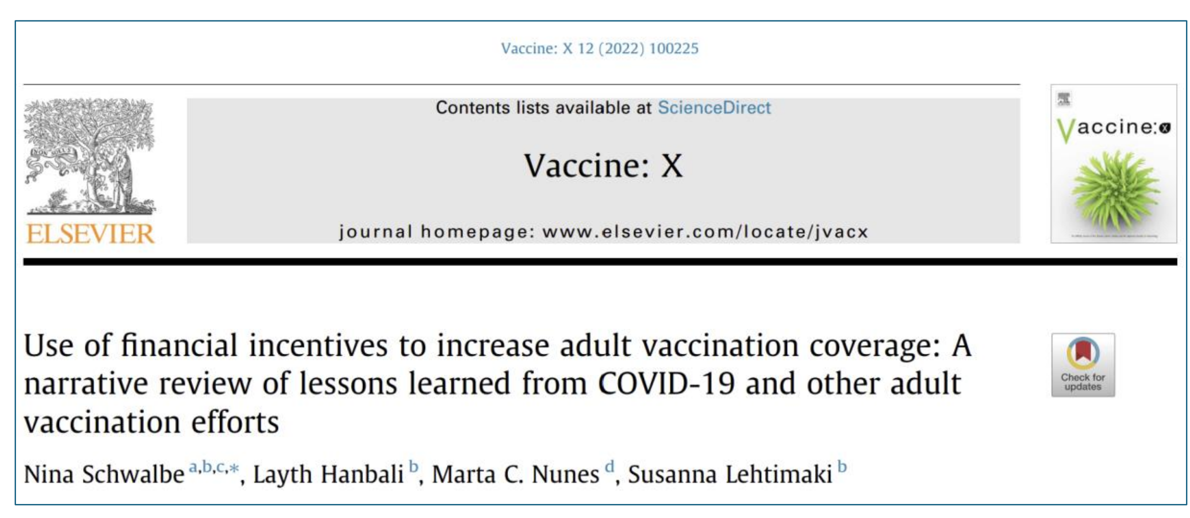
Types of incentives

Incentives aimed at individuals to encourage them to get vaccinated have included direct cash transfers, lottery tickets, and non-financial incentives, such as food, appliances, and cannabis. In New York City, residents were offered a range of items—from a $100 pre-paid debit card, to free amusement park tickets, to a trip to the Statue of Liberty.

Source: Unsplash

Spark Street Advisors
Data Driven Strategies

Research question:
To what extent have financial incentives increased adult vaccine coverage? Lessons for COVID-19


Vaccine: X 12 (2022) 100225

Contents lists available at ScienceDirect

Vaccine: X

journal homepage: www.elsevier.com/locate/jvacx

Use of financial incentives to increase adult vaccination coverage: A narrative review of lessons learned from COVID-19 and other adult vaccination efforts

Nina Schwalbe [a,b,c,*], Layth Hanbali [b], Marta C. Nunes [d], Susanna Lehtimaki [b]

- We conducted a narrative review to understand:
    - What was the evidence base informing these programs?
    - To what extent were they effective?
- The review spanned COVID-19, influenza, hepatitis B, maternal tetanus, and HIV adult vaccination programs in nine countries, including India, Mexico, and Nigeria.

We identified 26 relevant papers

Vaccination types

- COVID-19: 12
- Influenza: 5
- Maternal tetanus: 2
- Hepatitis B: 2
- HPV: 2
- Adult tetanus, pneumococcus, and influenza: 1
- A mix of vaccinations: 1

Target groups

(where specified)

- Adolescents: 2
- Elderly: 2
- Health and social care workers: 2
- Students: 2
- People who inject drugs: 2
- People with substance misuse disorders: 1

Incentive types

- Financial incentives: 18
- Lotteries (or other opportunities to win cash prizes): 5
- Time off: 1
- A mix of incentives: 2

Only 4 papers from LMICs

Summary of findings

Where any evidence of impact, more effective for first dose

Financial incentives (18/26) In addition to cash, some programs handed out shopping vouchers

- 12 on hepatitis B, HPV, influenza, or maternal tetanus vaccinations
- 6 on COVID-19

➢ Some evidence that cash transfers can increase coverage or intention to be vaccinated (but only by a few percentage points)

Non-cash incentives (8/26) including one-hour time off, gifts, perks, raffles, free drinks, bonus/rewards or lottery tickets

- 2 on influenza (time off, others)
- 6 on COVID-19 (lottery)

➢ Lottery programs ranged from none to 2.1 percent increase in coverage
➢ No evidence of positive effects of other non-cash transfers

Mexico's *Oportunidades* program: Required children to attend health clinics and schools

Tetanus, pneumococcus, and influenza vaccine uptake

- Sample size: 12,146
- Intervention: Preventive health check-ups
- Outcome: Incentive recipients were more likely to receive each vaccination
  - Influenza: 46% compared to 41% for non-recipients
  - Pneumococcus: 52% compared to 45% for non-recipients
  - Tetanus: 79% compared to 71% for non-recipients

Salinas-Rodríguez and Manrique-Espinoza *BMC International Health and Human Rights* 2013, 13:30
http://www.biomedcentral.com/1472-698X/13/30

RESEARCH ARTICLE **Open Access**

Effect of the conditional cash transfer program *Oportunidades* on vaccination coverage in older Mexican people

Aarón Salinas-Rodríguez† and Betty Soledad Manrique-Espinoza*†

- *Oportunidades* was established in 1997 with the intention of reducing extreme poverty and is one of the world's largest conditional cash transfer programs today.
- **Cash transfers are contingent on target families' adherence to a number of conditions, some of which are health-related (compliance with vaccination schedules) while others include school enrollment for children aged 6-16**.

Source: Salinas-Rodriguez A, Manrique-Espinoza B. Effect of the conditional cash transfer program Oportunidades on vaccination coverage in older Mexican people. BMC Int Health Human Rights 2013;13:30. https://doi.org/10.1186/1472-698X-13-30

India's Mamata Scheme: Cash received upon fulfilment of health-promoting conditions such as regular health check-ups

Maternal tetanus vaccine uptake

- Sample size: ~200,000
- Intervention: Tetanus vaccination during antenatal care visits
- Outcome: Increase in maternal tetanus vaccine uptake
  - 84.6% to 88.9%

- The Mamata Scheme targeted pregnant and lactating women aged ≥19.
- **The authors define conditional cash transfers as "demand-side interventions that link cash receipt to fulfilment of health-promoting conditions such as regular health check-ups and investment in human capital".**

Source: Chakrabati S, Pan A, Singh P. Maternal and Child Health Benefits of the Mamata Conditional Cash Transfer Program in Odisha. India J Nutrit 2021;151: 2271–81. https://doi.org/10.1093/jn/nxab129

Nigeria’s SURE-P pilot: Cash transfers are prorated based on the achievement of four milestones

MNCH service uptake

- Sample size: 20,133
- Intervention: Tetanus vaccination during antenatal care visits
- Outcome: Conditional cash transfer for preventive care was associated with a 21.66 per100,000 increase in maternal tetanus vaccine uptake

Okoli et al. BMC Pregnancy and Childbirth 2014, 14:408
http://www.biomedcentral.com/1471-2393/14/408

RESEARCH ARTICLE Open Access

Conditional cash transfer schemes in Nigeria: potential gains for maternal and child health service uptake in a national pilot programme

Ugo Okoli[1], Laura Morris[1*], Adetokunbo Oshin[1], Muhammad A Pate[2], Chidimma Aigbe[1] and Ado Muhammad[3]

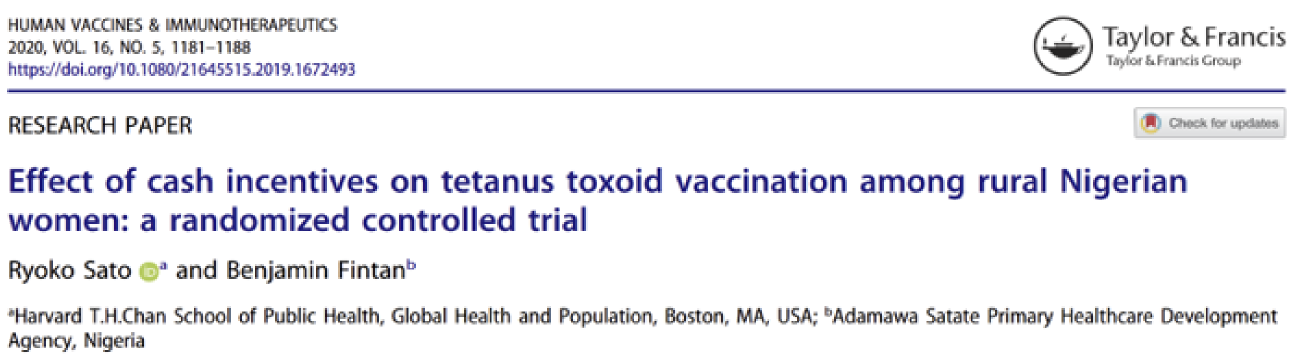
- Nigeria’s Subsidy Reinvestment and Empowerment Programme (SURE-P) was the pilot phase for a national Conditional Cash Transfer program “targeting pregnant women in rural and underserved areas”.
- **Cash transfers are pro-rated based on achievement of four milestones: registration and attendance of first ANC consultation; a minimum of three further ANC visits; delivery with skilled assistance; and first immunization of neonate and/or post-natal visit with family planning advice for mother.**

Source: Okoli U, Morris L, Oshin A, Pate M, Aigbe C, Muhammad A. Conditional cash transfer schemes in Nigeria: potential gains for maternal and child health service uptake in a national pilot programme. BMC Pregnancy Childbirth 2014;14:408. https://doi.org/10.1186/s12884-014-0408-9

Nigeria's tetanus pilot: Cash incentives of varying amounts, some of which were enough to compensate for travel to clinic

Maternal tetanus vaccine uptake

- Sample size: 2,482
- Intervention: Tetanus vaccination for women of child-bearing age
- Outcome: Financial incentives were associated with increase in vaccination uptake.
  - 85.5% for 800 naira
  - 75.7% for 300 naira
  - 54.8% for 5 naira (control group)


HUMAN VACCINES & IMMUNOTHERAPEUTICS
2020, VOL. 16, NO. 5, 1181–1188
https://doi.org/10.1080/21645515.2019.1672493
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RESEARCH PAPER
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Effect of cash incentives on tetanus toxoid vaccination among rural Nigerian women: a randomized controlled trial
Ryoko Sato[a] and Benjamin Fintan[b]
[a]Harvard T.H.Chan School of Public Health, Global Health and Population, Boston, MA, USA; [b]Adamawa Satate Primary Healthcare Development Agency, Nigeria

- The trial focused on women of child-bearing age (15-35 years old, including pregnant women) who had not received a tetanus vaccine within the last six months.
- **Transportation cost is one of the major barriers that hinders vaccination uptake.**
  - **The effect of a cash incentive is stronger if respondents face transportation costs that are less than the cash incentive offered. Cash incentives compensate for transportation costs unless such costs are large.**

Source: Sato R, Fintan B. Effect of cash incentives on tetanus toxoid vaccination among rural Nigerian women: a randomized controlled trial. Hum Vaccin Immunother 2020;16(5):1181–8. https://doi.org/10.1080/21645515.2019.1672493

Overall findings

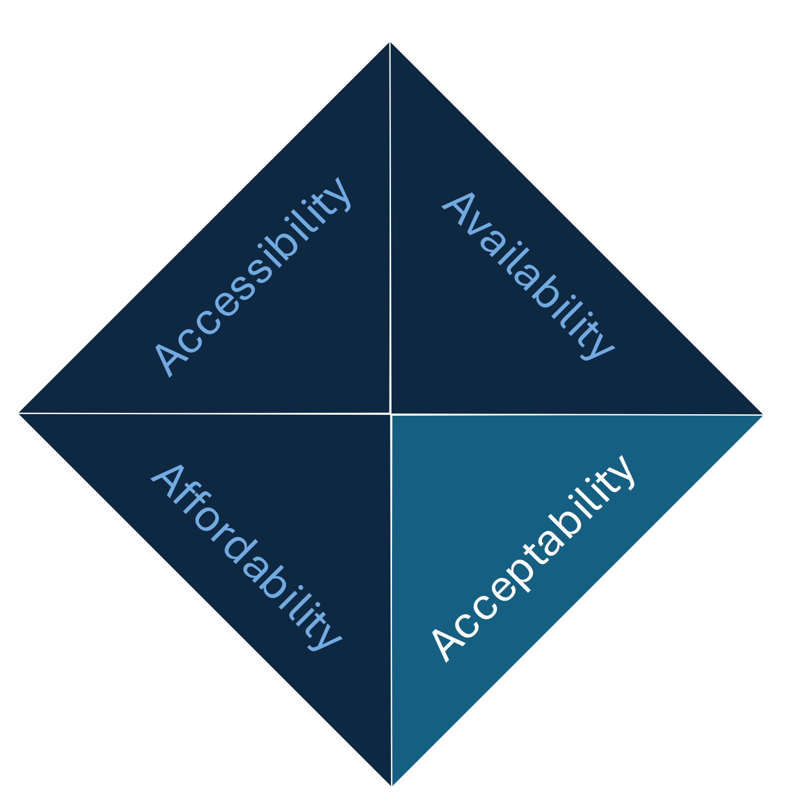
🐄 Non–cash financial incentives were not effective.

💰 Cash incentives can be effective, but it depends

- Increments in the amount offered were not proportional to increases in willingness to vaccinate
- More effective on the "undecided" rather than the hesitant.
- Uptake of a single incentivized dose/vaccine did not generally lead to higher course completion rates
- Where linked to health-seeking behaviors and aimed at vulnerable populations

"Perhaps most surprising, there was no evidence presented in any of the studies on the extent to which incentives serve to address the concerns of those who are hesitant or even increase uptake among this specific subset of the population."

Key takeaway: There is no simple fix to hesitancy



- What we know:
  - Adults: trust between provider and client; clarity about safety and efficacy; honest about side effects; explanation of the role of vaccines at the individual and community level;
  - Children: trust in/role of primary care provider

- As researchers (and implementors) , we must
  - **Unpack** the underlying theory/ies of change and understand whether they resonate with those who are truly hesitant and/or those who are simply undecided.
  - **Assess** the cost-effectiveness of these incentives against other known and effective ways to improve coverage.
  - **Monitor** the longer-term impact of these programs at both the individual and population levels.

Thank you!

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Questions?

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Alba Vilajeliu, WHO
on the global status of adult immunization

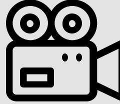
Flavia Moi, ThinkWell
on the cost of reaching adults with COVID-19 vaccines in 7 low- and middle-income countries

Ranju Baral, PATH
on the cost of maternal immunization delivery

Nina Schwalbe, Spark Street Advisors
on the use of incentives for adult vaccination

If you have questions for the panelists following the webinar, please contact us at **immunizationeconomics@thinkwell.global**.

Thank you & join our community!



We will be sharing the materials and recording from this webinar

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