THINK WELL

IMMUNIZATION ECONOMICS.ORG

How will we fill the evidence gap on the cost of reaching zero-dose children?

Laura Boonstoppel

11 September 2024

Outline

1. Why does zero-dose costing matter?
2. Research principles
3. How can we fill the zero-dose cost evidence gap?

1

Why does zero-dose costing matter?

Why should we cost zero-dose interventions?

We might identify many promising interventions, but resources are scarce…

…we'll need to prioritize those that are the best value for money

We need to know what it costs to IDENTIFY / **REACH** / MEASURE / MONITOR / ADVOCATE FOR **zero-dose children**

Purpose of zero-dose costing work

1. Inform country- and global-level planning, budgeting, and funding guidelines
2. Support cost-effectiveness and other post-hoc analyses
3. Inform trade-offs
4. Define all costs involved
5. Compare costs of different (packages of) interventions in different settings

2

Research principles

NEW: Research principles developed by a group of costing experts from 13 organizations

RESEARCH PRINCIPLES FOR STUDIES THAT ESTIMATE THE COST OF REACHING ZERO-DOSE CHILDREN

AUGUST 2024

WHY RESEARCH PRINCIPLES?

Reaching zero-dose children, i.e., those that have not received any dose of vaccination through routine systems, is a central pillar of both the WHO's Immunization Agenda 2030 and Gavi's current 5.1 and future 6.0 strategies. For operational purposes, Gavi defines a zero-dose child as one that has not received DTP1. However, economic evidence around interventions aimed at reducing the number of zero-dose children is lacking. In April 2024, key stakeholders working on or about to launch work on estimating the cost of reaching zero-dose children came together to discuss methods, approaches, and challenges. The group agreed that alignment on research principles was needed to guide implementation of costing work in this area, to be able to better compare and interpret evidence across this body of work.

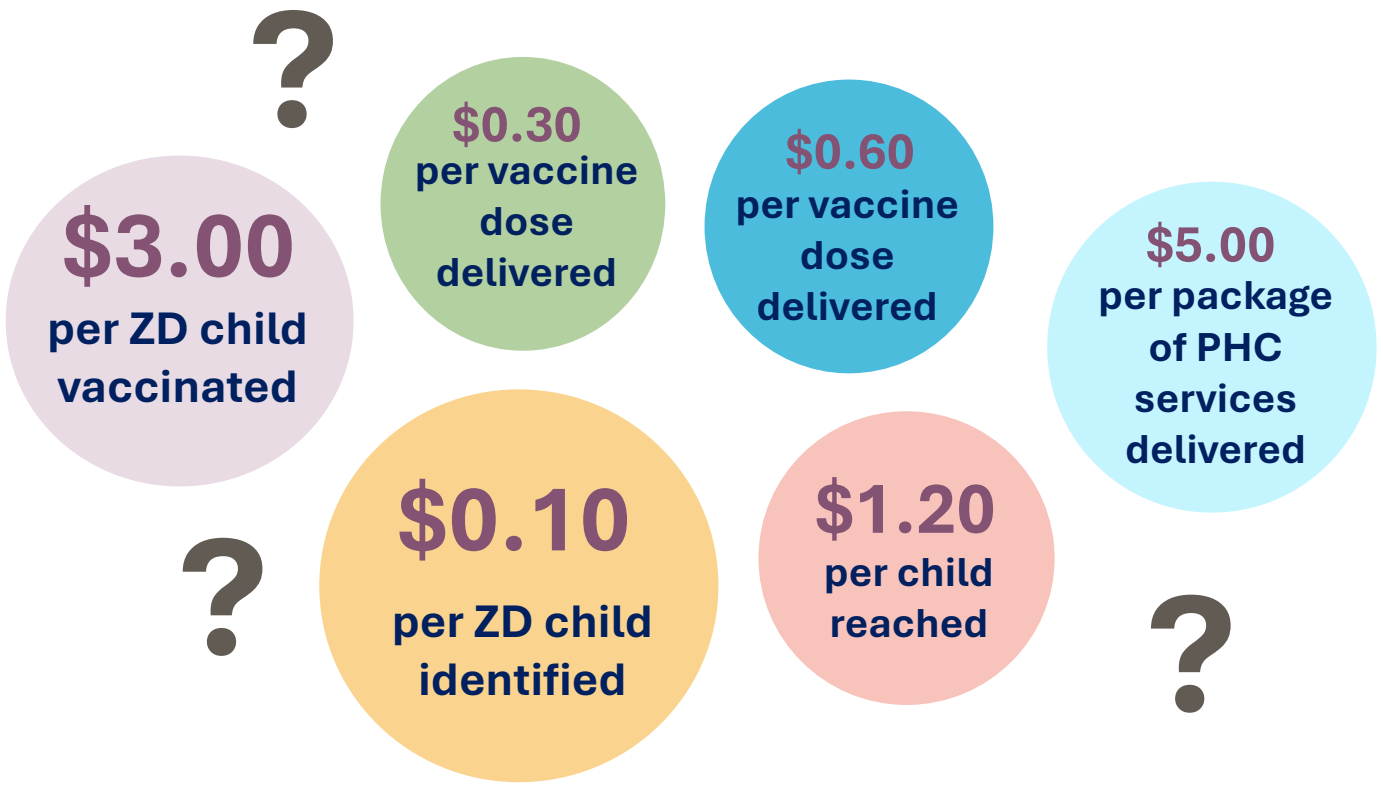
The research principles outlined in this document form a collective agreement between the individuals that were present and represented: Gavi Secretariat, WHO, UNICEF, Bill & Melinda Gates Foundation, ThinkWell, CDC, JSI, VillageReach, PATH, Boston University, Swiss Tropical and Public Health Institute, Levin & Morgan LLC, and the University of Montreal.

THE RESEARCH PRINCIPLES HAVE BEEN DEVELOPED TO SERVE THE FOLLOWING PURPOSE OF ZERO-DOSE COSTING WORK:

- To inform country- and global-level planning, budgeting, and funding guidelines to reduce the prevalence of zero-dose children
- To support cost-effectiveness and other post-hoc analyses of zero-dose interventions
- To inform trade-offs when designing a strategy to comprehensively tackle the zero-dose challenge
- To define all costs involved in reaching zero-dose children
- To compare the incremental costs of reaching zero-dose children under different conditions and in different settings, using specific packages of interventions

Why research principles?

To ensure cost evidence can be interpreted and compared



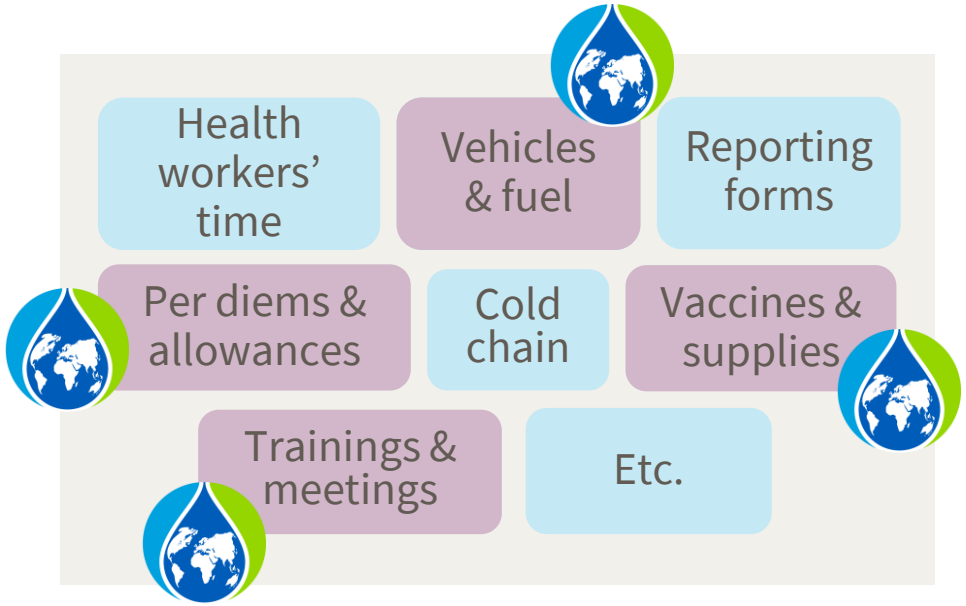
The ‘musts’:

Payer perspective	» Costs incurred to the payer(s), such as government and/or an external partner
Start-up costs	» For new interventions to show fiscal impact, incl. TA and design
Retrospective costing	» Cost out actual practices rather than (or in addition to) modelled projections that may not reflect real-life resource use
Ingredients-based	» To capture granular resource use (also called bottom-up costing)
Programmatic and contextual data	» Such as: coverage and ZD prevalence before/after, previous practices, how intervention was implemented, part of a bundle or not, other factors that may have influenced outcomes, stage at which the intervention is evaluated, and appropriateness of the intervention
Comprehensive reporting	» Purpose, scope, design, time horizon, any baseline data, costs included/excluded. Financial and economic costs, fixed and variable costs, operational and capital costs, start-up and recurrent costs
Output/utilization data	» Minimum: cost per dose delivered

Some other considerations…

Estimating the full cost

» Most interventions will leverage a mix of existing infrastructure and newly funded resources from different funding sources. Facilitates comparisons across settings with different levels of existing capacity.



Some other considerations…

Estimating the full cost

- Most interventions will leverage a mix of existing infrastructure and newly funded resources from different funding sources. Facilitates comparisons across settings with different levels of existing capacity.

Estimating the (change in) cost to beneficiaries

- For certain communities, getting a child vaccinated might be prohibitively costly or time-consuming. If this is a specific focus for the study, researchers can consider surveys (though very costly), exit interviews and focus group discussions.

Estimate the net output and net cost

- Defining incremental output as the number of children reached through an intervention overestimates its effect as some would have been reached through existing interventions.

Compare against a baseline or counterfactual

- Collect baseline data, or establish a contemporaneous counterfactual through e.g. randomized controlled trials (RCTs), comparing before/after, quasi-experimental designs, or modelling a hypothetical alternative.

Additional output metrics to consider

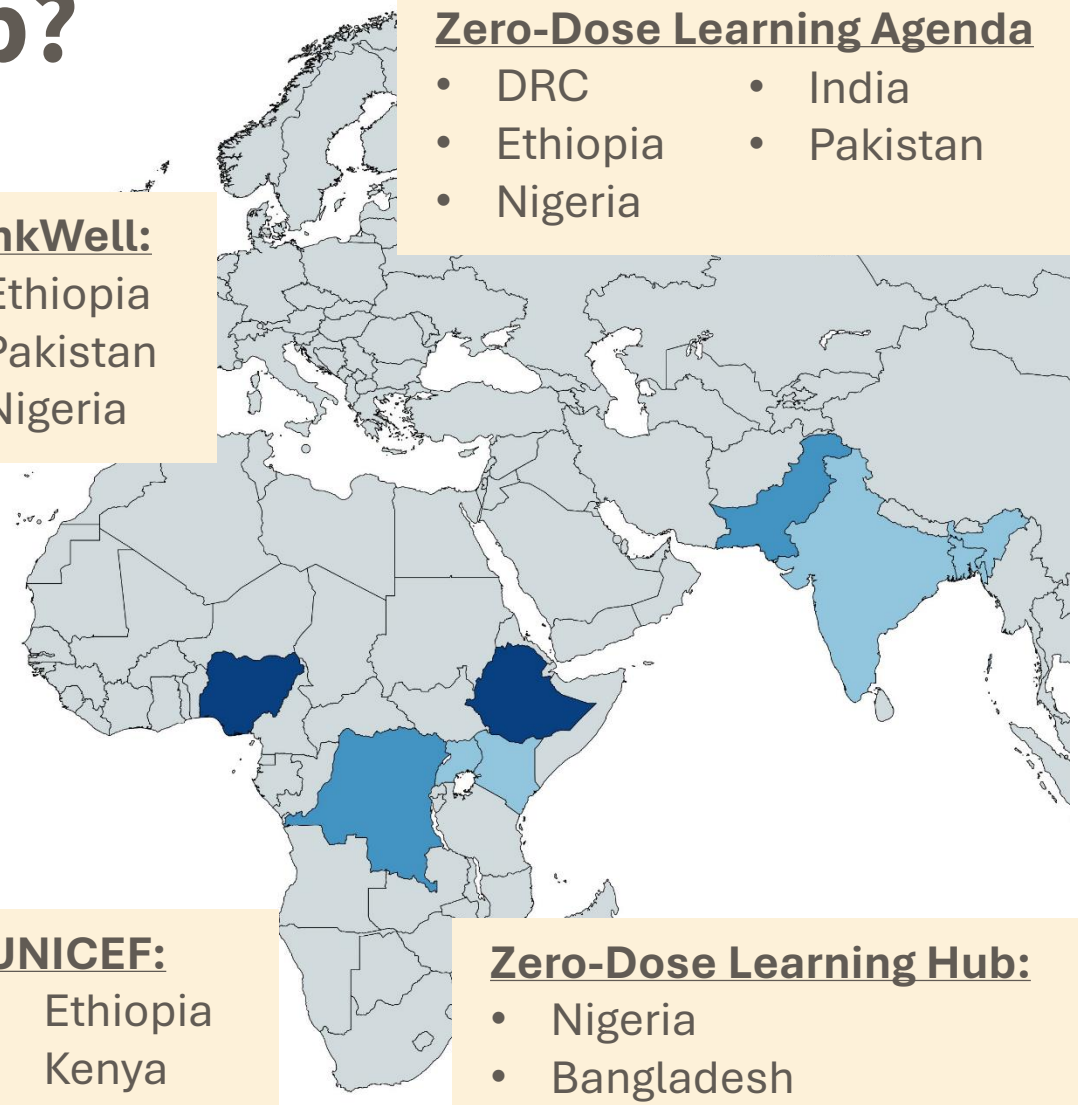
Aim of the zero-dose intervention	Ideally report on:
1 **Catching up** children that have previously been missed	**Cost per additional child vaccinated with DTP1** ***(= cost per additional DTP1 dose delivered)***
2 **Preventing** future zero-dose cases by consistency vaccinating children on time	
3 **Linking up** children with the health system so after the first dose, they also receive all other routine vaccines	**Cost per additional child reached with DTP1 and later with DTP2 and DTP3 as well (and/or later touchpoints such as MCV1, MCV2)** ***(≠ additional DTP3 doses delivered)***

3

How can we fill the zero-dose costing gap?

Are we filling the costing gap?

- Nearly no evidence today
- We know of **only 14** ongoing or planned **studies** to generate **country level cost evidence** of real-life efforts to reach zero-dose children in 9 countries
- Given the large number of interventions identified as ‘promising’: **is this sufficient?**



Zero-Dose Learning Agenda
- DRC
- Ethiopia
- Nigeria
- India
- Pakistan

ThinkWell:
- Ethiopia
- Pakistan
- Nigeria

UNICEF:
- Ethiopia
- Kenya
- Uganda

Zero-Dose Learning Hub:
- Nigeria
- Bangladesh
- (maybe others in the future)

How can we fill the zero-dose costing gap?

- **Costing studies should not be optional**. Knowing the cost is critical to inform trade-offs, and scalability/sustainability assessments.
- Research principles are meant to ensure comparability and robustness. However, **crude cost data is better than nothing**. If a full costing study is out of reach, consider shortcuts: publishing projects budgets, financial expenditure reports, etc. may still be informative.
- Finally: if you are conducting or planning to conduct a costing study, reach out to us as via immunizationeconomics@thinkwell.global as we convene a working group on zero-dose costing

THINK WELL

IMMUNIZATION ECONOMICS.ORG

Thank you!