Cost and Efficiencies Related to Integrated Campaigns: Methods & Findings from Sierra Leone and Nigeria

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1. Background: campaign delivery costing evidence and methods

2. Integrated campaigns: overview of the two studies

3. Findings and discussion
Background: Campaign delivery costing evidence and methods
EVIDENCE ON WHAT IT COSTS TO CONDUCT A CAMPAIGN IS LIMITED

- ThinkWell has conducted a review of the **global evidence on the cost of delivering vaccines** across low and middle income countries published between 2005 and March 2019.

- The Immunization Delivery Cost Catalogue includes over 660 unit costs but only **33 unit costs for campaigns and outbreak responses**.

- Estimates vary widely, and the extent to which cost variation is driven by differences in costing study methodologies or campaign operations is not clear, making the evidence **hard to compare and to use for budgeting and planning of future campaigns**.

Source: [http://www.immunizationeconomics.org/ican-idcc](http://www.immunizationeconomics.org/ican-idcc)
GUIDANCE TO HELP STANDARDIZE CAMPAIGN COSTING METHODS

- Aim: to improve standardization of campaign costing processes and reporting, and ultimately enhance the availability and comparability of evidence and to improve its use by country and global level stakeholders

- Developing methodological advice for field researchers, country practitioners and academics worldwide on how to cost an immunization campaign

- Based on existing guidance, expert consultations and experiencing from three campaign costing studies in India, Sierra Leone and Nigeria
Integrated campaigns:
Overview of the two studies
STUDY DESIGN

Objective: estimate the **delivery cost** (= operational cost) of each campaign

- **Financial** cost: campaign-specific expenses such as per diems, fuel costs, workshops, etc.
- **Economic** cost: opportunity cost, includes the value of existing resources such as labor and equipment

**Perspective**: government entity responsible for the campaign’s implementation* at all levels and implementing partners

**Retrospective** data collection (after the campaign had been conducted)

- By **resource type** (labor, transport and fuel, etc.) and **activities** (service delivery, social mobilization, training, record keeping, supervision, etc.)

**Output**: **cost per dose delivered** (weighted by volume delivered and inverse probability of sampling)

* Ministry of Health and Sanitation in Sierra Leone, National Primary Health Care Development Agency in Nigeria
### OVERVIEW OF THE TWO FULLY INTEGRATED CAMPAIGNS

<table>
<thead>
<tr>
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<th>SIERRA LEONE</th>
<th>NIGERIA</th>
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<tbody>
<tr>
<td><strong>Primary objective</strong></td>
<td>Measles Rubella (MR) catch-up campaign targeting children aged 9m-14 years old</td>
<td>Yellow Fever (YF) campaign targeting 9m-44 year olds</td>
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<td><strong>Co-delivery</strong></td>
<td>- Oral polio vaccine (OPV, 0-5 yo) integrated nationwide</td>
<td>Meningitis A (MenA, 1-5 yo) vaccine delivery in some states</td>
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<td>- Nutrition supplements (6m/1y-5 yo) in half of the country</td>
<td>- Temporary fixed sites</td>
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<tr>
<td><strong>Delivery strategies</strong></td>
<td>- Temporary fixed sites</td>
<td>- Facility-based delivery</td>
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<td></td>
<td>- Schools (MR only)</td>
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<td>- Mobile teams</td>
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<tr>
<td></td>
<td>- Facility-based delivery</td>
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<tr>
<td><strong>Timing &amp; duration</strong></td>
<td>7 days nationwide in June 2019</td>
<td>Phased by state, 10-day campaigns in 2019 and 2020</td>
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**SIERRA LEONE**

**Sampling frame**
- All districts and facilities in the country

**Design**
- Selected 6 districts: 3 that delivered all interventions, 3 that only delivered vaccines
- Purposively included 2 districts with geographic challenges, all others selected randomly
- Stratified random sampling of facilities to include different types (public/non-public, urban/rural)

**Final sample**
- 30 facilities in 6 districts (half integrated, half only delivering vaccines)

**Data collection**
- From October 2019 to February 2020

**NIGERIA**

**States part of Phase III campaigns for Nigeria’s yellow fever elimination strategy**

**Design**
- Purposely selected 3 states: Katsina (north), Anambra (center, co-delivered MenA), Rivers (south)
- Mix of local government areas (LGAs) and wards of different sizes (no. of facilities per ward)

**Final sample**
- 78 facilities in 28 wards in 10 LGAs in 3 states out of which 1 state co-delivered

**Data collection**
- From October 2020 to June 2021
Findings and discussion
In Sierra Leone, financial cost per dose delivered of any intervention (at all levels, excluding vaccines and supplements) was lower in districts that co-delivered nutrition interventions.

- Financial costs are mainly driven by expenses that are shared across the campaign (e.g. per diems, transport/fuel, etc.)
FINANCIAL COST PER VACCINE DOSE IS SIMILAR ACROSS DISTRICTS

- Financial costs are mainly driven by expenses that are shared across the campaign (e.g. per diems, transport/fuel, etc.)

- When using a common denominator for all districts (MR and OPV were delivered in the entire country) the financial cost per dose delivered is similar

- Demonstrates that financial cost efficiencies can be achieved through this form of integration
OPPORTUNITY COST OF LABOR IS HIGHER IN DISTRICTS THAT DELIVERED MORE INTERVENTIONS

Sierra Leone: economic cost per vaccine dose delivered (at all levels, excluding vaccines and supplements)

- Financial costs are mainly driven by expenses that are shared across the campaign (e.g. per diems, transport/fuel, etc.)
- When using a common denominator for all districts (MR and OPV were delivered in the entire country) the financial cost per dose delivered is similar
- Demonstrates that financial cost efficiencies can be achieved through this form of integration
- However, labor costs were greater in areas that delivered more interventions
PLACEHOLDER: NIGERIA RESULTS (1/2)

**Nigeria: financial cost per vaccine dose delivered** (at all levels, excluding vaccines)

- Anambra (delivered YF and MenA): 0.33
- Katsina (delivered only YF): 0.30

**Nigeria: financial cost per yellow fever dose delivered** (at all levels, excluding vaccines)

- Anambra (delivered YF and MenA): 0.40
- Katsina (delivered only YF): 0.30
PLACEHOLDER: NIGERIA RESULTS (2/2)

Nigeria: economic cost per vaccine dose delivered (at all levels, excluding vaccines)

- Anambra (delivered YF and MenA): 0.82
- Katsina (delivered only YF): 0.53
CONCLUSIONS & REMAINING CHALLENGES

• Results show that financial cost efficiencies can be achieved through fully integrated delivery models

• Existing resources are not infinite: greater labor costs in areas that delivered more interventions signal an increased burden on the health system

• Cost differences must be evaluated against the quality of the campaign

However, drawing firm conclusions about quality/efficiency trade-offs is challenging as integration is not randomized and geographic areas differ in many other ways
COST AND EFFICIENCIES RELATED TO INTEGRATED CAMPAIGNS

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Thank