

Zero-Dose Learning Week pre-event webinar (part1): emerging evidence on identifying ZD children

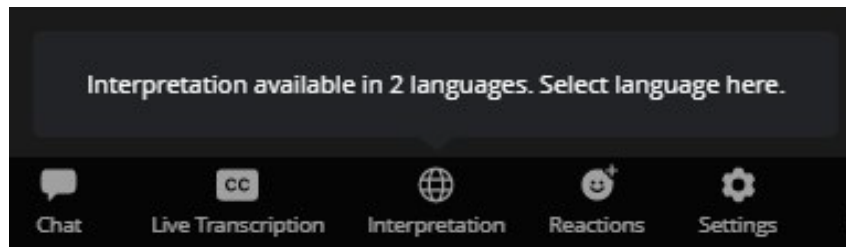
19th August 2024

16:00 CET

ZOOM TRANSLATION

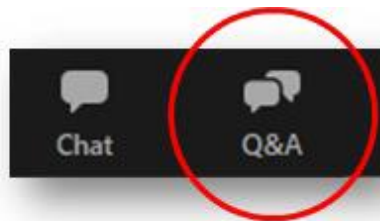
English: Click the Interpretation icon to have the option to hear the meeting in French.

Français: Cliquez sur l'icône intitulée "interprétation" pour avoir la possibilité d'écouter le webinaire en français.

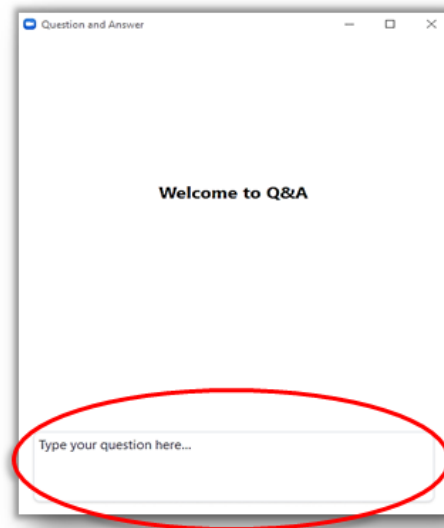


QUESTIONS AND ANSWERS BOX

Please submit your questions for the panelists in the Q&A box.



Panelists will either reply to you via text in the Q&A box or will answer your question during the discussion portion of the webinar.

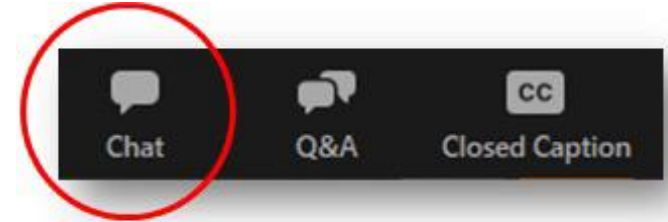


ZOOM REMINDERS

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- Please send a message to Everyone in the chat box to introduce yourself, send in your comments or ask for support during today's webinar.



- Please note that this meeting is being recorded.

WELCOME!

Speakers:

- Sunitha Srinivas Chandrasekhar, PhD – Zero-Dose Learning and Story Generation Project - Sabin Vaccine Institute
- Melaku Tsehay, PhD MPH – Consortium of Christian Relief and Development Association/CORE Group Partners Project
- Jasim Uddin, Dr. Md. – Emeritus Scientist, Health Systems and Population Studies Division at International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b)

Facilitator:

- Gustavo Corrêa, MD MPH – Evaluation and Learning Unit at Gavi, The Vaccine Alliance

Zero-Dose Learning Abstracts

IDENTIFY

- Reach
- Monitor
- Measure
- Advocate

Sunitha Chandrasekhar, PhD (consultant)

19th August 2024

Webinar 1 - IDENTIFY domain of IRMMA

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effective basic services

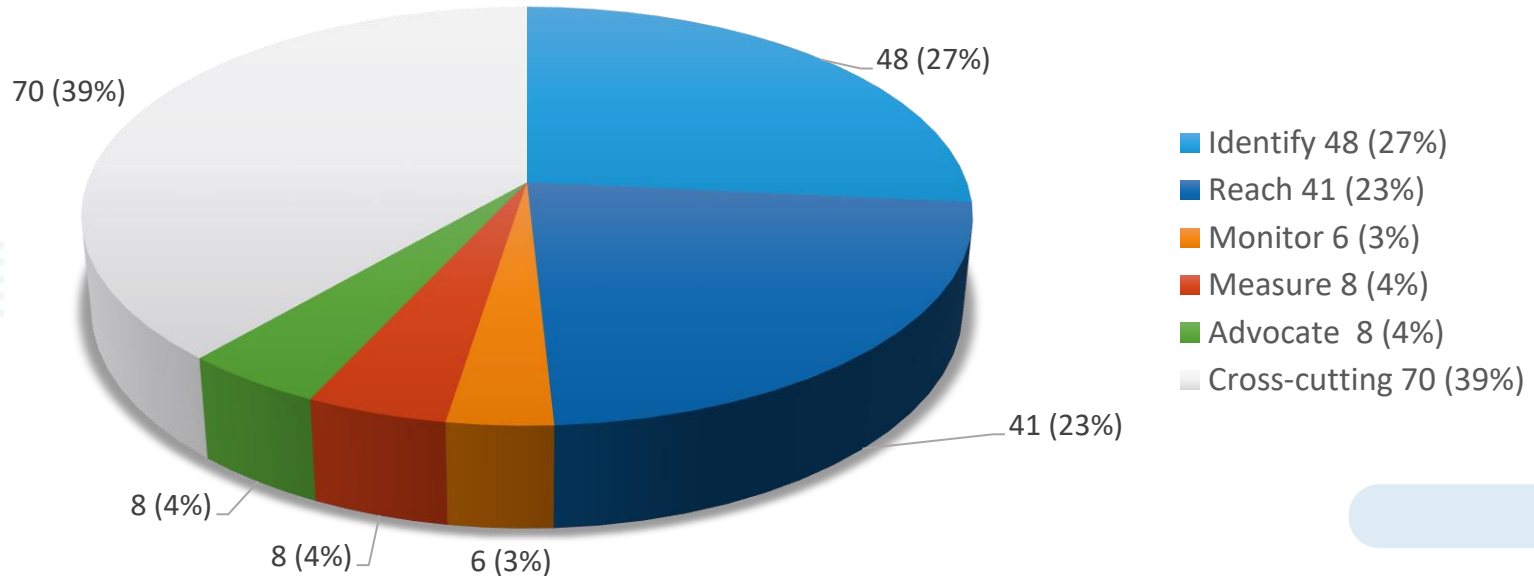


Presentation Objectives

- Provide an overview of the IDENTIFY abstracts
- From the abstracts, share insights on:
 - Who are zero-dose, under-immunized and missed children and their respective communities?
 - Why zero-dose and under-immunized children have not been vaccinated?
 - Deeper dive into gender-related barriers
- Feature promising interventions to Identify ZDC
 - The Role of Digital Technology
 - The Role of Community and Local Participation
- Sharing areas for exploration as we move from IDENTIFY to REACH – what the studies tell us

Abstracts by IRMMA Framework

**197 abstracts submitted and 181 accepted by Gavi*

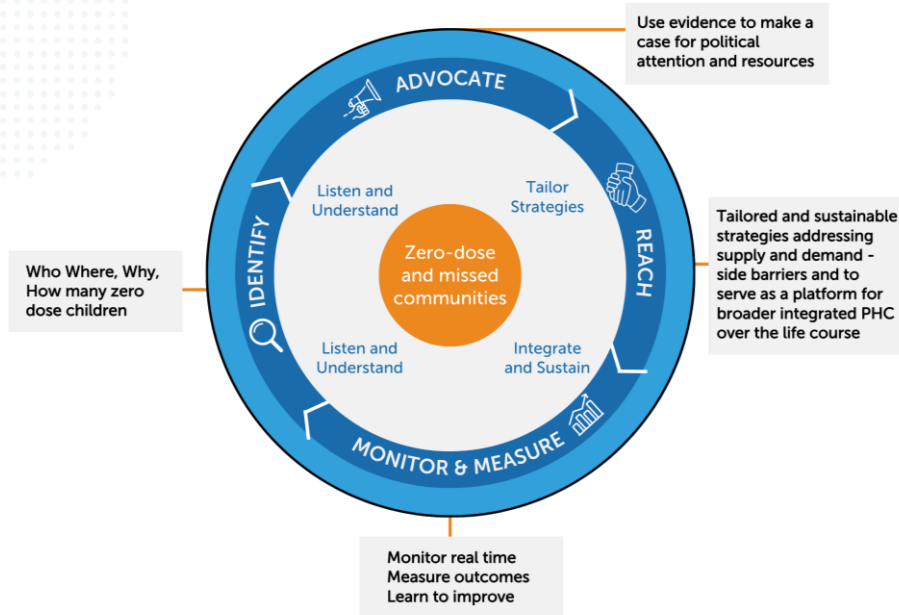


IDENTIFY

Who? Where? How many? Why?

Identify • Reach • Monitor • Measure • Advocate

Using zero-dose strategy to strengthen equitable
Primary Health Care across the life course



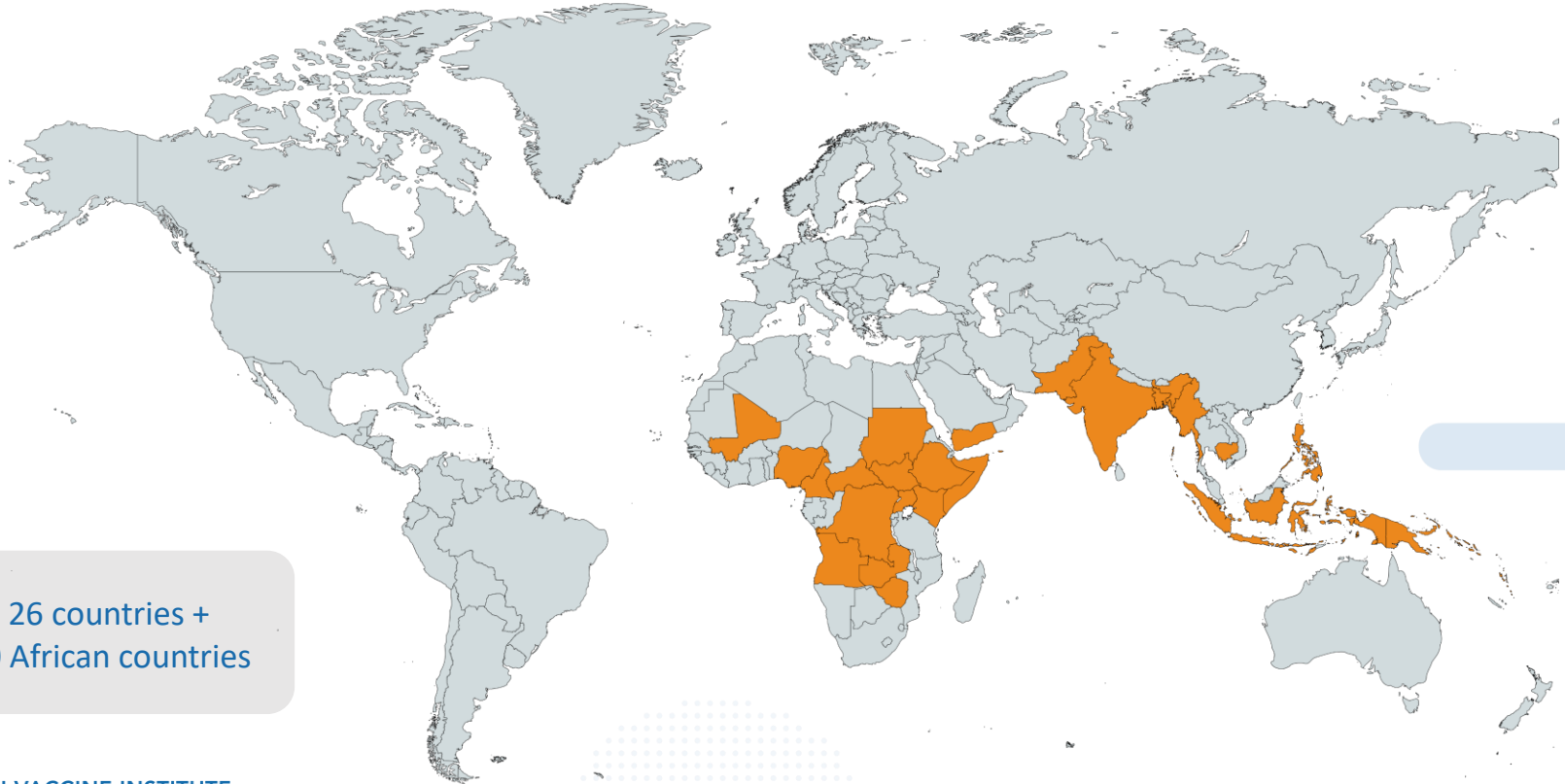
IDENTIFY

A clear understanding of how many zero-dose children and missed communities there are, who and where they are, and why they have not been reached.

Ultimately, this is to arrive at an understanding of which barriers need to be prioritized and addressed.

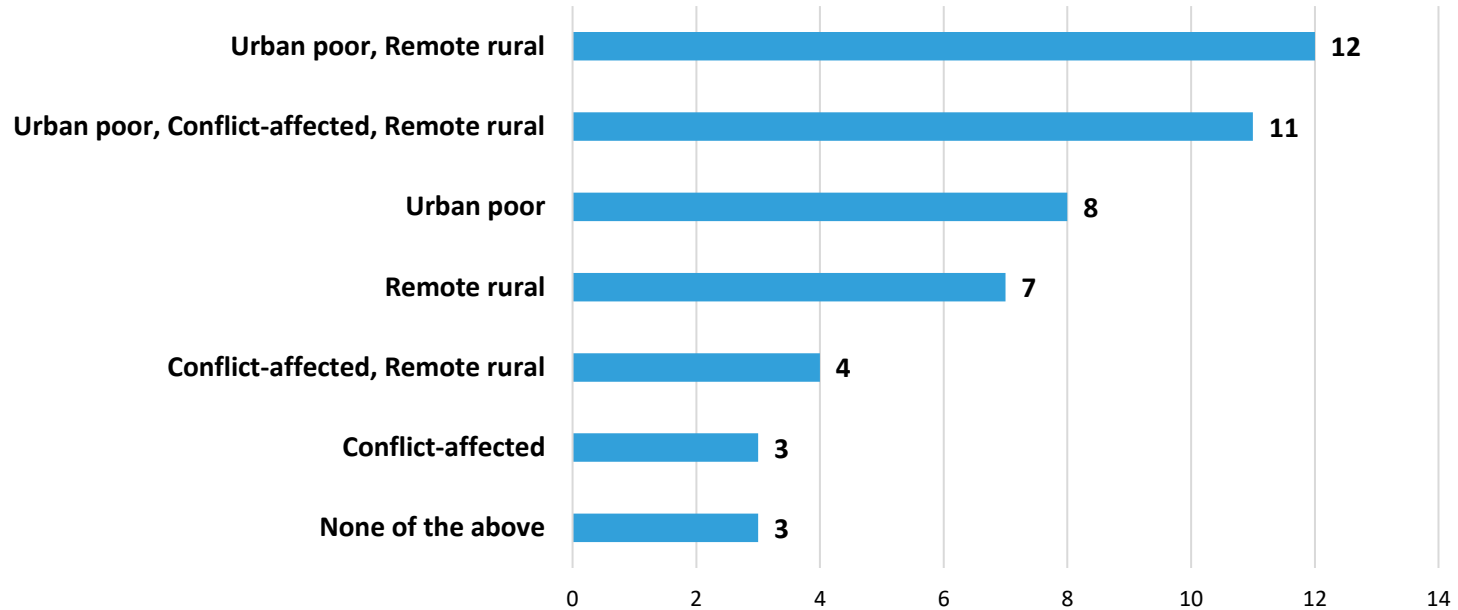
IDENTIFY Abstracts

COUNTRIES REPRESENTED

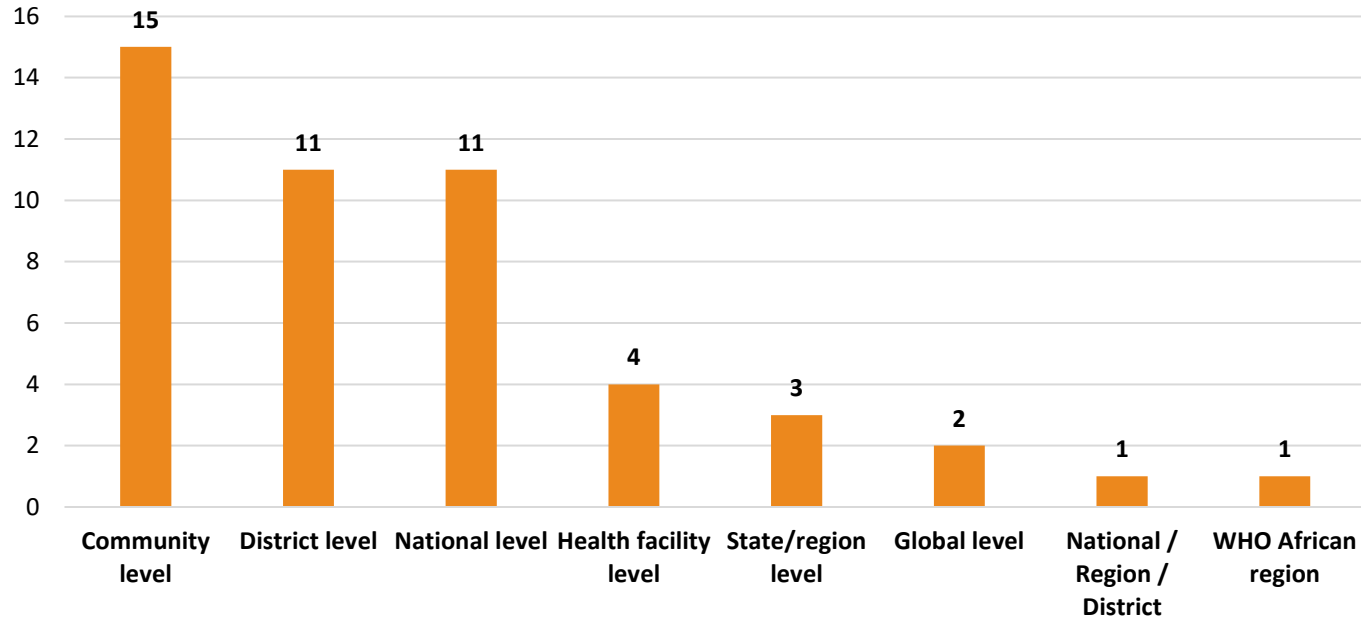


26 countries +
30 African countries

Abstracts by Equity Reference Group Setting



Geographic Focus of Learning



Who are zero-dose, under-immunized and missed children and their respective communities?

- Identifying and reaching close to 14 million zero-dose (ZD) children is a global priority, particularly those in **conflict zones** where they are 2 times more likely to be ZD than in areas without conflict.
- **Strong ZD determinants include children living in rural areas**, with mothers lacking primary education, belonging to the **poorest wealth quintile** and within communities with **high inequity**.
- ZD children can also be found in **urban poor settings** - The absence of health facilities and health extension workers in newly established urban settlements are a primary contributor to ZD and Under Immunized (UI) rates (Ethiopia); 67% of ZD children were in urban areas of Sindh, Pakistan; Spontaneous areas around large cities and peri-urban communities have pockets of ZD children (Mali)
- One in ten mother-child dyads across 30 African countries are **'multi-zero dose'** meaning they have not received any of four MCH services: facility delivery, postnatal care, DTP1 and Vitamin A supplementation.
- **55.6% of ZD children** are not MZD and have at least **some connection with the health system**.

Why have zero-dose and under-immunized children not been vaccinated?

BARRIERS TO IMMUNIZATION



COVID-19 induced backslide to routine immunization



CULTURAL AND SOCIAL BARRIERS

Non-consenting fathers, limited male participation in child immunization, religious / traditional beliefs (Nigeria, Pakistan), strong cultural beliefs based on rumors or previous experiences



KNOWLEDGE

Caretakers' poor knowledge about vaccination (Ethiopia); fears and concerns about side effects and limited understanding of managing them (India); distrust in the health system; high proportion of caregivers lacking formal education in ZD hotspots (Nigeria)



OPPORTUNITY COSTS

Farming and work schedules, domestic responsibilities especially for mothers (Zimbabwe)



ACCESS

Language barriers, travel time to facilities and household not visited by HW (Ethiopia), high mobility of refugees (Uganda), difficulty tracking refugees, and highly mobile populations (Zambia, DRC)



SERVICE DELIVERY BARRIERS

Poor health worker attitudes, shortage of staff, delays & waiting time, vaccine stock outs

Gender-Related Barriers

27 abstracts (57%) provided evidence on gender-related barriers

- Teenage mothers bullied by service providers (Uganda); not seeking immunization (Zambia)
- Vaccination responsibilities on women but with limited decision making power and economic constraints; Older age of fathers (Ethiopia)
- Lack of male involvement and vaccination perceived as a woman's responsibility; Fathers' refusal to allow immunization, myths and misconceptions (Uganda)
- Gender-based violence when children develop Adverse Events following immunization after being secretly taken for vaccination by mothers (India, Zimbabwe)
- Inconvenient timing and location of immunization; unsafe roads (Zimbabwe)
- Lack of husband or grandparent support (Indonesia); absence of male family member to accompany female caretakers for childhood vaccinations (Pakistan)
- Some outreach sites lacked essential amenities such as seating, water, and sanitation facilities, disproportionately affecting women health workers during menstruation (India)
- Female ZD caregivers showed higher level of awareness about vaccination and the immunization schedule than men (India)
- Limited access to mobile phones across women and men (Kenya)

Promising Interventions

The Role of Digital Technology to IDENTIFY ZDC

21 abstracts (43%) presented evidence on digitalization

GIS and Geospatial Technology:

Identifying ZD hotspots and optimizing health facility locations to improve vaccination coverage

Predictive Modeling: Machine learning models have shown promise in predicting areas with high ZD and dropout rates, helping target interventions more precisely and efficiently (India)

EMR / Patient-level Data Systems: Polio workforce collected data on children's immunization status and identified ZDC (Pakistan)

HeRAMS Initiative: The Health Resources and Services Availability Monitoring System (HeRAMS) has supported decision-makers in fragile contexts by providing data to guide interventions and ensure more equitable access to immunization services

(Central African Republic)

U-Reporters: Identify ZDC and Web Fact Checkers (address myths and misinformation) (DRC)

National Electronic Immunization Registry: Mobile application for real time data entry and monitoring (Pakistan)

Geospatial Tracking: The deployment of geospatial technology significantly improved vaccination coverage by enhancing microplanning and real-time monitoring of immunization campaigns (Nigeria)

Lot quality assurance sampling (LQAS): a quick, low-cost method to identify the pockets of ZD and UI children (Bangladesh)



Promising Interventions

The Role of Community and Local Level Participation to IDENTIFY ZDC

Of the 48 study abstracts, 22 studies clearly targeted identifying ZDC

- Tech and tenacity: How [DR Congo](#)'s U-Reporters are helping identify zero-dose children and address vaccine hesitancy, one community at a time
- Geo-mapping and reaching zero dose and under-immunized children in Pastoralist Areas of [Ethiopia](#)
- The Role of Community Screening and Referral Initiatives in Tracing Immunization Defaulters and Identifying Zero Dose (ZD) Children; A case study of four health facilities in Siaya, [Kenya](#)
- Strategies for identifying and recruiting zero dose caregivers in remote, hard-to-reach and humanitarian settings in [Kenya](#)
- Leveraging Community Champions for Zero-Dose Child Identification in the Typhoid Conjugate Vaccine Campaign Across [Pakistan](#)
- Leveraging polio workforce to cover zero-dose children in Lahore, [Pakistan](#)

Methodologies Involving Community and Local Level Participation

DRC

U-Report Communities, groups of young people who self-registered to a U-Reporter platform, canvassed neighbourhoods to locate zero-dose and under-immunized child

Leveraging existing investments and digital infrastructures such as U-Report can enhance community engagement, supporting immunization outcomes

Ethiopia

Community volunteers and Health Extension Workers conducted H2H mapping to identify, register and refer ZDC children

Mapping is crucial in pastoralist & semi-pastoralist areas to locate ZDC and UIC and connect them with health facilities

Kenya

Community Health Promoters visited HHs to collect Mother-Child booklets to review vaccination status in Siaya or made phone calls to CGs in humanitarian settings, respectively

In Siaya, CHPs identified 877 vaccine defaulters who were referred & received vaccinations; in targeted humanitarian settings, CHPs identified clusters of ZDC for targeted outreach

Pakistan

Community Champions—religious leaders, HCWs, students, teachers, female activists, heads of academic institutions—conducted HH visits in specific high-risk and "super" high-risk councils; and in Lahore, the polio workforce was leveraged to ID and cover ZDC

Info received via Community Champions was shared with EPI teams for targeted response; and in Lahore, the rate of fully immunized children increased by 16% in 6 months

Moving from IDENTIFY to REACH...what the studies tell us

Digitalization, Gender Equity, Integrated PHC, Engaging Diverse Stakeholders, Community-led Interventions, Conflict and Humanitarian Settings

Digital tool effectiveness, scalability, & sustainability in different settings & the feasibility of integrating them in low-resource environments remains uncertain.

There is a gap in understanding and addressing gender-specific **barriers** to immunization, particularly the role of fathers in decision-making and the challenges faced by adolescent mothers.

Understanding successful models of care that integrate ZD interventions with broader primary care services is crucial for enhancing both immunization and overall healthcare outcomes.

Effective strategies for engaging diverse stakeholders, including fathers, religious leaders, and minority groups, are not well-defined and may vary significantly across different cultural contexts.

While **community-led interventions** have shown initial success, there is limited understanding of how these initiatives can be sustained and scaled effectively over time.

Specific strategies for reaching ZD children in conflict and humanitarian settings are still underdeveloped, requiring innovative approaches to service delivery in these challenging environments.



Thank You!

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Understanding the Factors Contributing to Zero-dose Children in Pastoralist areas: Evidence from Gavi project in Afar and Somali Regions of Ethiopia

By: Melaku Tsehay (MPH, PhD)

August 2024

Addis Ababa, Ethiopia



Introduction

Over the past several decades,

The immunization coverage in Ethiopia has shown improvement

However, Challenges

- Geographical inequities
- High numbers of zero-dose and under-immunized children
 - Ethiopia ranks fifth in the world of countries

To address these gaps, Ethiopia has committed:

- Global agendas set out by
 - Gavi's strategy for 2021–2025 (Gavi 5.0) and
 - WHO's Immunization Agenda 2030 (IA2030)

Methods

Study Design;

- Community based cross sectional study design was used in both Quantitative and Qualitative methods.

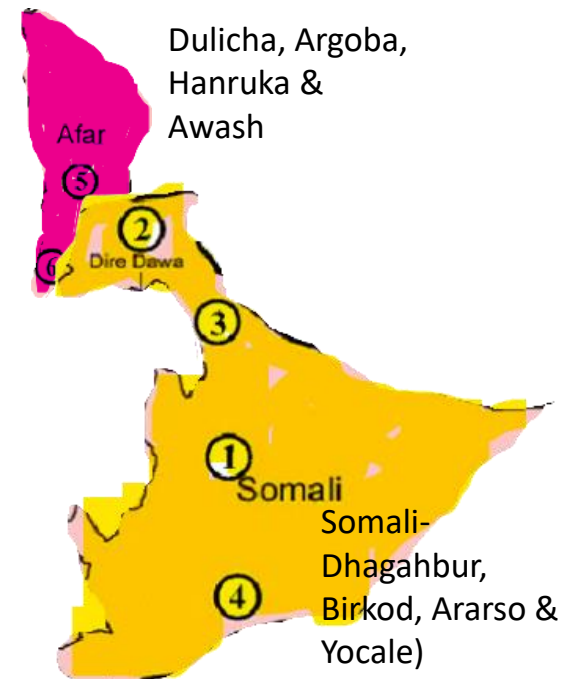
Study Population/ Targets

- Mothers /caregivers of children aged 12-23 months for the survey
- Mothers of zero doze children [IDIs]; and EPI-focal personnel as KII

Sample size: A total of 240 HH from 24 Kebeles [12 in each region] and 8 KIIs and 12 IDIs.

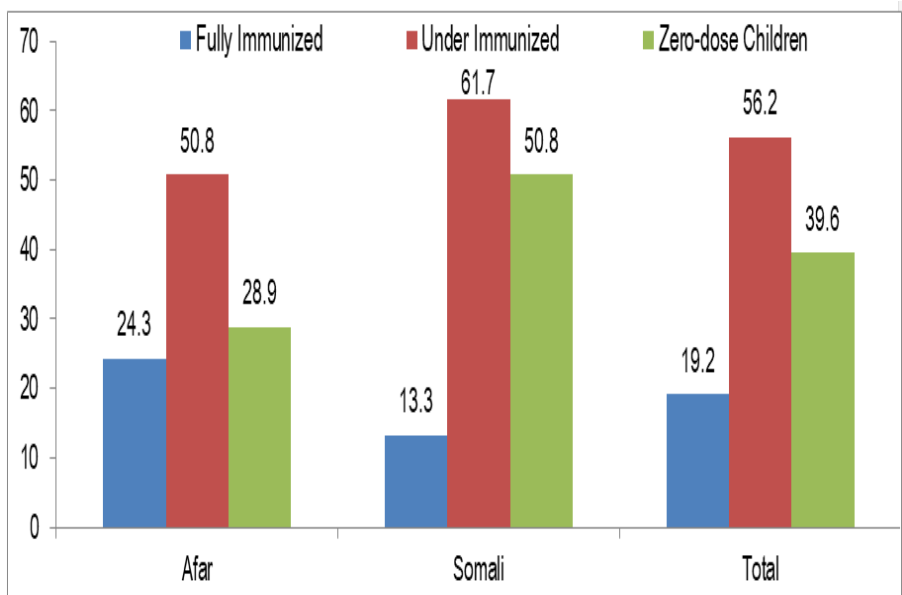
Ethical approval was obtained and informed consent, privacy and confidentiality were used at all levels of the data collection.

Study Area

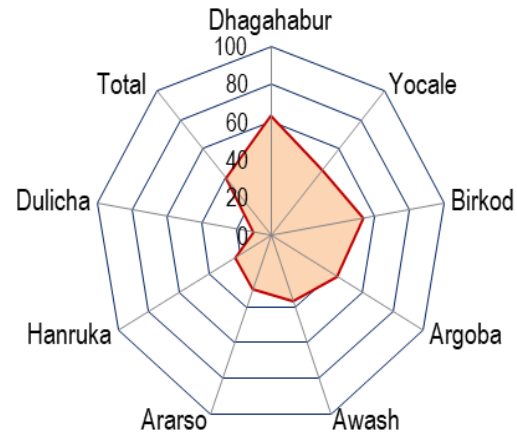


Key Findings

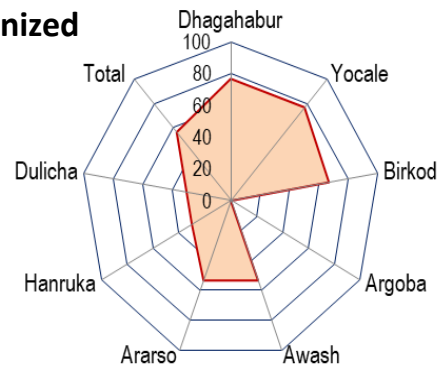
Overall- 39.6: 95% CI [32.0 - 45.5]



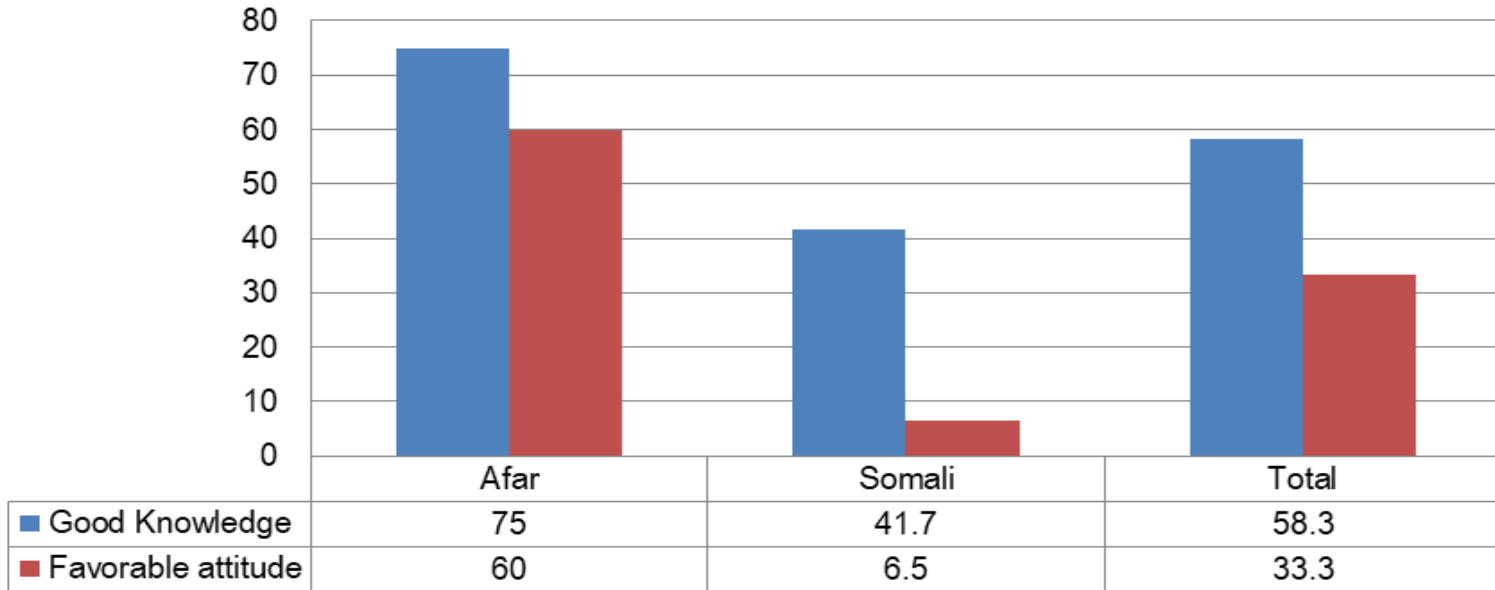
Zero Dose Children



Under-Immunized



The Knowledge and Attitude of Mothers about Immunization



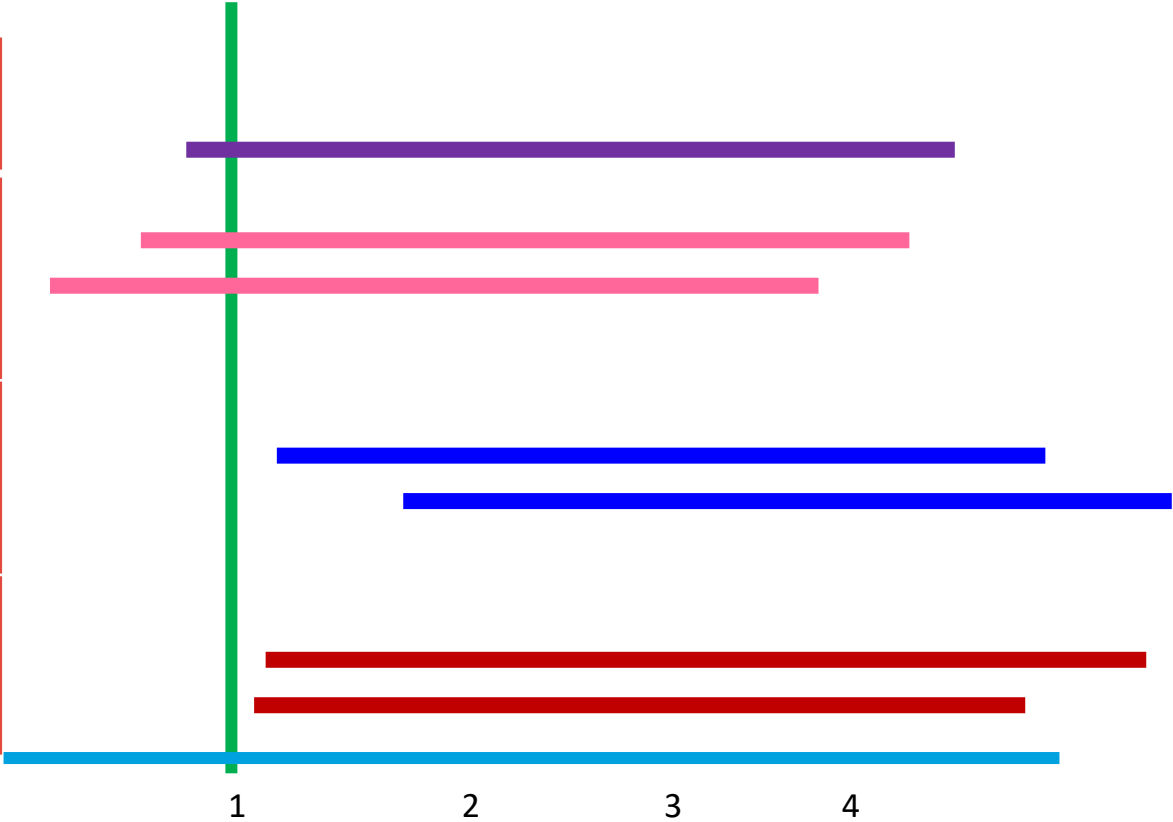
Factors associated with zero-dose children

Head of household
 Mother*****
 Father

Age of the mother
 16-25
 26-35
 36-45*****

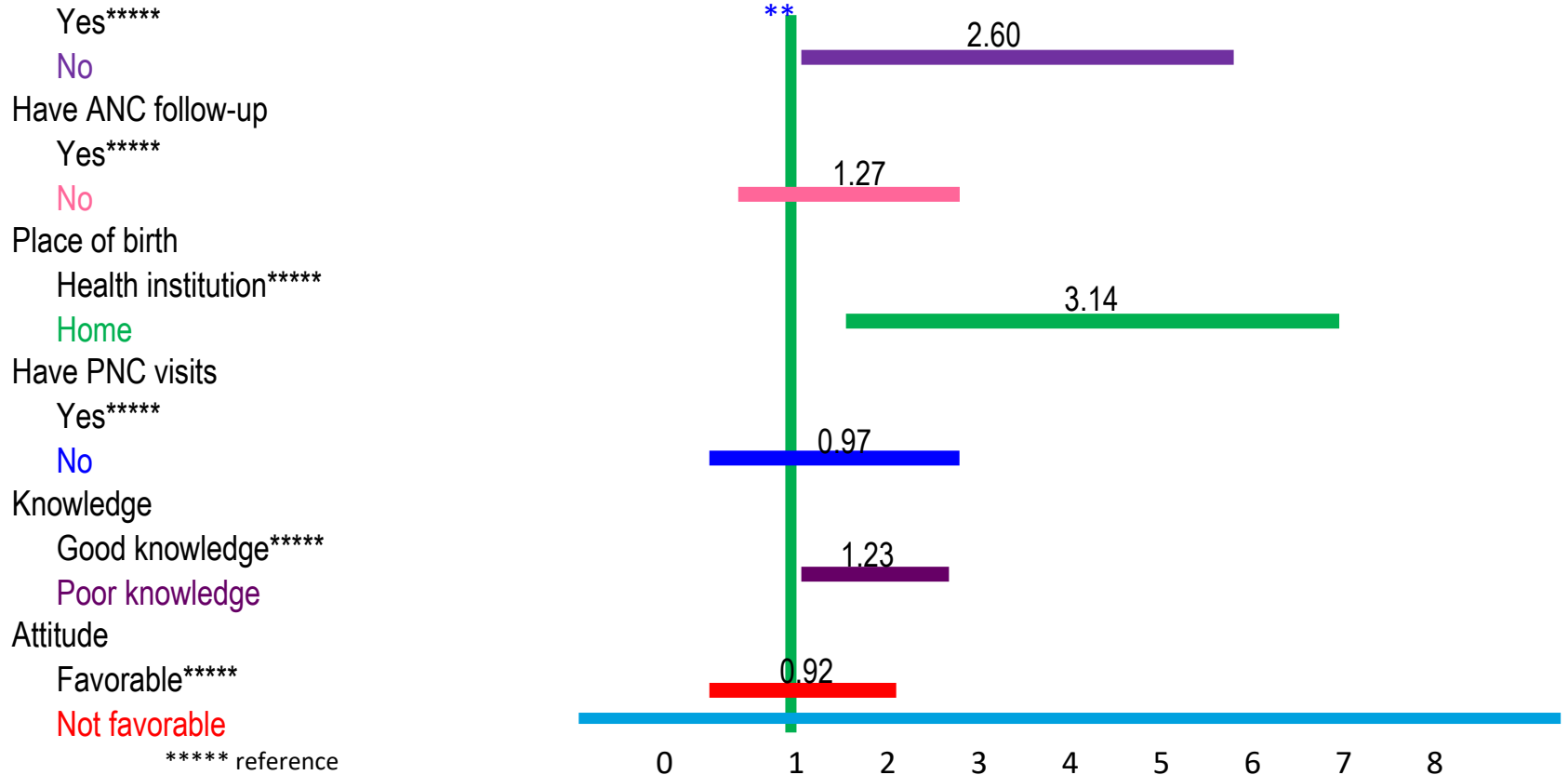
Age of the father
 21-30*****
 31-40
 >=41

Travel time to nearest health facility
 <15 minutes*****
 15-30 minutes
 >30 minutes



Cont....

In last month, the HH visited by HEW



Factors contributing to ZD and UIC

Facility level

- 1
 - Shortage of Staff and high workload (Mondays are more stressful)
 - Immunisation Data quality- improper registration
- 2
 - Poor quality of RED micro plans-Denominator
 - Poor road infrastructure
- 3
 - High vaccine wastage rate due to lack of supply on vaccine ledger book and health workers recording problems
- 4
 - Staff turnover and low accountability of vaccinators and vaccine suppliers
- 5
 - Poor quality of IPC b/n mother & vaccinators/HWs

Community level

- 1
 - Lack of transportation services to vaccination center
 - Lack of Immunisation accessibility
- 2
 - Distance from vaccination sites
 - Fear injection and vaccine AE
- 3
 - Lack of trust on vaccines and forgetfulness
 - Living condition-pastoralist communities from place to place
- 4
 - Absences of HF in the locality
- 5
 - Lack of awareness on the importance of vaccination

Key Recommendations

- Enhancing immunisation service availability and implementing a contextual based approach on pastoralist areas.
- Improving HCWs accountability
- Supporting the EPI program with an adequate budget, transportation and other logistics could be valuable.
- Enhancing the capacity of health care providers (IPC, Micro...)
- Appropriate bottom-up, reaching every community and micro-planning.
- Strengthening new-born tracking and mapping of ZDC
- Strengthened immunization demand activity: CC, religious leader involvement etc...

Thank You !!



Targeted assessment of prevalence of zero-dose and under-immunized children in Bangladesh

Dr. Md. Jasim Uddin

Emeritus Scientist

Health Systems and Population Studies Division
icddr,b

August 19, 2024



Background

- Every year, nearly 10 million of the 72.5 million children that Gavi aims to reach in low-income countries do not receive the first essential vaccination
- Zero-dose (ZD-missing 1st dose of pentavalent) children account for nearly half of all vaccine-preventable deaths
- In Bangladesh, 16-20% of children remain unvaccinated or under-vaccinated which leaves critical gaps in protection and renders vulnerability to outbreaks
- The prevalence of ZD and under-immunized (UI- missing of 3rd dose of pentavalent) children is understudied

Objective

To understand the prevalence of ZD and UI children in selected rural and urban areas of Bangladesh

Methods

Study design: A cross-sectional household survey

Study population: Caregivers of the children aged 4.5 months to 23 months (usually mothers).

[The lower age limit was set to allow for a delay of up to one month in obtaining the scheduled 3rd dose of pentavalent].

Study areas: 10 sub-districts and two urban wards

- The areas identified from diverse landscapes of Bangladesh- haor/wetlands, hilly, coastal, char/silty lands, plain land and urban slums

Study period: September-December 2023

Methods (cont..)

Sampling and sample size:

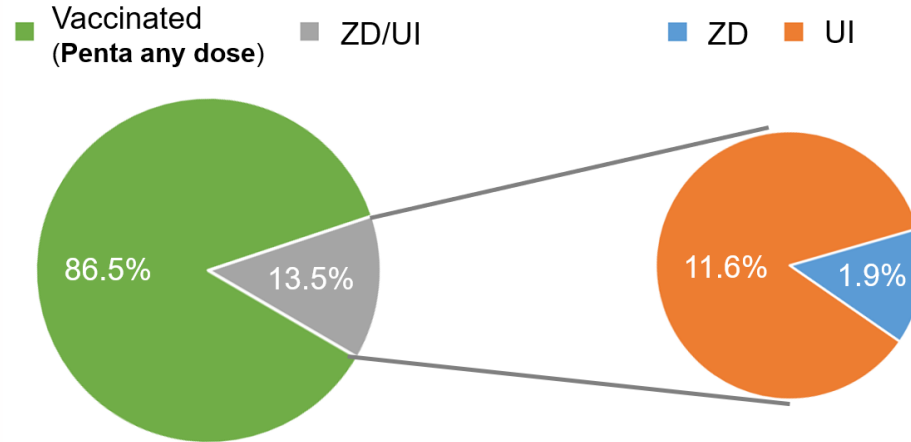
- WHO recommended two-stage random cluster sampling methodology was followed to estimate the required sample size for each sub-district/slum
- The sample size in each site was 1150 considering 6% prevalence of ZD, 5% significance level, a design effect of 1.58 and 10% non-response rate
- Total sample size was 13,800 ($=1150*12$) eligible respondents

Data analysis:

- Chi-square tests were used to measure the association of the outcome variables- ZD and ZD/UI with each covariate
- Binary logistic regression was used to estimate the net effects of the covariates on each outcome (ZD and ZD/UI) variable, adjusting for clustering effects
- Analysis was conducted using STATA software (version 15)

Findings

Status of ZD and UI children aged 4.5-23 months at study areas (N=12,756)



About 1.9% of the children were ZD, 11.6% UI and 13.5% ZD/UI

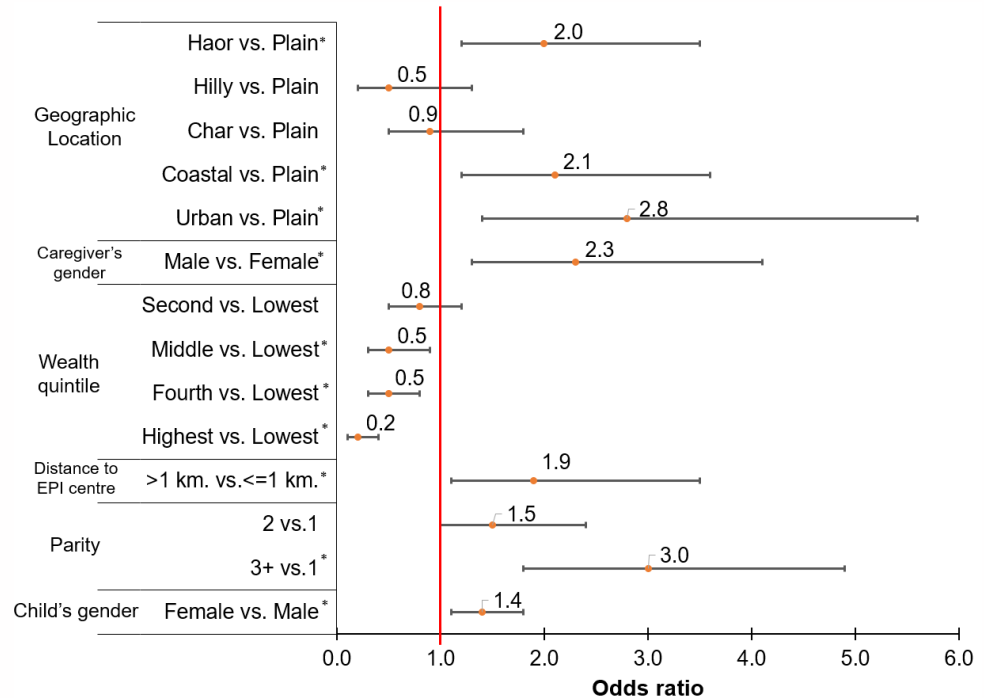
Prevalence of ZD and ZD/UI children by background characteristics of the respondents

- Prevalence of ZD was highest among the children of the caregivers who had no education and belonged to the lowest wealth quintile— 5.3% and 3.3%, respectively
- It was also observed that the higher the parity, the greater the prevalence of ZD
- The prevalence of ZD stood at 3.4% for caregivers whose parity was 3+ in contrast to 1% among those whose parity was 1
- Children taken care by male caregivers had higher ZD prevalence (3.3%) in contrast to children under female caretakers (1.9%)

Findings (cont..)

Forest plot on adjusted odds ratio of ZD from binary logistic regression model (N=12,756)

- Findings from a binary logistic regression model revealed that children residing in rural remote and urban slum areas were approximately 2 to 3 times more likely to be ZD compared to children living in plain areas
- Female children were 1.4 times more likely to be ZD than male children



* Statistically significant at 5% level of significance

Behavioural and social drivers of vaccination

95% of the caregivers believed that:

- vaccines are moderately or very important for a child's health
- wanted to get their child all the recommended vaccines
- were informed about where to get their child vaccinated
- believed vaccines to be safe for their child
- had taken their child to get vaccinated and
- believed that it was easy to receive vaccination services for their child

Conclusion and recommendations

- The study findings confirmed the presence of ZD and UI children in Bangladesh, which demands responses to address inequity and improve herd immunity
- ZD and UI children are spread throughout the country with higher ZD in haor, urban slum and coastal areas
- The findings of the study indicated UI children are alarmingly high in some areas
- Associations we found can guide policy and program managers considering new approaches to reduce ZD and UI children in the geographies and community types where ZD and UI is particularly high

Thank You