# Zero-Dose
## LEARNING HUB

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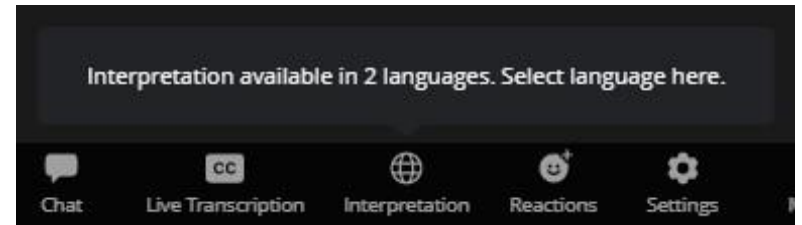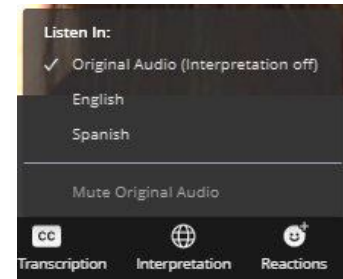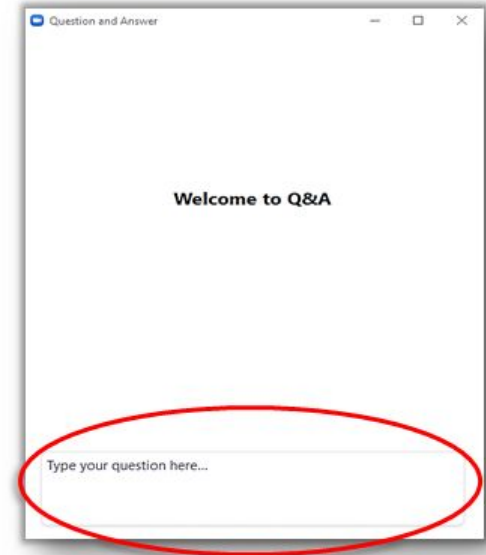
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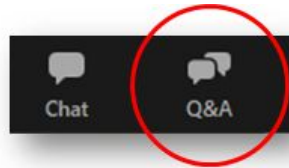
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![Zero-Dose Learning Hub logo]

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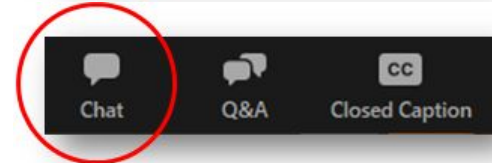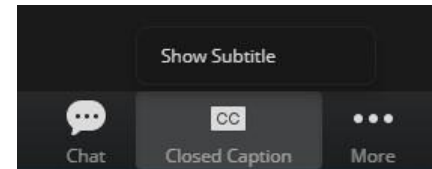
# Welcome

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# Implementation Research for Reducing Zero-Dose and Under-Immunized Children in Bangladesh

**Hemel Das**
**June 13, 2024**

# Background

- Findings from **rapid assessment** conducted by Bangladesh CLH confirmed the existence of zero-dose (ZD) and under-immunized (UI) children in different geographical locations.
- The main reasons for ZD and UI children in Bangladesh are:

| Factors | Haor (Wetlands) | Char (Sandy/silty lands) | Coastal | Hilly | Plain | Urban Slums |
|---|---|---|---|---|---|---|
| **Demand-side** | | | | | | |
| Migration | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Misperception around EPI | | | | ✓ | | |
| River erosion | ✓ | ✓ | ✓ | | | |
| Harvesting season | ✓ | ✓ | | ✓ | | |
| **Supply-side** | | | | | | |
| Lack of Interpersonal Communication (IPC) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Difficult road communication | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Lack of man power/ excessive work load of HAs | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Denominator issue | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| High transportation cost | ✓ | ✓ | ✓ | ✓ | | |
| Delay in vaccine supply at outreach centers | ✓ | ✓ | | ✓ | ✓ | |
| Lack of transport for providers | ✓ | | ✓ | ✓ | | |
| Lack of monitoring and supervision | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# Background

- Gavi and the Global Immunization Agenda 2030 have greatly intensified their emphasis on **equity**, intending to reach ZD, UI children and their communities.

- The rapid assessment recommended conducting **implementation research** to develop and test appropriate approaches for reaching ZD and UI children as well as missed communities to bring them into the health system.

# Implementation Research (IR)

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# Implementation Research

- Bangladesh CLH is conducting this quasi-experimental pre-post design study in six areas identified through the rapid assessment.
- Each selected intervention area has a corresponding comparison area from the same type of location that was identified through rapid assessment.

## IR Areas

| Geographic Location | District | Intervention Sub-District | Comparison Sub-District |
|---|---|---|---|
| Haor (Wetlands) | Sunamganj | Dowarabazar | Jamalganj |
| Char (Sandy/silty lands) | Gaibandha | Saghata | Phulchari |
| Coastal | Noakhali | Hatiya | Subarnachar |
| Hilly | Rangamati | Kawkhali | Rangamati Sadar |
| Plain | Sherpur | Nalitabari | Sreebardi |
| Urban slums | Dhaka North City Corporation | Zone 05, Wards 26 & 30 | Zone 05, Ward 33 |

# Implementation Research (cont…)

## Steps taken in designing interventions

**First step:** Identified evidence-based interventions implemented in hard-to-reach areas and with hard-to-reach populations

**Second step:** Shared the identified interventions with key immunization stakeholders and consultation with them

**Third step:** Revised the interventions according to recommendations received through in-person meetings and rapid assessment findings sharing seminar

**Fourth step:** Used human-centered design approach to understand the drivers of non-vaccination within families, and the interventions likely to be successful in improving uptake of routine immunization

**Fifth step:** Designed area-specific interventions for the IR

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# Implementation Research (cont…)

## Area-specific interventions

**All Area**

- Training of service providers
- EPI e-tracker (e-registration, e-messaging, e-monitoring)
- Use of e-screening checklist (except urban slum and street dwellers)
- Distribution of Behavior Change Communications (BCC) materials
- Modified EPI session schedule (evening session/mobile session/crash program/weekend session) - if needed

**Hard-to-reach char areas**

- Advocacy with community leaders

# Implementation Research (cont…)

## Area-specific interventions (cont….)

**Hard-to-reach haor areas**
- Strengthen EPI support groups (TBAs, imams, students, UP members, etc.)

**Hard-to-reach hilly areas**
- Advocacy with community leaders
- Involvement of existing Non-Governmental Organization (NGO) community worker

**Hard-to-reach coastal areas**
- Health education through Community Health Care Provider (CHCP)
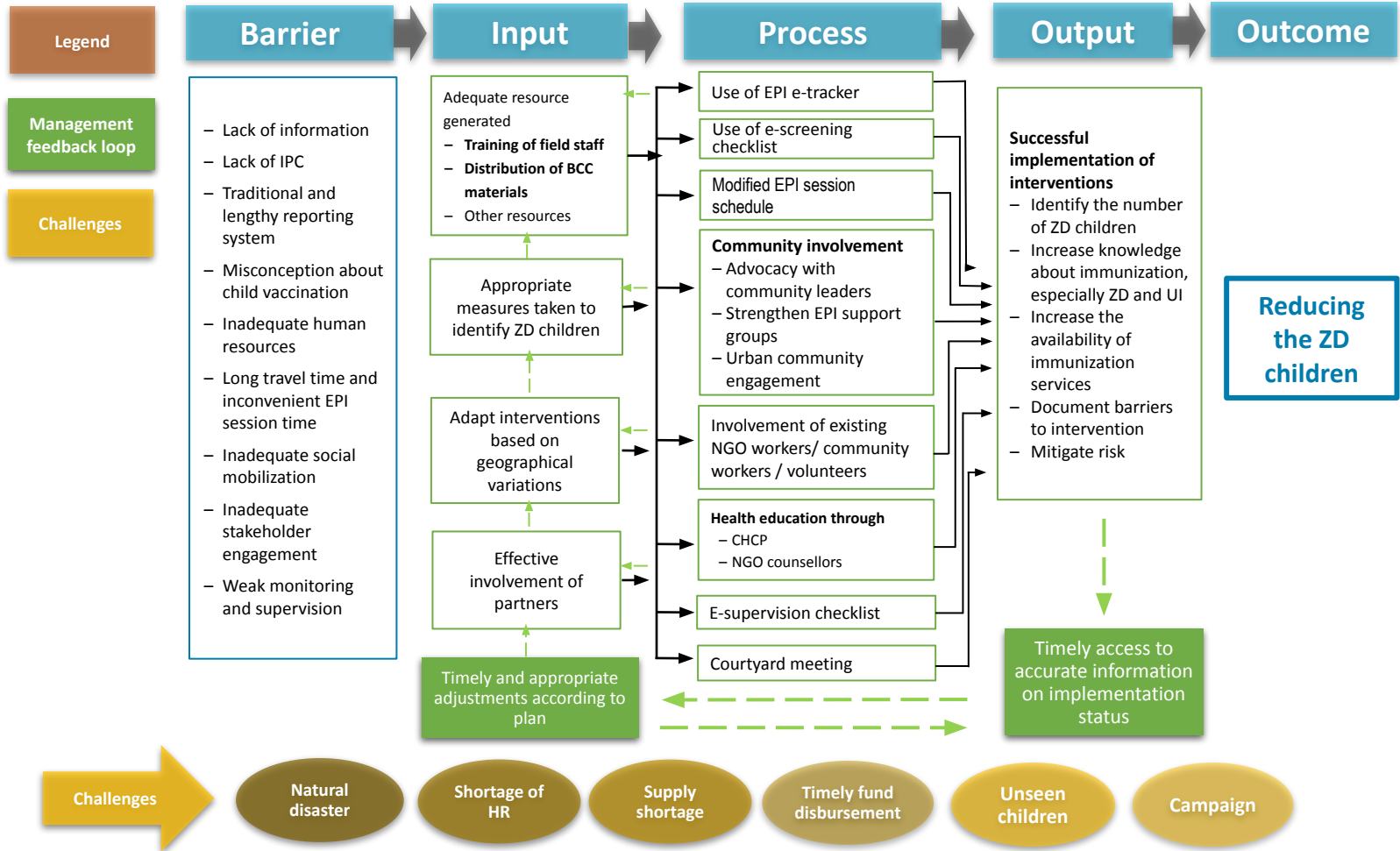- e-supervision checklist

**Plain land**
- Conduct courtyard meeting

**Urban slum and street dwellers**
- Community engagement (landlord, club/committee member, imam, etc.)
- Health education through NGO counselors

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# Implementation Research (cont…)

**Theory of change for reducing ZD children**

**Legend**

**Management feedback loop**

**Challenges**

| Barrier | Input | Process | Output | Outcome |
|---|---|---|---|---|

**Barrier**
- Lack of information
- Lack of IPC
- Traditional and lengthy reporting system
- Misconception about child vaccination
- Inadequate human resources
- Long travel time and inconvenient EPI session time
- Inadequate social mobilization
- Inadequate stakeholder engagement
- Weak monitoring and supervision

**Input**

Adequate resource generated
- **Training of field staff**
- **Distribution of BCC materials**
- Other resources

Appropriate measures taken to identify ZD children

Adapt interventions based on geographical variations

Effective involvement of partners

Timely and appropriate adjustments according to plan

**Process**

Use of EPI e-tracker

Use of e-screening checklist

Modified EPI session schedule

Community involvement
- Advocacy with community leaders
- Strengthen EPI support groups
- Urban community engagement

Involvement of existing NGO workers/ community workers / volunteers

Health education through
- CHCP
- NGO counsellors

E-supervision checklist

Courtyard meeting

**Output**

**Successful implementation of interventions**
- Identify the number of ZD children
- Increase knowledge about immunization, especially ZD and UI
- Increase the availability of immunization services
- Document barriers to intervention
- Mitigate risk

Timely access to accurate information on implementation status

**Outcome**

**Reducing the ZD children**

**Challenges**

Natural disaster | Shortage of HR | Supply shortage | Timely fund disbursement | Unseen children | Campaign

# Evaluation Design of IR Study

- Will conduct both impact and process evaluations to assess changes in the vaccination of ZD children after the implementation of the interventions.

- **Impact evaluation:**
  - Surveys before and after implementation of the interventions in both intervention and comparison areas.
  - A four-cell (intervention-non-intervention and pre-post comparison) study design is proposed for assessment of the intervention effects.

- **Process evaluation:**
  - Observations of field activities.
  - Key informant interviews with service providers.
  - Focus group discussions with frontline health care providers.

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# Current Status

The IR is being implemented (started from December 2023) within the existing health system of Ministry of Health and Family Welfare (MOHFW).

# Lessons Learned

- Involvement of all EPI stakeholders and use of human-centered design approaches are important and crucial factors in designing interventions for IR.

- Existence of a committee engaging EPI stakeholders at the sub-national level is helpful for monitoring the progress of interventions.

# Thank you!

# The "Reach" Learning Strategies of Zero-Dose Learning Hub Nigeria

Dr. Hyelshilni Waziri

**African Field Epidemiology Network–Africa Health Budget Network (AFENET–AHBN)**

# Outline

**01** **Introduction**

**02** **Barriers to identifying and reaching ZD children**

**03** **Strategies to identifying and reaching ZD children**

**04** **Approach**

**05** **Theory of Change**

**06** **Limitations**

**07** **Conclusion**

# **Introduction**

- **Immunization** remains the <u>best form of prevention against diseases</u> globally

- Africa accounts for **> 30 million** children under 5 years suffering vaccine-preventable diseases (VPDs) annually

- Nigeria accounts for **over 2.2 million zero-dose children** with **70% Penta 1** coverage and **57% Penta 3** coverage[1]

- Innovative strategies developed in **Nigeria Strategy for Immunization and PHC System Strengthening** in line with **Immunization Agenda (IA) 2030** and **Gavi 5.0** to reduce number of ZD children by **15% by 2024** by National Primary Health Care Development Agenda across **100 prioritized districts.**

- Currently, **2 strategies prioritized**:
    - Zero Dose Reduction Plan **(Z-DROP)**
    - Identify, Enumerate and Vaccinate **(IEV)**

[1] Federal Ministry of Health, National Primary Health Care Development Agency, Nigeria Strategy for Immunisation and PHC System Strengthening [NSIPSS] 2018–2028. 2018, Nigeria Federal Ministry of Health.

# Priority Indicators

## Summary of findings

**THINKING AND FEELING**

90% parents/caregivers say vaccines are moderately or very important for their child's health

91% parents/caregivers say vaccines are moderately or very safe for their child

95% parents/caregivers say they trust the health workers who give children vaccines "moderately" or "very" much

**SOCIAL PROCESSES**

90% parents/caregivers say most of their close family and friends want their child to be vaccinated

94% parents/caregivers say their community leaders want their child to be vaccinated

88% parents/caregivers say they do not need to take permission for child vaccination

**MOTIVATION**

90% parents/caregivers say they want their child to get all the recommended vaccines

**PRACTICAL ISSUES**

90% parents/caregivers say they know where to get their child vaccinated

67% parents/caregivers say vaccination is "moderately" or "very" easy to pay for

88% parents/caregivers say they want they are "satisfied" or "very satisfied" with vaccination services

## Zero Dose Reduction Operational Plan

- **Z-DROP,** designed in 2023 **aimed at enhancing immunization efforts to reduce ZD** cases **through optimization of existing strategies**

- A **bottom-up approach** with structured, data-driven method developed as a quick response to ZD reduction

- **Automated Excel-based template** attempted to rank sub-districts using data triangulation approach (Surveillance, Diphtheria outbreak and administrative data—Diphtheria, pertussis, and tetanus [DPT]1 & 3)

- Activities across the 100 prioritized local government areas (LGAs) has been **harmonized**, funding from Gavi secured, implementation is yet to commence

**Leadership and Coordination**

**Service Delivery**

**Demand Generation**

**Data Management/Monitoring & Evaluation (M&E)**

**Vaccine Logistics**

# Strategies to Identify and Reaching ZD Children: Z-DROP

| LEADERSHIP & COORDINATION | SERVICE DELIVERY | DEMAND GENERATION | DATA MANAGEMENT | VACCINE LOGISTICS |
|---|---|---|---|---|
| • Weekly integrated Local/State Emergency Maternal and Child Health Intervention Centre meetings<br><br>• Supportive supervision at health facilities by partners<br><br>• Integrated outreach services to prioritized settlements<br><br>• Promote accountability through quarterly reward/sanction committee meetings<br><br>• Engage casual health workers to support routine immunization (RI) activities | •Daily fixed sessions in tertiary, secondary, urban primary health care (PHC) centers & identified private health facilities (HFs)<br>•At least 1 fixed session/week in prioritized HFs<br>•Bi-weekly fixed sessions in 1 general hospital and 5 urban PHCs<br>•Extended RI sessions for ZD children on market days, in internally displaced persons (IDP) camps, women centers, etc.<br>•Vaccination in insecure settlements by volunteers and team leads<br>•Provide RI/COVID-19 & integrated services to migrant/IDP/VPD outbreak communities across the LGAs | •Intensified line listing, reconciliation, defaulter tracking, and referral<br><br>•Generate demand for RI through community engagement<br><br>•Conduct community dialogue/sensitization at prioritized health facilities | •Improved monitoring and implementation of proposed activities<br><br>•Conduct planned sessions<br><br>•Review SMS and DHIS data by LGA M&E to support RIOs | •Track cascade facility during each session by partners<br><br>•Include all IDP camps during logistic planning<br><br>•Mechanism for HF redistribution of vaccines/other devices to reduce stock-out and wastage<br><br>•Weekly accountability of vaccine/other devices utilization and transmission to state and national servers |

## Identify, Enumerate and Vaccinate (IEV) Strategy

- IEV strategy leverages geographic information system (**GIS**) technology and **census** approach aimed at complete enumeration of children 0–59 months of age across the 100 prioritized LGAs

- Facilitate **integration** with PHC services, improve **equity,** and strengthen **surveillance** of VPDs. Under IEV, identified and enumerated unvaccinated children will be given a coupon card to be taken to the nearest PHC for enrolment for vaccination

- IEV approach will involve:
  - **Identification:** Door-to-door walkthrough of communities to identify ZD, UI children, and missed communities/settlements
  - **Enumeration:** Administration of structured questionnaire and geo-tagging of identified ZD/UI children for tracking and performance monitoring
  - **Vaccination:** Deployment of healthcare workers for targeted optimized outreach services to high ZD/UI children locations/missed communities

- Pilot conducted in 1 LGA of the national capital and 1 ward (Yamma 2) in Katsina. Roll out is planned for 3<sup>rd</sup> quarter of 2024

# Implementation Research Methodology

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- AFENET-AHBN Consortium aim to conduct a longitudinal study to measure change over a one-year period
- IR uses two frameworks:
    - Practical, Robust Implementation & Sustainability Model framework
    - Reach, Effectiveness, Adoption, Implementation, Maintenance framework

## BARRIERS & FACILITATORS

Identify & analyze factors affecting current strategies for reaching ZD children & missed communities

## TARGETED ASSESSMENT

Evaluate challenges & supports for Z-DROP & IEV strategies in various settings like rural areas, hard-to-reach areas, border communities, special populations, & urban slums

## EFFECTIVENESS & EFFICIENCY

Assess how effectively Z-DROP & IEV identify & reach ZD children & missed communities in different settings

## COST ANALYSIS

Examine incremental costs & cost-effectiveness of Z-DROP & IEV strategies

## IR OBJECTIVES

# Theory of Change: Implementation Research

| OBJECTIVE 1: Identify potential barriers and facilitators inherent in Z-DROP and IEV in reaching zero=dose children and missed communities | OBJECTIVE 2: Assess the effectiveness and efficiency of Z-DROP and IEV in reaching zero-dose children in the different implementation segments | OBJECTIVE 3: Examine the costs and cost-effectiveness of Z-DROP and IEV to reach zero-dose children when compared to each other and to no intervention |
|---|---|---|
| **OUTPUT 1:**<br>• Establishing evidence-based recommendations on gender and equity related barriers inherent in implementing Z-DROP & IEV<br><br>**INTERMEDIATE OUTCOME 1:**<br>• Increased evidence-based recommendations to addressing gender & equity barriers to access, uptake & delivery of RI | **OUTPUT 2:**<br>•Informed recommendations to guide effective & efficient implementation of Z-DROP & IEV RI strategies<br><br>**INTERMEDIATE OUTCOME 2:**<br>•Reduced equity & gender, barriers to accessing immunization<br>•Improved effectiveness & efficiency in implementation of strategies to reaching zero-dose & missed communities | **OUTPUT 3:**<br>•Provide evidence-based recommendations on the incremental cost for reaching zero-dose children & the cost-effectiveness strategy<br><br>**INTERMEDIATE OUTCOME 3:**<br>•Adequate resource allocation for reaching zero-dose & missed communities |

## Risks

1. Government competing priority agenda
2. Increasing insecurity
3. Sub-optimal integrity of existing data sources
4. Data/information sharing limitations among Implementing partners

## Leverages

5. National policies and strategies
6. Trained HCWs and security personnel
7. Accountability Framework
8. Emergency coordination centres—NERICC, NLTWG, NPSIA, partners
9. Existing Gavi investments
10. AFENET's existing memorandum of understanding with NPHCDA and academia with pool of
    highly trained and experienced staff in RI space
11. If IEV commencement is delayed, it may affect implementation

*__Assumption__: Availability of relevant materials on RI for desk review, Health facility and caregiver readiness and availability, government's readiness to provide ethical clearance, survey population data for purposive selection of settlements and respondents available and accessible, quality of existing routine data sources are high, population estimates are up-to-date, open data-sharing agreement with government, development and implementing partners*

# Implementation Research Methodology

- **Mixed methods approach using a control and intervention**

  - **Settings and study location:**

    - 2 states selected (Bauchi and Sokoto) due to highest burden

    - 2 LGAs selected in each state (with focus on urban, rural, riverine, nomadic, unsecured far-to-reach and hard-to-reach areas)

    - 1 intervention and 1 non-interventions LGA with similar characteristics will be selected.

    - Sampling 10 percent of HF in each state (Bauchi—21; Sokoto—11)

  - **Study population:**

    - RI technical working group at the national level; RI program managers at state and LGA levels

    - Health workers in-charge and ad-hoc staff at the health facility levels

    - Caregivers of children (0–11 months and 12–23 months)

  - **Sample size**

    - The sample size would be ~237 for Sokoto State and ~518 for Bauchi State

# Ongoing Plans

**Instruments for data collection developed and ready for field testing**

- Ethical approval for implementation in the two states secured
- Baseline assessment to commence July 2024

# **Limitations**

**Z-DROP and IEV besides the pilots, yet to commence implementation**

- An opportunity to conduct a baseline, but changes may occur in the implementation process, and this may affect the study outcomes
- We intend to vary the outcomes to match changes in implementation (through the various phases of the study) whenever any change occurs

**Instabilities in study areas that affect the list of the settlements**

- Some settlements have been merged; new ones are created

# **Conclusion**

- Nigerian government and partners have put in efforts in **improving RI coverage** by addressing the challenge of ZD children and missed communities

- Nigeria still accounts for **huge number of ZD children** due to many factors; poor health care infrastructure, insecurity, social and behavioral factors, among others

- **No structured framework informed by robust evidence-based data** to support decisions and planning on RI interventions

- ZDLH as part of Gavi Identify, Reach, Monitor, Measure, Advocate framework and IA 2030 has designed and implemented (some are still ongoing) several activities aimed at providing government with **structured evidence-based learning** to support decisions and resource allocation in relation to RI in Nigeria

- Some of these learning activities  are: **rapid assessment (completed)**, **scoping review (completed)**, **health system survey**, **ZDLH webinar series** (first and second session completed), **learning agenda workshop** (completed and awaiting validation workshop), **needs assessment** and **capacity strengthening** (ongoing). These activities have generated relevant findings.

THANK YOU

Discussion