Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: October 2023 Semiannual Update

Gavi Zero-Dose Learning Hub (ZDLH)

Funded by Gavi, the Zero-Dose Learning Hub (ZDLH) serves as the global learning partner and is led by JSI Research & Training Institute, Inc. (JSI) with two consortium partners, The Geneva Learning Foundation (TGLF) and the International Institute of Health Management Research (IIHMR). Together, the consortium enables sharing and learning across four Country Learning Hubs (CLHs) in Bangladesh, Mali, Nigeria, and Uganda to advance the uptake of evidence by synthesizing and disseminating key learnings. The ZDLH also focuses on improving immunization equity and reducing the number of zero-dose (ZD) and under-immunized children globally by facilitating high-quality evidence generation and uptake.

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Acknowledgments

1. **Bangladesh Country Learning Hub:** Led by the International Center for Diarrhoeal Disease Research, Bangladesh (icddr,b) with partners Jhpiego and RedOrange Communications.

2. **Mali Country Learning Hub**: Led by GaneshAID with the Center for Vaccine Development-Mali (CDV-Mali).

3. **Uganda Country Learning Hub**: Led by Infectious Diseases Research Collaboration (IDRC) with partners PATH and Makerere University School of Public Health (MakSPH).

4. **Nigeria Country Learning Hub**: Led by the African Field Epidemiology Network (AFENET) with the African Health Budget Network (AHBN).

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INTRODUCTION

The Zero-Dose Learning Hub (ZDLH) mechanism is rapidly underway to improve how data and evidence are used to successfully identify and reach the millions of children who have not yet received a single routine vaccine shot, known as "zero-dose" (ZD) children, and the missed communities in which they live. This ZDLH semiannual update informs Gavi, the Vaccine Alliance Board (Gavi Board) and other stakeholders about the mechanism's work to use evidence to better understand the factors influencing implementation and performance of approaches to identify and reach ZD and under-immunized (UI) children and missed communities.

BACKGROUND AND COUNTRY SELECTION

The ZDLH helps generate, synthesize, and share ZD data and evidence at both the global and country levels. The structure is a hub-and-spoke model, where learning and evidence at the global level is managed by a global learning partner, and four country learning hubs (CLHs) (in Bangladesh, Mali, Nigeria, and Uganda) comprised of local partners/consortiums work that capture and use county-level programmatic data and evidence that contribute to performance reporting to the Gavi Board and other key stakeholders. The CLHs are implemented with the support of local organizations that have strong capacity to generate evidence, convene local stakeholders, and understand the national context and policies. They deploy resources to augment monitoring with implementation research (IR), along with other data collection activities. The CLHs are motivated to explore why children and communities are systematically missed and to evaluate effective practices to identify and reach those children. Each country is focused on targeted subnational geographies and will produce timely evidence on what is working, what is not working, what it takes to implement the approaches, and how processes can improve the use of evidence generated to ultimately inform future outreach strategies to better reach ZD children.

In the Gavi 5.0 Strategy, the Alliance moved to a more targeted, differentiated, and systematic approach to programming to reach ZD and under-immunized (UI) children. The Alliance recognized the lack of complete answers on how to reach communities that have been systematically missed for generations, including those in complex country contexts, such as urban areas, remote communities, and populations in conflict settings. In 2020, the CLH approach was proposed to the Programme and Policy Committee (PPC) and the Gavi Board as an initiative to address the knowledge gaps. To this end, the CLHs were established to generate, synthesize, and share data and programmatic learnings at both the country and global levels across the IRMMA (Identify – Reach – Monitor – Measure – Advocate) Framework and to provide data to complement Gavi's implementation monitoring approach. This approach includes a cross-cutting focus on gender equity, focusing on targeted subnational settings with high numbers or proportions of ZD children and across a diversity of settings, including rural, urban, conflict, and refugee settings.

Findings and learning generated through the CLHs will help identify: (1) effective strategies and approaches that should continue for ZD measurement and programming, (2) which strategies and approaches should be scaled up, and (3) what strategies and approaches are not effective and should be discontinued. Each CLH consists of local partners focused on three key objectives:

1. Generate and synthesize learnings based on the barriers to reach ZD children and apply these learnings to program planning and tailoring equitable approaches.

2. Strengthen the evidence base of effective approaches to identify and reach ZD children.

3. Improve metrics, measures, and methods to access and use data on a regular basis to improve outreach to ZD children and missed communities.

LEARNING HUB PROVIDERS AND AWARD DATES

In addition to the four CLHs, the ZDLH mechanism includes a global consortium led by JSI Research & Training Institute, Inc. (JSI), in partnership with the International Institute of Health Management Research, New Delhi (IIHMR) and The Geneva Learning Foundation (TGLF) (see Figure 1). The global consortium provides technical and operational support to the CLHs and disseminates learnings at the community, regional, national, and global levels.

Figure 1. Timeline of Global and CLH Awards

The four CLHs include:

1. Bangladesh: Led by the International Center for Diarrhoeal Disease Research, Bangladesh (icddr,b) with partners Jhpiego and RedOrange Communications.

2. Mali: Led by GaneshAID with the Center for Vaccine Development-Mali (CDV-Mali).

3. Uganda: Led by Infectious Diseases Research Collaboration (IDRC) with partners PATH and Makerere University School of Public Health (MakSPH).

4. Nigeria: Led by the African Field Epidemiology Network (AFENET) with the African Health Budget Network (AHBN).

The CLH countries were selected to ensure variation by region and context, including rural, urban, conflict, or refugee, and based on a relatively high number and proportion of ZD children. Other considerations included feasibility and risk mitigation. Table 1 illustrates different coverage estimates of the first dose of the Diphtheria-Tetanus-Pertussis vaccine (DTP1) and numbers of ZD children in the four CLH countries in 2022. The table highlights how estimates of ZD children can vary based on the data source due to a variety of reasons, including data quality and survey frequency (for estimates such as World Health Organization [WHO]/United Nations Children's Fund [UNICEF] Estimates of National Immunization Coverage (WUENIC) that combine survey and administrative data).

Table 1. Comparison of Different Estimates of DTP1 Coverage (2022) in Children 12-23 Months of Age in Gavi CLHs

	Bangladesh	Mali	Nigeria	Uganda
Percent of DTP1 coverage (Administrative data 2022)	122	107	91	94
Percent of DTP1 coverage (Official estimate 2022)	n/a	78	70	94
Percent of DTP1 coverage (WUENIC 2022)	99	82	70	94
Estimated Number of ZD children in 2021 (WUENIC 2022)	29,405	160,626	2,271,265	100,096

CURRENT AND UPCOMING ACTIVITIES

Currently, the CLHs are conducting a rapid assessment of data and interventions across the IRMMA Framework in their subnational targeted areas; engaging stakeholders; defining learning agendas; conducting data systems assessments; and designing IR studies. Through their planned research and programming activities, the CLHs will also provide insights into the use of the behavioral and social drivers (BeSD) tools, costing of programs to reach ZD children, and ways to improve data systems for monitoring and measurement.

In March 2023, the ZDLH online platform launched to orient visitors to the purpose of the ZDLH, raise awareness of the IRMMA Framework, and connect to the ZD Community of Practice (CoP). A press release featured the website along with the formal announcement of the ZDLH and four CLH awards. The website includes a robust resource library featuring tools and materials to support ZD practitioners. The ZDLH resource repository already includes more than 40 resources, such as the ZDLH's recently published Typhoid Conjugate Vaccine (TCV) case study, Bangladesh and Mali Country Landscapes, and FHI 360's Pro-Equity Evidence Map. New resources will continue to be added, and the new website will work to serve ZD practitioners by acting as a global resource to increase access to key tools, learning, and evidence generation aligned with the IRMMA Framework.

In May 2023, the ZDLH hosted its first inter-country learning exchange, (ZDLH-X1), which featured Bangladesh and Mali and engaged nearly 2,000 immunization practitioners, primarily from the district- and facility-levels and directly involved in ZD work. Topics included identifying ZD and missed communities in Chattogram City in Bangladesh, and community engagement in urban and rural remote areas, and in areas of insecurity.

Insights and learning exchanges from the ZDLH-X1 session focused on rapid convenience monitoring, microplanning, gender-related barriers and ensuring equity, and community ownership. Engagement with frontline staff through peer learning is powerful and can identify 'what works' and 'how' at the local levels and strengthen approaches for knowledge translation and evidence use. Progress on the second ZDLH-X event, ZDLH-X2, featuring CLHs in Uganda and Nigeria, will be included in the next semiannual update.

In June 2023, a ZDLH launch meeting held in Kampala, Uganda convened stakeholders from Gavi; the JSI-led global ZDLH consortium; CLH providers from Bangladesh, Mali, Nigeria, and Uganda; and the Uganda Ministry of Health (MOH) to increase alignment across the initiative and operationalize the peer-to-peer support component of the CLH model. The meeting focused on establishing common measures, strengthening existing monitoring systems, and tailoring program activities based on country-specific contexts. Key outputs included:

- Coordination with the JSI Monitoring, Evaluation, and Learning (MEL) team to convene ongoing meetings to harmonize; ensure alignment with the IRMMA Framework; and finalize country-level theories of change, monitoring and learning (M&L) plans, and measurements in line with the GAVI 5.0 Strategy and learning questions.

- Agreement that the birth cohorts for the rapid assessment across the four CLH countries consisted of 18 weeks to 23 months (as adopted by the Bangladesh CLH), and provided a grace

period of four weeks following expected uptake of the third dose of the Diphtheria-Tetanus-Pertussis (DTP3) vaccine.

- Establishment of a knowledge management system to support collaboration across the global consortium and CLHs and disseminate contextualized country-specific information. The attendees also determined next steps to contribute evidence to capture, synthesize, and disseminate learning through a gender- and equity-focused lens.

In 2024 and 2025, initiative activities will yield insights into progress in implementing ZD strategies through strengthened and more timely monitoring data, IR, and additional learning activities. Evidence use will be facilitated through a clear understanding of the review fora and timing, and targeted knowledge translation activities that include subnational staff, who are a recognized sources of local expertise and end-of-chain implementers who test evidence validity and applicability, alongside national partners. Critical users include partners developing Gavi funding applications, such as Full Portfolio Planning (FPP) and Equity Accelerator Funding (EAF), or justifying funding reallocation and annual performance review activities, including joint appraisals (JAs).

IMPROVED TIMELY MONITORING

Part of the ZDLH scope of work is to provide more timely monitoring data at the global level on key indicators (e.g., the number of children vaccinated with DTP1, DTP1 coverage rates, and dropout from DTP1 to DTP3) from the targeted subnational level in the CLH countries. Bringing this data forward is intended to provide more timely insight about progress in reaching ZD children. This information, combined with other learning about the interventions and the intensity of their implementation, will help global stakeholders understand what works and how to reach those children at risk of ZD or under immunization. WUENIC and country official estimates of the key indicators noted above are available in July of the following year. While the estimates are generally accepted to be more accurate because of how they are estimated, they are not timely, may not provide enough disaggregation to identify where pockets of ZD children are located, and do not provide information about what policies and program are driving change. Disaggregating data on key indicators by subnational level can help with some of this interpretation if one has information about the context and intensity of implementation of interventions, although disaggregated subnational data is not usually widely available at the global level except through occasional surveys or modeling.

To improve timely monitoring, the CLHs rely on routinely collected administrative data, such as data available through the District Health Information Software 2 (DHIS2), which are available on a more regular basis and at subnational levels in countries. But those data often suffer from poor data quality as indicated by coverage rates greater than 100 percent. The reasons for poor data quality are often due to inaccurate denominators, for example, estimating the number of surviving infants in a geographic area. Additionally, there could be inaccuracies with the numerator caused by the incorrect recording of immunization doses administered, which may be caused by several reasons, including the lack of data recording tools or human error. Moreover, data can fluctuate widely from month to month based on both supply- and demand-side factors such as vaccine stock outs, holidays, poor weather, health worker strikes, etc. Regular review of these data by health workers familiar with the context can reveal what those factors may be so they can propose and implement remedies. Nevertheless, at the global or even national level, all of these factors challenge our ability to interpret routinely collected data to understand the effect of interventions designed to identify and reach ZD children.

CLHs will be regularly reviewing and reporting administrative data for their targeted subnational areas (e.g., upazila in Bangladesh, Local Government Area [LGA] in Nigeria, and district in Uganda and Mali) which will allow us to examine subnational progress every six months and dive into the issues and root causes of important trends. Given the limitations noted above, the CLHs are taking the following steps: CLHs will provide administrative data for analysis of six-month trends, comparison of trends over time, and comparison against previous years' trends. Data available on other variables, such as stock outs and number of immunization sessions planned versus conducted, can provide some insight on the corresponding dips or peaks in immunization coverage. CLH activities such as systems assessments, activity implementation monitoring, and data reviews can help improve interpretation of trends, but also improve the availability and quality of ZD-relevant data over time. Information pulled from system assessments can also help determine actionable steps for addressing gaps in monitoring and measuring ZD and improve data quality. Therefore, a key benefit of the CLHs is not only the availability of more granular monitoring data, but also the analysis, interpretation, and use of the data for action at both the local and global levels, plus improvements in data quality and reliability in CLH study areas.

OVERVIEW OF THE MEASUREMENT AND LEARNING PLAN

The vision of success for the CLHs is reflected in the measurement and learning (M&L) plans at the global level (ZDLH) and with each CLH, and includes monitoring performance to describe successes and challenges of the model and approach. The ZDLH mechanism is working toward the outcome of timely, increased, and sustainable use of evidence to improve global, regional, and country immunization programs and policies in alignment with the Gavi 5.0 Strategy and IRMMA Framework.

M&L plan outputs include:

- CLHs have strong networks, technical expertise, and practices

- Cross-country evidence generated

- Evidence and learning available and accessible to identify and track ZD children and missed communities through a gender and immunization equity lens

- Project-generated evidence and learnings translated for use in local policy and programming

- Learnings around ZD barriers and effective interventions communicated globally to partners, stakeholders, and immunization practitioners

As mentioned above, the four CLHs came onboard at different times and are in different stages of implementation, which affects the depth of reporting for each CLH in this update. Nevertheless, several common findings are emerging across the four CLHs that merit follow-up in the second year of the initiative:

- There is a lack of demand-side insights based on validated instruments such as the BeSD tools in all CLH countries, particularly at the subnational level where insights are needed for specific geographic and sociodemographic contexts. The CLHs are responding to this gap by incorporating guidance and indicators from the BeSD tools in their planned research to understand reasons for low vaccination uptake and to inform planning priorities and intervention design.

- In all CLH countries, triangulation of existing data and identification of ZD children relies primarily on administrative data. The CLH data system landscapes and diagnoses currently underway are revealing similar results of data quality issues with numerators and denominators, and yet this is the main source of monitoring data going forward.

- While stakeholder engagement models are different in each CLH, they all recognize the importance of partner engagement at national and subnational levels and the need to engage frequently to influence policy decisions.

- The IR component in all CLHs is dependent on government and/or Gavi funding for the targeted interventions. The timing and scope of funding is outside the control of the CLHs, which is a risk worth noting.

COUNTRY-SPECIFIC CONTEXT

BANGLADESH

Context

Bangladesh has a relatively high vaccination coverage with pockets of zero-dose (ZD) and under-immunized (UI) children. The country's full vaccination coverage rate has ranged between 80 to 84 percent over the past decade.[1] Ten to fifteen percent of the population that remains continuously unimmunized or under-immunized leaves critical gaps in protection and vulnerability to outbreaks, such as measles. The success of the Expanded Program on Immunization (EPI) now depends on the ability to identify and reach these vulnerable and underserved communities. Bangladesh has a vast and diverse landscape with pockets of hard-to-reach, vulnerable, and underserved communities, including migrant populations in urban areas. Understanding the key operational challenges in the different geographical areas and the barriers to achieving the highest possible vaccination rates is critical to improving program efforts.

There is a growing need to identify the pockets of ZD children in Bangladesh and to understand the reasons behind the low immunization uptake through a human-centered approach. Human-Centered Design (HCD), which focuses on empathy, context, ideation, and iteration, is particularly suited for addressing these challenges among the target population sub-groups to diagnose barriers to immunization and generate strategies to improve service delivery to make it more accessible and acceptable. Additionally, the Bangladesh government recently acknowledged the challenge of reaching ZD children, suggesting the need to update information on missed communities and test pro-equity reach approaches that are tailored to each geographic context. With a large and growing birth cohort and a timeline for transition from Gavi support by the end of this decade, it is critical that the Bangladesh immunization system be able to catch up and reach ZD children and strengthen programs to keep up with increased demand. Please see the Bangladesh ZD Landscape for an in-depth overview of the current ZD context.

Accomplishments

The Bangladesh Country Learning Hub (CLH) is implementing a ZD research project with four interrelated components: partner engagement (Component 1); research studies including rapid assessment, in-depth assessment, and implementation research (IR) (Component 2); web-based learning products and dashboard (Component 3); and monitoring and learning plan (Component 4). Table 2 highlights and summarizes the research methods and approaches in Component 2, many of which are currently underway.

Table 2. Research Methods and Approaches (Component 2)

Study Purpose	Methods	Sources of Data with Level of Representation
Rapid Assessment		
Identify missed communities and socio-economic determinants of ZD	Secondary analysis and triangulation of existing survey and administrative data	Coverage Evaluation Survey (CES) (national, divisional and district level) District Health Information System (DHIS2) routine data (national, divisional, district, and upazila level)
	Primary collection of qualitative data in upazilas identified through triangulation	KIIs with health workers, EPI supervisors, community leaders
	Rapid household survey using lot quality assurance sampling (LQAS) in upazilas identified through triangulation	Household (HH) survey using LQAS (upazila and below)
	Review of monthly EPI data in upazilas where LQAS took place	Health facility microplans
	Determinant analysis using secondary data from Bangladesh Demographic and Health Survey (BDHS) survey	BDHS at national and divisional
In-Depth Assessment of Data Systems		
In-depth assessment of current immunization data for improving identification of ZD into routine data systems	Desk review/secondary analysis of existing survey data and EPI administrative data	CES, BDHS EPI administrative data (EPI coverage and supply status, vaccine wastage status)
	LQAS household (HH) survey (see above) and pre/post HH surveys for IR research in selected upazilas (see below)	Upazila level surveys
	Primary collection of qualitative data	Key informant interviews (KIIs) with national, district and upazila-level stakeholders In-depth interviews (IDIs) and focus group discussions (FGDs) with caregivers and community members
Implementation Research		
Comparison and estimation of difference-in-difference in ZD level and cost effectiveness analysis	Pre/post study design with household surveys using cluster sampling in selected intervention and comparison areas in the same geographic areas	HH surveys in intervention and comparison areas
	Primary collection of qualitative data	Key informant interviews (KIIs) with national, district, and upazila-level stakeholders FGDs with traditional birth attendants (TBAs), multipurpose health volunteers (MHVs), and health assistants (HAs)

A key highlight during this reporting period includes the CLH rapid assessment in Bangladesh carried out from December 2022 to May 2023, which details the triangulation of existing data to estimate the number and proportion of ZD children and collection of primary data to understand demand, gender, and other barriers. IR will start in quarter three (Q3) 2023 in the ten target upazilas identified based on findings of the rapid assessment.

The rapid assessment used a sequential process for the identification of ZD and UI communities including:

- **Analysis and triangulation of existing secondary data to identify possible missed communities** using EPI CES and administrative data from the DHIS2.

- **Verification of initial findings through field visits** to the selected locations to validate the results of secondary data analysis through informal discussions and KIIs with health workers, EPI supervisors, and community leaders and a review of EPI monthly reports.

- **Thematic analysis of field notes from the field visits and KIIs** to extract initial insights into local perceptions of barriers and facilitators to vaccination.

- **Rapid household survey using LQAS** for final confirmation of upazilas with high ZD and UI children for the IR study. The final selection of upazilas were areas with ZD and UI children based on analysis of DHIS2 data and subsequently confirmed through collection of data using the LQAS approach.

- **Determinant analysis** based on data from the 2017-2018 BDHS using a logistic regression model to identify socio-economic determinants for being ZD and UI children.

- **Analysis of demand- and supply-side factors** for ZD using primary data collected through KIIs with national to community level service providers and mothers.

- Collection of **administrative data on vaccine supply, utilization, and wastage** collected for January–December 2022 from the EPI micro-plan of the upazilas where LQAS was conducted.

Progress in partner engagement, another highlight during this reporting period, brought the National EPI partners and stakeholders together through a National Monitoring Committee that has been convened twice and makes recommendations for implementation. Specifically, the group led by the Ministry of Health and Family Welfare (MOFHW) is increasing access in a hard-to-reach district.

The Bangladesh CLH has also made progress in implementing a landscape review of existing immunization data systems (report forthcoming), and results will inform recommendations for improving ZD monitoring in routine systems and steps to improve data quality and ZD data availability.

To support the sharing and dissemination of learning, the CLH launched a digital platform that features resources on evidence-based content, an e-library, news, and blogs. Between April and June 2023, short articles were produced and published on the website (translation to Bangla in progress), along with social media messaging to amplify outreach.

Lastly, discussions were underway with Gavi and icddr,b to potentially expand the scope of learning to areas where forcibly displaced Myanmar national populations reside.

Learning and Results

The existence of ZD children has been repeatedly questioned during the initiation of the Bangladesh CLH given that Bangladesh has shown a laudable rise in routine immunization in the past decade. During the January 2023 partner [launch meeting in Dhaka](#), subsequent stakeholder engagement meetings, and findings from the Rapid Assessment resulted in government acknowledgment of ZD in the country and support for ZD approaches.

The rapid assessment identified five rural districts and one city corporation with ZD children and UI and missed communities. Based on the findings, ten upazilas were selected as study sites for IR (eight upazilas in four rural districts and two wards in one city corporation). Learnings from the rapid assessment included:

- Rapid probability sampling using LQAS can be used to validate missed communities in the context of DHIS2 denominator challenges and uncertainty about data quality. Using the resource and time efficient LQAS enabled the team to confirm that the areas identified through administrative data were indeed communities with ZD and UI children.

- Secondary analysis of DHS survey data revealed sociodemographic determinants of ZD children, including mothers with less education, no formal work, no antenatal visits during pregnancy, not wanting their last child, and living in the Sylhet division were more likely to have a ZD child.

- Findings from the rapid assessment also revealed demand- and supply-side barriers to vaccination in the study areas, as illustrated below in Table 3.

Table 3. Demand- and Supply-Side Barriers to Vaccination in the Study Areas

Demand Side	Supply Side
• Migration due to environmental damage (river erosion) or cultural reasons (moving from parental to husband's home) • Inappropriate contra-indications or concerns about minor side-effects • Preoccupation with family duties, especially at harvest time • Misconceptions and hesitation	• Shortage of HAs and overload of work • Lack of opportunities for health workers to provide interpersonal communication to clients • Distance to EPI centers and unavailability of transport • Inaccurate denominator in EPI

Proposed implementation for IR will be confirmed following HCD meetings at the local level to ensure that study interventions are tailored to the geographic location. To improve identification and reach, the following intervention components have been proposed and will be tailored to communities in the targeted geographic locations:

- Training of service providers

- E-registration of target children

- Involvement of TBAs/Para workers

- Use of screening checklist

- E-monitoring

- Modified EPI service schedule

- Using school student for mobilization

- EPI day/Cash program

- Health education through community health care provider

- Vaccine indicator and reminder electronic band

- Evening sessions

Preliminary findings from the data landscape analysis showed that most existing data systems in Bangladesh lack the capacity to track ZD children specifically. Data systems do not consider the difference between ZD and UI, and data availability is largely at the aggregated district level, lacking specific mechanisms for tracking children. The data landscape identified a promising digital supervision tool checklist that is being adapted to improve tracking responses on ZD and UI children.

Evidence Use

In terms of dissemination, the Bangladesh CLH has shared the findings of the rapid assessment with all EPI stakeholders in Bangladesh through a dissemination seminar. Subsequently, the CLH has published the rapid assessment as a working paper and prepared two manuscripts based on findings from the rapid assessment report, one of which is already submitted to a journal and another is under the process of submission. Additionally, dissemination of the experience gained from utilizing the LQAS approach for the ZD rapid assessment is underway, including sharing with CLH partners and the IA 2030 data subworking group, with plans for peer-reviewed publication. The CLH and Ministry of Health (MOH) in Bangladesh are using the results from the rapid assessment to inform the Equity Accelerated Fund (EAF) application in collaboration with PATH and other EPI partners. This collaborative effort aims to leverage the valuable insights and data generated through the rapid assessment to inform programming for ZD and UI children.

Challenges

Challenges encountered during this reporting period include a lack of evidence related to demand-side issues and gender barriers to immunization, as identified by the validated BeSD tools. Furthermore, the frequent transfer of government officials resulted in frequent changes in the composition of the National Monitoring Committee, potentially affecting project continuity. Inaccurate denominator in EPI is another challenge to make available routine data for analysis. Additionally, conducting rapid assessment work in turbulent hilly areas like Rangamati posed safety and security concerns for project data collectors and investigators, potentially impeding their ability to gather essential information.

Data on Key Indicators

The data reflected in Table 4 are summarized for the ten CLH upazilas and the Gavi target districts in Bangladesh as of June 2023. Missing data in this table will be reported once the project gains access to the HMIS data for the indicated geographic areas or data points.

Table 4. Administrative Data Aggregated for Ten CLH Upazilas and Gavi Target Districts in Bangladesh

Indicator	CLH Target Upazilas June 2023	Gavi Target Districts June 2023
Number of Children Vaccinated with DTP1	Not available	Not available
Coverage of DTP1	95.7%	Not available
Dropout DTP1-DTP3	-3.16%	Not available

Figure 2 compares data on DTP1 coverage for March and June 2023 in the CLH upazilas, based on data from the DHIS2 dashboard that only presents coverage data. This limitation in data access made it impossible for the Bangladesh CLH to report on the number of children vaccinated with DTP1. Monthly cumulative data for the period January-March and April-June 2023 were not available at the time of this report. Data on dropout from DTP1 to DTP3 and DTP1 to last measles vaccine are available for the same upazilas and timeframe, but not shown here because of the interest in presenting similar data across the four CLHs; the same data were not available in the other CLH countries. Data on other Gavi indicators are not available yet, but will be reported in future updates.

Figure 2. DTP1 Coverage in March and June, 2023 by CLH Upazila in Bangladesh
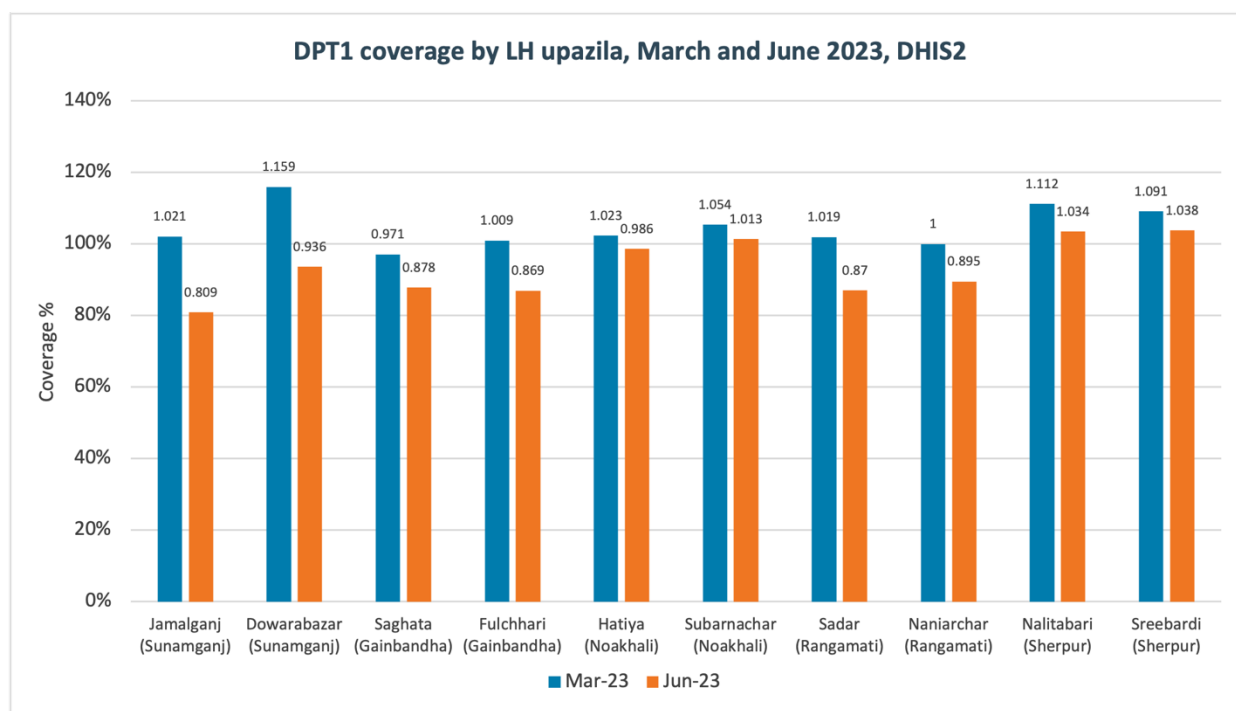
The figure above shows DTP coverage was lower in June 2023 than in March 2023 in all CLH upazilas. Values above 100 percent may be the result of inaccurate denominators, a known challenge that the Bangladesh CLH will continue to explore. However, data from a longer time period (e.g. six months) is needed to understand trends in the fluctuations of coverage estimates and to identify potential data

quality issues with the denominator. Understanding differences across upazilas and over time also requires additional contextual information and comparison with other data which will be reported in future updates.

References

1. Directorate General of Health Services DGIS. Coverage Evaluation Survey 2019, EPI Bangladesh, 2019.

NIGERIA

Context

There are approximately 36 million children under the age of five in Nigeria, representing more than 16 percent of its total population and one of the highest under five populations in the world. In 2022, there were an estimated 2.3 million zero-dose (ZD) children in Nigeria, the second largest population of ZD children in the world.[2] Based on figures from the 2021 Multiple Indicator Cluster Survey / National Immunization Coverage Survey (MICS/NICS), 70 percent of children aged 12-23 months had received the first dose of the pentavalent vaccine, or Penta 1. In 2021, only 36 percent of Nigerian children aged 12-23 months had received all the recommended vaccinations while 18 percent of children in the same age range had not received any vaccinations. Wide variations in routine immunization (RI) performance across the country's regions are evident, with the South East and South South regions showing high RI performance, while the North East and North West record the highest percentages of unvaccinated and partially vaccinated children. The National Primary Healthcare Development Agency (NPHCDA) has prioritized 100 Local Government Areas (LGAs) across 18 states with 1,589,315 ZD and under-immunized (UI) children for intervention.

Accomplishments

The Country Learning Hub (CLH) in Nigeria was awarded in April 2023 and in its inception phase during this reporting period. The focus was on planning, stakeholder engagement, and protocol development for the rapid assessment and other measurement and learning activities. Programmatic accomplishments include development of key inception documents including a detailed GANTT chart for the overall program and an initial stakeholder mapping; draft protocol for the rapid assessment research; initial design of a responsive feedback mechanism for subnational monitoring; and development of a draft monitoring, evaluation, and learning (MEL) plan.

The project successfully gained support and approval from key government stakeholders and partners, including the NPHCDA. Specifically, the CLH presented project goals and objectives to the National Routine Immunization Coordination Center (NERICC) in June 2023, resulting in NERICC providing guidance and incorporating the CLH activities into its quarterly workplans for 2023. Engagement of other national stakeholders included: United Nations Children's Fund (UNICEF), World Health Organization (WHO), CHAN/R4Sahel, International Vaccine Access Center (IVAC), Bill & Melinda Gates Foundation (BMGF), Sydani Group, and the USAID-funded MOMENTUM Routine Immunization Transformation and Equity. All of these stakeholders expressed their support and commitment to sharing critical documents and participating in interviews for the planned ZD situational analysis. Importantly, the CLH gained official endorsement in late June 2023 by Dr. Faisal, executive director of the NPHCDA. The official launch of the CLH was subsequently planned for September 2023.

Learning and Results

Efforts to address ZD immunization challenges at both national and state levels highlight the necessity for improved coordination among partners and organizations. Currently, there is a noticeable lack of representation from civil society organizations (CSOs) at the state and local government emergency RI coordination centers (Subnational Routine Immunization Coordination Centers [SERICCs] and Local Routine Immunization Coordination Centers [LERICCs]) in subnational areas, potentially hindering community mobilization and advocacy for immunization. Thus, there is a pressing need for greater

inclusivity in these coordination centers to enhance their effectiveness in addressing issues related to immunization.

Evidence Use

As activities, assessments, and findings are documented, the Nigeria CLH will disseminate evidence and learnings for uptake and use.

Challenges

The project launch faced delays due to competing priorities among key government stakeholders, but it is anticipated to serve as a crucial platform for officially introducing the CLH and garnering engagement and alignment from stakeholders during the formation of the technical working group. Meanwhile, obtaining access to raw data of the Programme Assessment for Performance Management & Action-Lot Quality Assurance Sampling (PAPA-LQAS) was challenging. These data are presumably representative at sub district levels and would be useful for secondary data analysis and triangulation in the CLH target districts. The project has submitted a formal request to the NPHCDA, with hopes of obtaining access by quarter 3 (Q3) of 2023.

Data on Key Indicators

Administrative data in Table 5 are summarized for the four targeted states (Sokoto, Kano, Bauchi, and Borno) for quarter 2, April - June 2023. Some data on other Gavi key indicators are not reported here while others are not available yet and will be reported in future updates. Table 5 and Figure 3 provide a snapshot of data from the CLH targeted LGA in states containing the 100 prioritized LGAs. Data show similar problems with quality (>100 percent coverage) and substantial variation across locations, interpretation at this early stage is not possible.

Table 5. Administrative Data Aggregated for the Four Target States (Sokoto, Kano, Bauchi, and Borno) and Gavi Target States for the Period of April-June, 2023

Indicator	CLH Target States April-June 2023	Gavi Target States April-June 2023
Number of Children Vaccinated with DTP1	41,843	484,736
Coverage of DTP1	93.8%	107.7%
Dropout DTP1-DTP3	8%	8%

Figure 3. Cumulative DTP1 Coverage from April-June 2023 by CLH Target LGA in Nigeria

DPT1 Coverage by LH LGA, April - June 2023, DHIS2
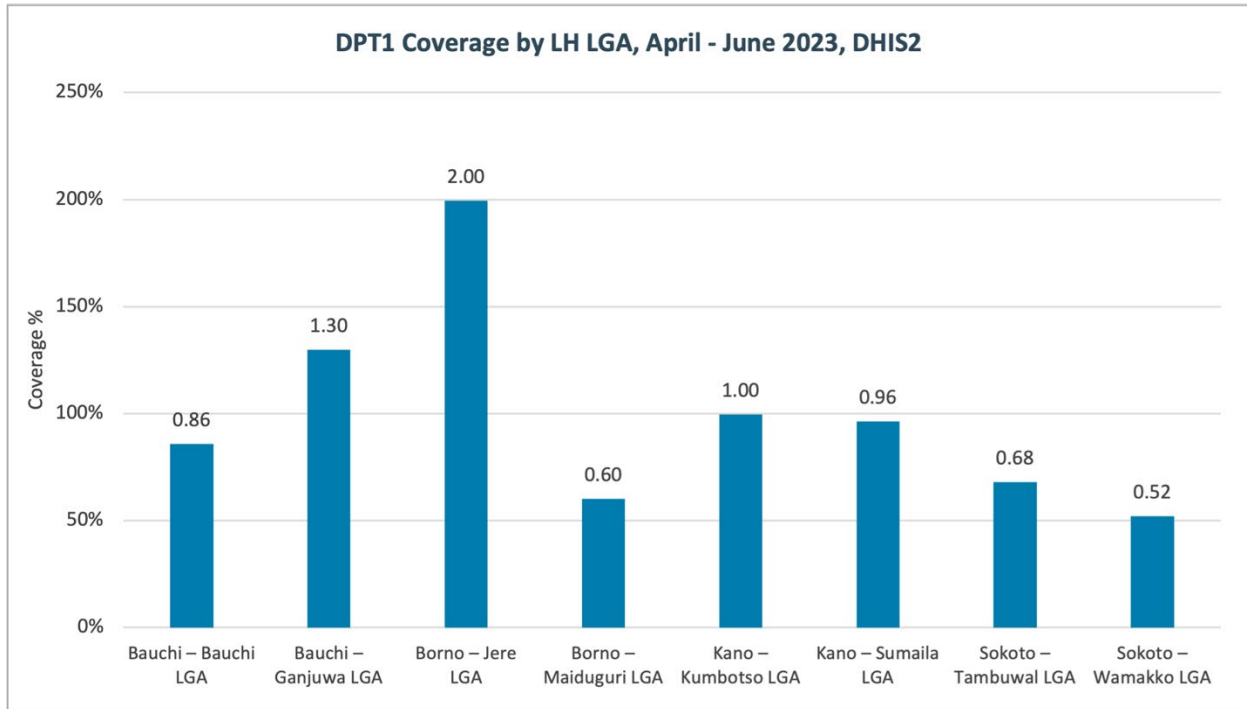
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2. World Health Organization/UNICEF Estimates of National Immunization Coverage (WUENIC)—2022 estimates. (2022). WHO Immunization Data Portal.
   https://immunizationdata.who.int/listing.html?topic=coverage&location=NGA

UGANDA

Context

The delivery of vaccines that protect against preventable childhood diseases has been a key priority for Uganda's health system for several decades, resulting in significant improvements in vaccination coverage and child mortality rates. However, just over half of all children in the country have received all basic immunizations, and challenges with coverage and equity persist as coverage varies greatly from region to region. Estimates of the number of zero-dose (ZD) children in Uganda vary based on the data source, but according to the national District Health Information Software 2 (DHIS2) analysis of districts, the number of ZD children in Uganda has increased in the last three years, from 152,391 children reported in 2020 to 197,998 in 2022. Urban areas of the country, particularly Kampala, have a higher proportion of ZD children than less-populated areas, in part due to a high concentration of informal settlements in the capital, as well as a large number of refugees and asylum seekers, the majority of whom come from South Sudan and the Democratic Republic of the Congo.

Accomplishments

The Uganda Country Learning Hub (CLH) has undertaken a number of activities since its inception phase ranging from preparation for learning activities to engagement with stakeholders and project sensitization to setting up internal program structures and identifying areas for capacity strengthening.

In preparation for learning activities, the Uganda CLH selected focus districts for research studies, including Kasese, Mubende, and Wakiso. The districts were purposively in consultation with the Uganda National Expanded Program on Immunization (UNEPI) and other key immunization stakeholders based on the following factors: 1) their Diphtheria-Tetanus-Pertussis (DTP1) vaccine coverages have been consistently low over time, 2) they are targeted for interventions to address the ZD challenge under Gavi's Equity Accelerator Funding (EAF), 3) they have high numbers of ZD children based on both DHIS2 and Institute for Health Metrics and Evaluation (IHME) data, 4) they have communities that are considered to have immunization inequities, 5) they have a mix of ethnic groups, and 6) they reported high numbers of ZD children for polio during the polio campaigns in 2022, which is a proxy indicator of presence of DTP1.

Additionally, to prepare for CLH learning activities, the Uganda CLH submitted a revised protocol for the rapid assessment to the local Institutional Review Board (IRB) for approval; conducted secondary data analysis to determine the number and location of ZD children in the three selected focus districts (Wakiso, Mubende, and Kasese); and conducted two desk reviews. The first review focused on the functionality, quality, usability, effectiveness, and sustainability of the DHIS2, and the second explored the barriers to reaching ZD children in different contexts in Uganda (see summary in Table 6).

Regarding stakeholder identification and engagement, the CLH mapped the key immunization stakeholders at national and subnational levels; assembled and held the first meeting of the CLH Technical Advisory Committee (TAC); attended the launch meeting of the Gavi ZDLH initiative, held in Kampala; conducted entry meetings in the selected focus districts of Wakiso, Mubende, and Kasese; and conducted stakeholder engagement on priority ongoing interventions targeting ZD children.

Finally, the Uganda CLH focused on developing internal project structures and standards by drafting the CLH Measurement and Learning (M&L) Plan and began the process of identifying areas for internal capacity strengthening and technical support by conducting a capacity self-assessment.

Learning and Results

Table 6 features a summary of the results of the exploration into the causes and risk factors for ZD children in the different equity reference settings in Uganda.

Table 6. Causes of ZD Children in Different Equity Reference Settings in Uganda

Equity Reference Group Setting (Uganda)	Key Barriers Leading to ZD Children in These Communities
Urban Settings	Key barriers in urban setting include difficulty in accessing informal settlements and gated communities; high mobility of urban residents due to work demands; hidden costs of accessing immunization services; unfavorable frequency and duration of the immunization services; long appointment wait times, suboptimal data quality, which makes it difficult to identify and track defaulters; inadequate information that affects access to immunization services; inadequate engagement of the private sector; and inadequate coordination of stakeholders.
Fishing Communities	High mobility of the population in fishing communities coupled with opportunity cost of seeking vaccines versus making a living; long distance to the health facility and associated costs; limited number of health facilities; limited availability of service providers, as deployed health workers do not stay close to the health facilities; unfavorable frequency and duration of the immunization services; fear of vaccines side effects; and gender barriers such as limited decision making power by women.
Islands	Inadequate service delivery points within the island communities. For instance, only 12 of 84 inhabited islands in Kalangala district have health facilities.
	Inadequate recruitment and retention of health workers to work in the island areas due to poor living conditions; inadequate transport means to support integrated EPI service delivery; high transport costs inadequate safety gadgets including, life jackets, gumboots, umbrellas, and raincoats; and poor tele-communication networks, including cell phone, radio coverage, and internet to reach these communities.
Pastoralists	Difficulty in mobilization of pastoralists for immunization services due to high mobility and unfavorable schedule of vaccination sessions.
Refugees	Limited capacity of health workers to routinely conduct vaccination status screening; registration and vaccination at entry points for refugees; lack of individual vaccination documentation; fear of data sharing with immigration authorities; the perceived marginalization of refugees by some health workers leading to low demand for immunization service; misinformation about vaccine safety and side effects especially for new vaccines; high population movement; and lack of cross border policies for sharing of vaccination data and records. In addition, the challenges of attracting and retaining an experienced health workforce persist (Health Sector Integrated Refugee Response Plan [HSIRRP] 2019-2024).
Religious Sects	There is increased influence of religious sects, such as Triple 6 (Njiiri Nkalu) that are resistant to immunization services. In addition, there is limited engagement of the religious leaders to embrace vaccination and mobilize their followers for immunization services.

Communities Living in Mountainous Settings	Limited accessibility due to the difficult terrain which affects community mobilization. Poor attraction and retention of health workers due to fear of landslides, which are a common occurrence in these areas, especially in the Bududa district; poor tele-communication network high operational costs to implement in these areas; inadequate safety gears, including helmets, ropes, and hooks for vaccination teams; and limited engagement of community leaders in these communities for immunization service delivery planning.
Conflict-Prone Locations	Insecurity in Karamoja and neighboring regions due to internal and external armed cattle rustling affects implementation of immunization outreaches. In 2021, 24 percent of the planned outreaches in the Karamoja region were not implemented.
	Difficulty in attracting and retaining health workers; mistrust between communities and authorities; uncertain target populations due to displacement and migration which makes planning for immunization sessions and forecasting of vaccine requirements challenging; high ambient temperatures lead to temperature excursions during transportation and outreach; and damage or destruction of the infrastructure and the supply chain.

Other results reported by the Uganda CLH focus on response and reaction to the establishment of the CLH. The District Health Teams (DHTs) in the selected districts welcomed the CLH and perceived it as a timely undertaking to inform efforts to reach ZD children. They also anticipate that the CLH will raise visibility on the issues that affect their immunization performance. Additionally, the DHTs anticipate that the feedback from the CLH will inform their efforts and interventions to reach ZD children in their communities.

To date, the Uganda CLH identified challenges with the current systems in place for defining and identifying ZD children. The CLH determined that there is a need to harmonize the definition of ZD children to allow for uniform understanding and reporting. The definition currently varies across stakeholders, including internationally and locally, and this lack of standardization may lead to conflicting data on ZD children. The CLH also determined that currently, there is no standard way of estimating catchment area target populations at the health facility level, which is critical for identifying ZD children. The catchment areas are overlapping and may lead to multiple counting of the same population. Therefore, district level data may be unreliable because it is estimated based on catchment areas of health facilities within the district. The CLH found that some health facilities are using village health teams (VHTs) to enumerate and map the target population, an innovation that is likely to result in a more reliable estimate of the target population.

The Uganda CLH also analyzed current immunization structures and services in the country, resulting in a number of findings and opportunities for intervention moving forward. One finding indicates that the involvement of local leadership in health promotion activities, including routine immunization (RI), at the subdistrict level has been inadequate. The CLH found that during the district meetings, local political leaders, who are often more engaged and "closer" to the population, are not involved in discussions of immunization coverage. Engaging this stakeholder group is likely to improve identification, reach, monitoring, and advocacy for reaching ZD children at their levels. Additionally, the CLH found that there is an inadequate supply
of immunization services. In some areas of the country, there are few health facilities providing immunization services. For example, the subcounty of Kiruuma, in Mubende district, has a population of approximately 20,000 residents and is served by only Kituule health center level II (HC II). By national standards, this level of health center is designed to serve a single village of around 5,000 people, subsequently compromising the population's access to health services, including immunization.

The Uganda CLH also found gaps in coordination and regulation of the private sector. For example, during the district entry meeting in Wakiso district, the CLH learned that some private health facilities delay reporting and others do not report at all on their immunization data.

Finally, the Uganda CLH was able to develop recommendations based on some of the initial findings. For example, they determined that some districts in Uganda leverage existing ongoing partner support programs (financial and technical), such as the Integrated Community Case Management (ICCM) program to improve the identification and reach of ZD children with immunization services. The CLH concluded that these best practices should be assessed for impact and subsequently recommended for scale up, if they are found to be effective. Additionally, the CLH concluded that data quality concerns related to the use of paper-based data capture systems suggest that digitization of the immunization system may improve tracking of immunization status and the monitoring and measurement of ZD children.

Evidence Use

As activities, assessments, and findings are documented, the Uganda CLH will disseminate evidence and learnings for uptake and use.

Challenges

Despite largely successful implementation to date, the Uganda CLH noted that it has been very difficult to get an audience with UNEPI and other key stakeholders, as they were busily engaged in a Gavi portfolio planning application, requiring the CLH to be creative and develop innovative approaches for engagement.

Data on Key Indicators

The Uganda CLH provided data on DTP coverage in the three target districts for the period 2019-2022. However, reporting on key indicators (e.g. DTP1 coverage and Dropout DTP1-DTP3) for the reporting period (April - June 2023) in CLH-targeted study areas is not yet available. The CLH has engaged UNEPI for an analysis of the Gavi Monitoring and Performance Management (MPM) indicators, which will be shared when available.
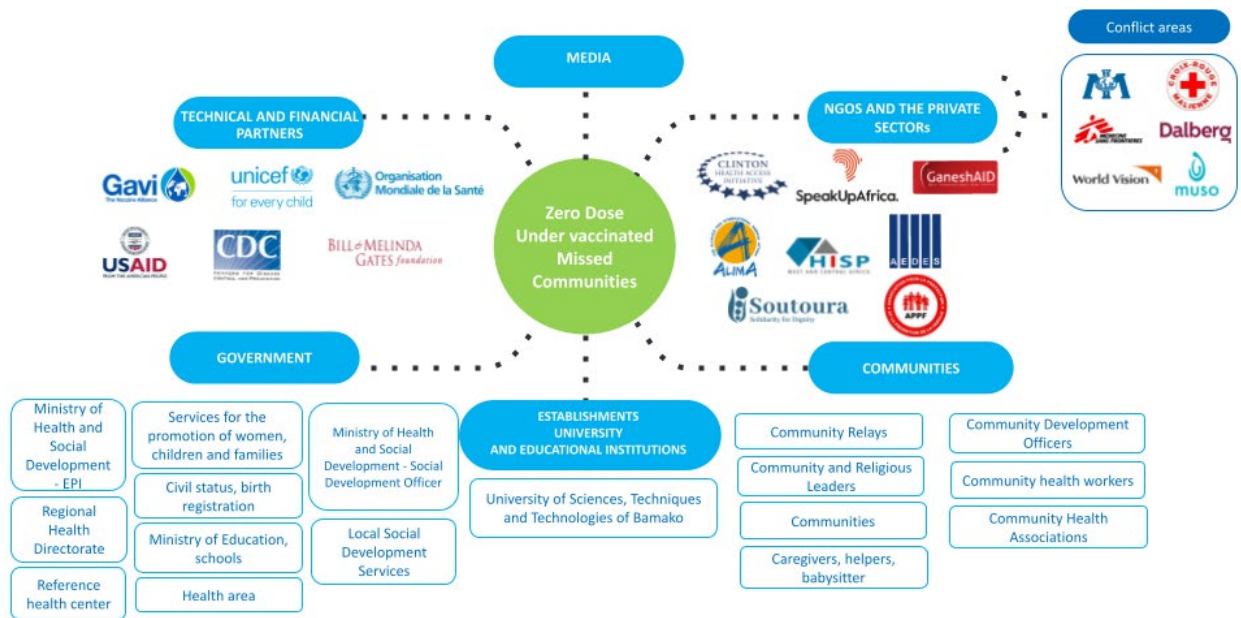
MALI

Context

Mali was designated as a fragile country by Gavi in 2021 and received over $81 million of Gavi vaccine investments. The current estimated number of zero-dose (ZD) children in Mali is 157,055 (World Health Organization [WHO]/United Nations Children's Fund [UNICEF] Estimates of National Immunization Coverage [WUENIC] 2021) with a corresponding proportion of 18 percent. The proportion of Diphtheria-Tetanus-Pertussis (DTP1) national coverage was 82 percent based on WUENIC estimates in 2021, though the country's administrative data estimated DTP1 coverage from the same period at above 100 percent, indicating a likely error in the documentation of the number of children receiving the Penta 1 vaccine or in the estimates of the total number of children. The country, overall, has low vaccination coverage with high numbers of ZD children scattered throughout several provinces in the center and south of the country (e.g. Mopti and Koulikoro). Additional information about the context and a comparison of ZD estimates can be found on the Zero Dose Learning Hub (ZDLH) website in the Mali Zero-Dose Landscape, developed by the ZDLH.

Accomplishments

During this reporting period, a key highlight of the Mali Country Learning Hub/Centre d'Apprentissage pour l'Equité en Vaccination (CAPEV) activities is partner engagement. A collaborative intelligence approach is currently underway after the design, preparation, and validation of the primary documents during this period, including: a mandate for collaborative intelligence, a learning program, and a partner engagement plan. The collaborative intelligence platform is a mechanism to engage national stakeholders in the design, adoption, implementation, and monitoring of the ZD program in Mali. The Mali CLH is currently completing the final version of the platform interface by integrating the CAPEV and Coach2PEV collaborative platforms and adopting a user-centered design approach. Exchanges are underway with the University of Science, Technology Techniques, and Technology of Bamako (USTTB), on the future collaboration in implementation research (IR), and a Memorandum of Understanding is being signed by both parties and included in the CLH Engagement Plan. Figure 4 shows the constellation of partners in the ZD ecosystem in Mali.

Figure 4. ZD Ecosystem in Mali

It is important to note that GaneshAID has also facilitated the recent full portfolio planning (FPP) process in Mali and supported addressing questions from the Gavi IRMMA Framework, including reviewing existing data and considering to what extent the rapid assessment could be based on these results. The desk review has already been conducted by GaneshAID in support of the recent FPP which enabled CAPEV to collect secondary data on the situation of ZD in Mali, and to assess demand- and gender-related barriers to vaccination. The CLH envisions possible learning products to be developed based on the Mali IRMMA Framework data and additional data from the rapid assessment. Building on GaneshAID's work to support the recent FPP process, CAPEV will focus on answering selected questions from the FPP learning agenda that can be answered through IR in its target areas. Participatory approaches will be used to get stakeholder input and refine the selected questions. The overarching draft learning agenda is in process.

Development of the research protocol for the rapid assessment (see Figure 5) began with a virtual design workshop with members of the Mali FPP team. Using Mural, a virtual platform for brainstorming and notetaking, workshop participants identified important information for developing the protocol, including data sources for key indicators, barriers to reaching ZD children, evaluation of the administrative data system, and content of data collection tools. The protocol specifies the research questions, methods of data review, and quantitative and qualitative assessment approaches. The report of the rapid assessment design workshop was shared with national actors.

Figure 5. Key Phases of the CAPEV Rapid Assessment Process
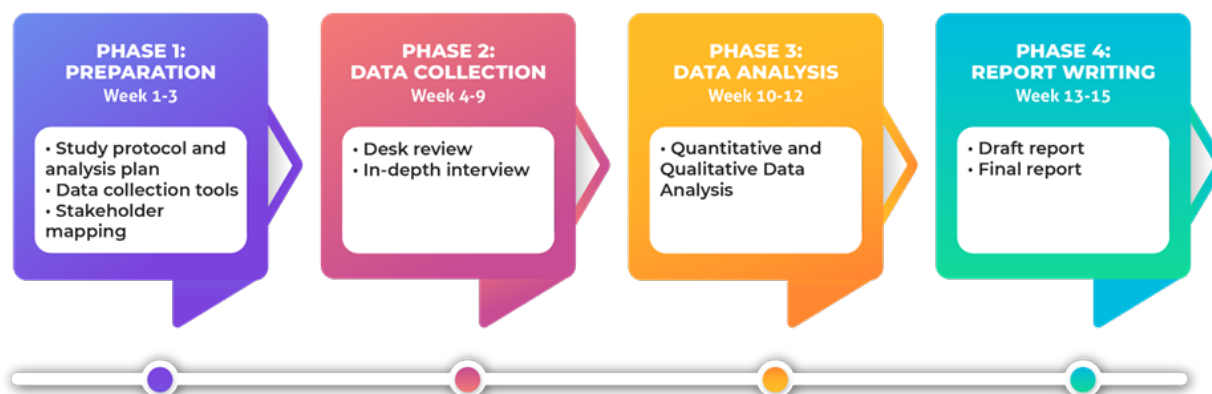
During this reporting period, The Geneva Learning Foundation (TGLF), a member of the ZDLH global consortium, organized the first Zero-Dose Learning Hub Experience Sharing (ZDLH-X) event featuring Mali and Bangladesh. GaneshAID team members joined this event as participants and connectors between TGLF and the Mali EPI director. During the event, the CLH listened to stories from Malian health professionals to understand the current challenges they are facing to reach ZD and missed communities, and what they have done to overcome these challenges. The report of the event was shared with stakeholders during a CAPEV workshop on the validation of the rapid assessment protocol.

Learning and Results

Lessons learned to date are primarily related to key ZD interventions proposed by stakeholders to overcome demand-side barriers:

- Systematic mapping of ZD and under-immunized (UI) children: each month, the data quality group makes it possible to identify the zones of concentration of ZD by studying administrative data by reviewing the monthly vaccination bulletin.

    - **Lessons learned** for the new health system strengthening (HSS)/targeted country assistance (TCA) grants (in the FPP): The health districts will map ZD children from the tally registers (village by village, fraction by fraction) and the data quality review will be continued.

- Partnerships between health establishments and the community are required for a more equitable delivery of immunization services, grounded in an accountability framework. The partnership and leadership in promoting regular immunization were strengthened through the signing of accountability frameworks on action plans for strengthening the EPI in priority districts. It has been possible to strengthen communication and restore community confidence in immunization services due to the implementation of the EPI communication plan, developed within the context of COVID-19, at the central level and at the regional and district level, as well as the regular organization of educational talks and home visits. A national strategic communication plan and 11 integrated communication plans were developed, but their implementation was not possible due to financial reasons.

- □ **Lessons learned** for the new HSS/TCA: This partnership is insufficiently used and needs to be reactivated as part of monitoring the performance of the EPI.

- Geospatial analysis to improve health service delivery and target ZD communities is underutilized.

  - □ **Lessons learned** for the new HSS/TCA: United Nations High Commissioner for Refugees (UNHCR) analyzes the geospatial distribution of conflicts and insecurities affecting the lives of populations: clashes between armed groups, military operations, inter- and intra-community clashes, and destruction of infrastructure. As part of the vaccination strategy in conflict zones, Mali could get closer to UNHCR to use the data needed to strengthen service delivery and better identify ZD and UI children in vulnerable and mobile populations.

- Mobilization of non-traditional immunization stakeholders (including private sector, civil society organizations, and community organizations) to support RI activities: Security Sector Reform/Réforme du Secteur de la Sécurité (RSS) supports 735 community health workers (CHWs) in 12 districts. Technical support is provided by the Non-Governmental Organization (NGO) Musso with funding from the Global Fund in 2022, in particular for the implementation of training and the community digitalization strategy: the total number of CHWs is 3,345 in 11 regions and 71 districts, funded by seven donors, 80 percent of which comes from the Global Fund and Gavi.

  - □ **Lessons learned** for the new HSS: Support the CHWs in the new areas targeted by RSS and EAF. Their involvement in vaccination and the identification and reach of ZD children in the targeted areas should be specified.

- Strengthening integrated primary health care and vaccination services in conflict and fragile situations through the mobile clinic approach in the northern regions.

  - □ **Lessons learned** for the new HSS: There are synergies to be developed across World Vision International's humanitarian and food security/nutrition-oriented projects in Mali, in particular: cash transfer actions in displaced people camps (IDP camps) (30 percent for the displaced and 70 percent for host communities) and the importance of coupling vaccination activities with food distributions.

- Consideration of gender-related obstacles: the urban strategy reinforces the participation of men in vaccination activities and the adaptation of the schedules of vaccination services to the needs of women to eliminate gender-related obstacles.

  - □ **Lessons learned** for the new HSS: The development of a gender strategy within the framework of Programme de Développement Socio-Sanitaire (PRODESS) will enable staff capacity building on gender issues and the adaptation of vaccination services by involving community representatives in the planning, implementation, and monitoring of immunization activities.

- Improving the availability of vaccination services through the establishment and pursuit of vaccination strategies tailored to the context of each region and each district.

  - □ **Lessons learned** for the new HSS: The importance of involving community relays and community health workers to search for ZD and missed children.

- The implementation of the urban strategy in the district of Bamako with daily vaccination sessions, including weekends, as well as advanced strategy vaccination sessions targeted at hard-to-reach communities, including sites for IDPs.

  - **Lessons learned** for the new HSS: The extension of the urban strategy and the intensification of the forward and mobile strategies are taken into account in the FPP/EAF.

- Humanitarian organizations are called upon (International Medical Corps [IMC], the Alliance for International Medical Action [ALIMA]), in particular, for the delivery of vaccines by plane.

  - **Lessons learned** for the new HSS: The vaccination strategy in conflict zones is taken into account in the FPP/EAF because 22 prioritized districts are in the conflict zones of Mali.

Evidence Use

With the support of various partners, the country set up a District Health Information Software 2 (DHIS2)-centered Health Management Information System (HMIS) several years ago. Considerable efforts are undertaken routinely to keep the system up-to-date. However, data reported with multiple quarter lags and many inconsistencies (for example, leading to a negative number of ZD children), there is still a need to strengthen the reporting system because the culture of effective and systematic data and evidence use is still weak and partner-led in Mali. Collaborative routine activities for planning, implementation, and overall programmatic decision making in a participative way will help foster and sustain a culture of partnership and collaboration.

Challenges

Key challenges faced this quarter are related to the linguistic barriers that require the translation into French of the various technical resources for the appropriation of local actors, as well as delays in the planning caused by a conflict of agendas between the different stakeholders. As an approach to solve this problem, a Collaborative Intelligence Platform is in development by GaneshAID to facilitate coordination among immunization stakeholders.

Data on Key Indicators

Administrative data in Table 7 below are summarized for four districts selected for the CLH rapid assessment (Kayes, Bourem, Commune III, and Segou) and the 44 Gavi targeted districts for the period April-June, 2023.

Table 7. Administrative Data Aggregated for Mali CLH and Gavi Target Districts for the Period of April-June, 2023

Indicator	CLH Target Districts April-June 2023	Forty-Four Gavi Target Districts April-June 2023
Number Of Children Vaccinated With DTP1	14,538	170,944
Coverage of DTP1	76.75%	96.0%

Dropout DTP1-DTP3	9.25%	13.99%

Figure 6 compares DTP1 coverage rates from January-March 2023 and April-June 2023 in the four Mali CLH target districts based on data from the DHIS2. Data on dropout from DT1 to DTP3 and DTP1 to last measles are available for the same districts and timeframe, but not shown here. Data on other Gavi indicators are not available yet, but will be reported in future updates.

Figure 6. Comparison of DTP1 Coverage from January-March and April-June, 2023 by CLH District in Mali
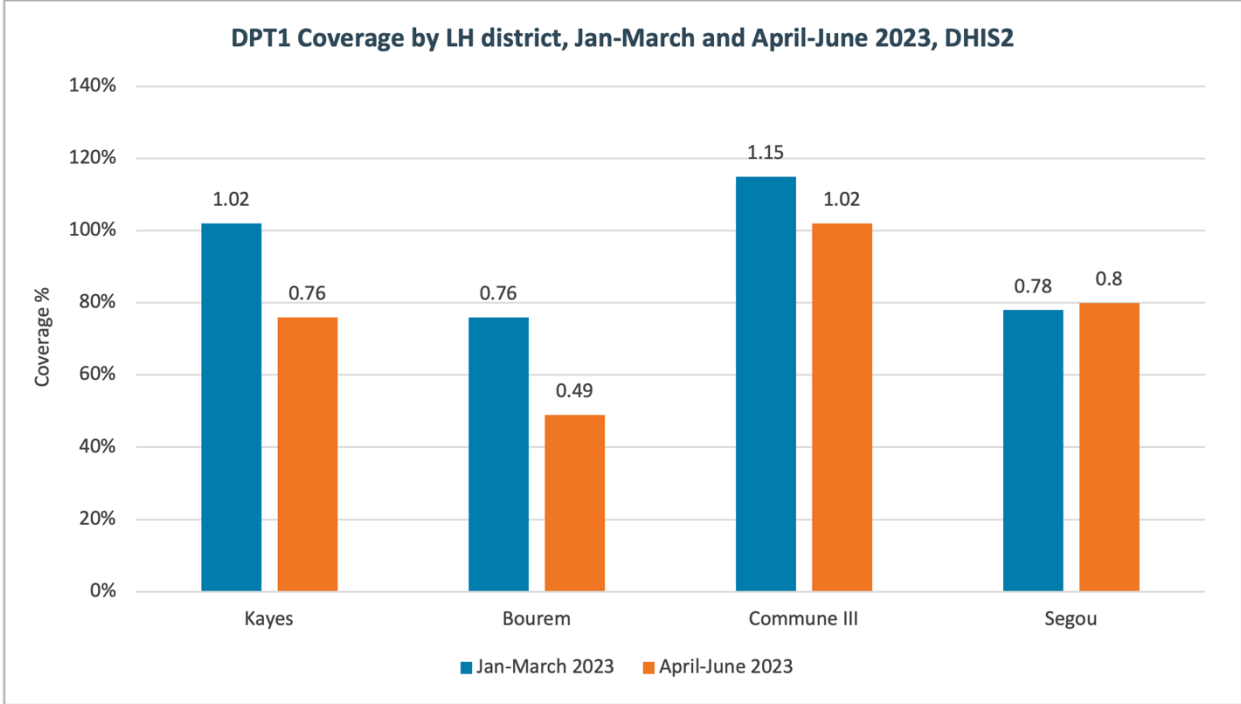
The figure above shows variation in DTP1 coverage across the four CLH districts, with over 100 percent reported in Commune III district in both periods and in Kayes district in the first quarter. Such overreporting indicates potential issues with the quality of the administrative data and/or inconsistency of vaccination service provision. It is noteworthy that coverage has dropped substantially in both Kayes and Bourem districts from the first to second quarter, but the reasons for this require deeper investigation.

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