

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

Nigeria

REPORTING PERIOD: JANUARY 2023 TO JUNE 2023

GAVI GLOBAL IMMUNISATION LEARNING PARTNER AND SUPPORT TO LEARNING HUBS
AGREEMENT REFERENCE: MEL 11578622

JULY 15, 2022 - MAY 15, 2026

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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.

Recommended Citation

Gavi Zero-Dose Learning Hub. 2023. “Gavi’s Zero-Dose Learning Hub IRMMA Aligned Interventions: October 2023 Semiannual Update – Nigeria.” <https://zdlh.gavi.org/>.

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

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.

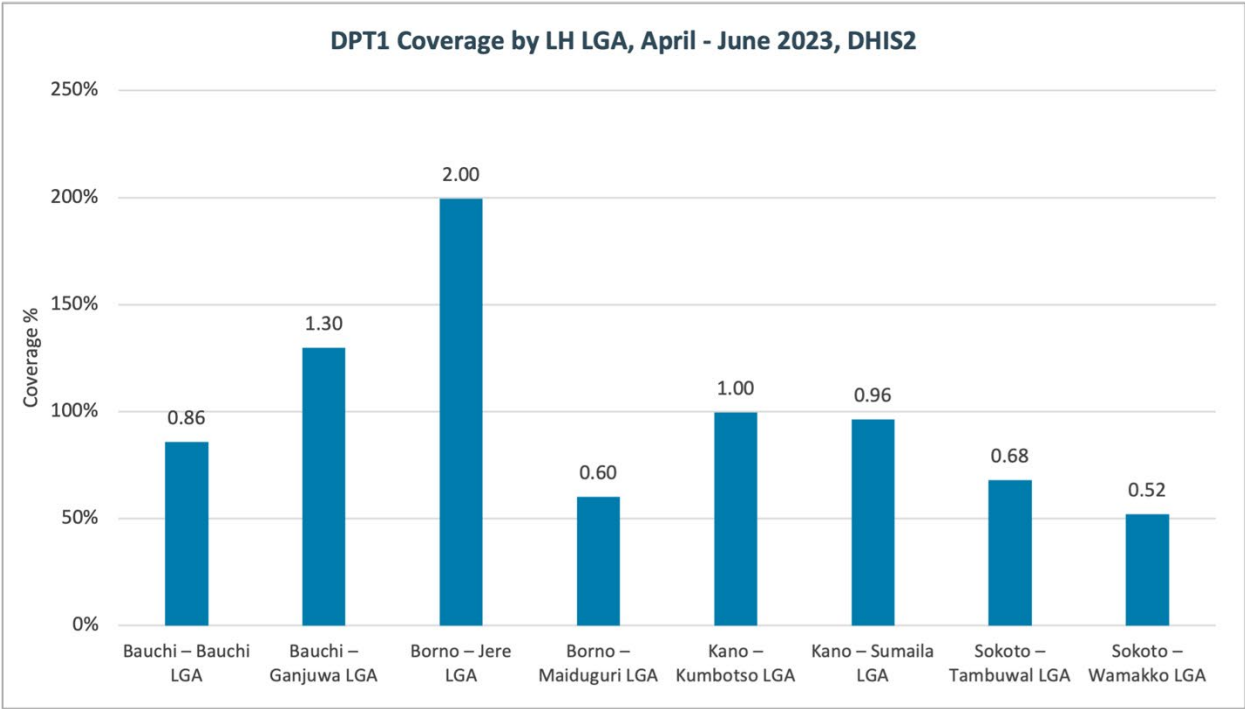
Data on Key Indicators

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



References

1. 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>

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