

Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: Semiannual Update— Bangladesh

October 2024

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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ACRONYMS

BCC	behavior change communication
CHCP	community health care provider
CLH	Country Learning Hub
DGHS	Directorate General of Health Services
DNCC	Dhaka North City Corporation
EPI	Expanded Programme on Immunization
FDMN	Forcibly Displaced Myanmar Nationals
HA	health assistant
icddr,b	International Centre for Diarrheal Disease Research, Bangladesh
IHMR	International Institute of Health Management Research
IR	implementation research
IRMMA	Identify, Reach, Monitor, Measure, Advocate
JSI	JSI Research & Training Institute, Inc.
MOHFW	Ministry of Health and Family Welfare
UI	under-immunized
UNICEF	United Nations Children’s Fund
WHO	World Health Organization
ZD	zero-dose
ZDLH	Zero-Dose Learning Hub

BANGLADESH COUNTRY LEARNING HUB

The [Zero-Dose Learning Hub](#) (ZDLH), established by Gavi, addresses immunization equity by generating data, evidence, new insights, and learning to better understand the factors influencing implementation and performance of approaches to identify and reach zero-dose (ZD) and under-immunized (UI) children and missed communities. The ZDLH consortium is led by [JSI Research & Training Institute, Inc.](#) (JSI), in collaboration with [The Geneva Learning Foundation](#) and [International Institute of Health Management Research](#) (IIHMR). ZDLH works to address immunization equity through the generation of evidence and learning around effective methods and approaches for identifying and reaching ZD and UI children. Four Country Learning Hubs (CLHs) in Bangladesh, Mali, Nigeria, and Uganda generate and advance the uptake of research and evidence to improve immunization policy and programming, especially at subnational levels. The [Bangladesh Learning Hub](#) is led by the [International Centre for Diarrheal Disease Research, Bangladesh](#) (icddr,b) with partners [Jhpiego](#) and [RedOrange Communications](#).

ZDLH TECHNICAL ASSISTANCE

During the period January–June 2024, JSI, as the global learning partner, continued to provide technical assistance, collaborate, and co-create with the Bangladesh CLH. JSI and IIHMR drafted the technical report summarizing findings from the political economy analysis that IIHMR carried out in Bangladesh during the previous reporting period. The draft report is being revised and will be submitted to icddr,b and its stakeholders for further review and feedback. JSI reviewed and provided feedback on the Bangladesh baseline implementation research (IR) report and offered guidance on the tools and protocol for a research activity involving Forcibly Displaced Myanmar Nationals (FDMN), advising on best practices for working with refugee populations.

ADDITIONAL RESOURCES

- [Bangladesh ZDLH Zero-Dose Landscape](#)
- [ZDLH Semiannual Update \(May 2024\)](#) (July—December 2023)
- [ZDLH Semiannual Update \(October 2023\)](#) (January—June 2023)
- [Early Learning from Zero-Dose Practitioners in Bangladesh and Mali: Gavi ZDLH Inter-Country Peer Exchange \(ZDLH-X1\)](#)

IDENTIFY

The Bangladesh CLH previously conducted a ZD rapid assessment (December 2022–May 2023) to identify ZD and UI children using a blend of secondary and primary data sources described in [Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: Semiannual Update \(October 2023\)](#). See [Unveiling Equity Gaps: Insights from Rapid Assessment Survey](#) for the full assessment.

QUALITATIVE ASSESSMENT OF ONGOING IR

During this reporting period, the CLH completed a qualitative assessment to evaluate the effectiveness and community receptiveness of ongoing IR interventions aimed at addressing ZD and UI children. This assessment focused on behavior change communication (BCC) materials, digital tools such as the e-screening checklist and e-tracker, and other interventions to reach ZD and UI children. The assessment provided detailed descriptions of the interventions by upazila, including the theoretical frameworks and specific strategies to reach ZD and UI populations. It also examined intervention fidelity, user perspectives, and overall effectiveness. Key findings were shared with local Expanded Programme on Immunization (EPI) stakeholders to refine and improve implementation. Through interviews and discussions with caregivers, health workers, community leaders, and program managers, the assessment aimed to identify strengths, challenges, and areas for improvement in the current implementation strategies. The assessment's goal was to capture stakeholder perceptions and optimize the impact of the interventions in bridging immunization gaps.

One area of inquiry featured the use of the e-screening checklist. The icddr,b team introduced this tool in response to previous research findings that indicated screening checklists had significant impacts on identifying ZD and UI children. Findings from the qualitative assessment indicated that the e-screening checklist was being used in all five of the rural study areas where it was implemented and that it had successfully identified ZD and UI children at multiple service delivery points. Complementary quantitative data indicated that 60 ZD and 111 UI children had been identified across the five sites using the e-screening checklist between January and June 2024. Additionally, respondents indicated that use of the e-screening app helped improve health worker accountability through a geolocation feature and increase efficiency of reporting through the electronic reporting feature. Despite these improvements, health facility respondents reported technical issues and challenges with app usage, particularly challenges with the feature that sends information about ZD and UI children who are not immunized immediately upon identification back to health assistants (HAs) in the community for follow up. The research also found that HAs had difficulty using the app when working outside the areas assigned to them in the app and that many were still using paper-based trackers due to challenges with the app.

EMERGING LESSONS: IDENTIFY

- **Ensure e-screening checklist continues to be used:** The e-screening checklist is an important tool that aided the identification of ZD and UI children during Q1 and Q2 of 2024. Service providers working at the facility level were trained to use the checklist to identify ZD and UI children. These providers include community health care providers (CHCPs), family welfare visitors/sub-assistant community medical officers, and midwives working at community clinics,

family welfare centers, and antenatal care corners in Upazila Health Complexes. The CLH observed that the number of new identifications in Q2 2024 was lower than in Q1 (62 and 109 children, respectively). This decline may be attributed to the fact that many ZD and UI children were identified in the initial months of the intervention. The continued use of this tool, along with efforts to address technical issues and ensure training for all HAs, is necessary for maintaining its effectiveness.

- **Engage family planning department staff:** Challenges encountered with the e-screening tool included a shortage of HAs, which affects the identification and follow-up of ZD and UI children. Engaging family planning department staff in Nalitabari Upazila (one of 10 upazilas where the Bangladesh CLH is conducting IR) to use the e-screening checklist has shown potential for addressing the shortage of HAs and improving identification efforts. This lesson emphasizes the value of service integration by partnering with other health care providers who also interact with parents and guardians of potential ZD and UI children to increase opportunities to reach more ZD and UI children.
- **Provide ongoing support for HAs:** In response to IR findings to date, the Bangladesh CLH will ensure that all HAs and CHCPs have tablets with the e-screening checklist app installed. The CLH will address the identified technical issues and establish a mechanism for ongoing support and issue resolution. The CLH will also work with the EPI to find a solution for HAs working outside their assigned areas, such as using temporary IDs or the IDs of local HAs. Additionally, the CLH will ensure that newly hired HAs and those who missed initial training receive appropriate training on the e-screening checklist. Lastly, the CLH will share the drafted dashboard with users and incorporate their feedback to ensure it provides useful information for their work.

REACH

LEARNING HUB IMPLEMENTATION RESEARCH

Since December 2023, the Bangladesh CLH has collaborated with government bodies, local academic institutions, and civil society organizations to conduct IR on the interventions designed to reach ZD and UI children in high-burden areas. The research focuses on refining evidence-based interventions using human-centered design tailored to different upazilas. The goal is to identify effective methods for reaching ZD and UI children, understand barriers and enablers, and develop context-appropriate strategies to integrate these children into the health system for full immunization. Field-level supervisors from the Ministry of Health and Family Welfare (MOHFW) and CLH monitoring officers jointly oversee the implementation of IR interventions through field visits, data analysis, and monthly meetings with upazila managers.

Emerging findings from the qualitative component of the IR, described above, have provided insights into reach interventions, including adapted BCC materials for caregivers of young children and an e-tracker system as well as EPI session timing, community engagement, and advocacy activities.

EMERGING LESSONS: REACH

- **Refine BCC materials for more effective outreach:** Qualitative findings from the ongoing IR suggest that the distribution of the BCC materials has been extensive, reaching many communities. The BCC materials are effective in increasing awareness about vaccination among caregivers of children under two years old. Study respondents appreciated how the materials improved caregivers' knowledge. Despite progress, there are challenges in reaching non-literate populations and ensuring the materials' appeal and effectiveness. The CLH will collaborate with EPI to further improve BCC materials to make them more visually appealing and easy-to-understand by people with varying literacy levels. The Bangladesh CLH plans to explore ways to share information on the severity of vaccine-preventable diseases with the community and provide refresher training to key staff on these messages.
- **Revise e-tracker for better user experience:** Health care providers in one upazila have started to use an e-tracker to monitor partially vaccinated and unvaccinated children. While children have been registered through the e-tracker, there are concerns regarding the volume of data collected and the effectiveness of e-messaging. Ongoing efforts will focus on refining the system to address these issues and enhance its utility for managing immunization records. The CLH team will discuss concerns about data volume and messaging effectiveness with EPI and United Nations Children's Fund (UNICEF). The team will advocate for revisions to focus on essential information and work with EPI staff to resolve e-messaging issues to ensure messages are sent, received, and read. They plan to collaborate with the Dhaka North City Corporation (DNCC) to implement the original plan of registering all households. The e-tracker system, which registers and monitors partially vaccinated children in an upazila where the e-screening tool is not in use, provided essential reminders to caregivers to seek vaccinations according to schedule, contributing to a decrease in UI children. The e-tracker was developed by mPower, a private

software company, and funded by UNICEF. It contains three components: 1) e-registration, 2) e-messaging, and 3) e-monitoring. Moving forward, community health workers and other vaccinators in one upazila where the e-screening tool is not used will use the e-tracker's e-registration component during a child's initial vaccination to collect their personal information, which then will be updated during subsequent visits. The e-messaging component will deliver automated reminders to guardians and caregivers about upcoming vaccinations, and the e-monitoring component allows for continued monitoring of subsequent doses. However, concerns were raised about the volume of data and issues with the e-messaging component, highlighting the need for revisions to focus on essential information and effective messaging. To date, the e-supervision checklist has helped improve accountability among supervisors and contributed to better EPI performance. Additional support is needed to further improve the dashboard and its usefulness for supervisors.

- **Modify EPI session schedule for greater access:** Based on feedback from the Bangladesh CLH through dissemination meetings, evening EPI sessions have been introduced to better serve working mothers in urban areas. Additionally, special crash programs (targeted vaccination initiatives implemented to address specific immunization gaps, particularly in areas identified as having high rates of ZD and UI children) have been implemented to improve vaccination coverage in remote and hard-to-reach areas. However, vaccine shortages and budget constraints in Saghata and Kawkhali upazilas have affected the implementation of planned sessions. Ensuring adequate resources and addressing these challenges will be key to sustaining and expanding these efforts.
- **Continue advocacy meetings:** Advocacy meetings with community leaders have been held to raise awareness and support for immunization programs. Meetings focused on the importance of vaccination, emphasizing the critical role of vaccination in preventing diseases and ensuring community health. They also covered the EPI schedule to ensure that community leaders were aware of and could support timely vaccinations. The meetings engaged a range of participants including union parishad members, local leaders, educators, and health workers to foster community support and involvement in the immunization programs. The variability in the number of meetings held and the attendance reflects both the challenges and successes faced to date in engaging community stakeholders; despite the committee members' scheduling conflicts and frequent transfers of government officials, the CLH continued to meet. The impact of these meetings on community support and participation will be important to assess as the interventions progress.
- **Support community engagement and health education:** Community engagement efforts, including meetings and health education through counselors from nongovernmental organization, have been used to promote vaccination in IR study communities. Low meeting attendance and clinic manager absences highlight the need for consistent planning and support for these activities. Based on IR findings to date, the Bangladesh CLH will work with EPI staff to establish accountability mechanisms for meeting organizers and community leaders. They plan to address concerns about meeting attendance and prioritize identifying and sharing success stories to provide positive reinforcement.
- **Build demand through community leadership:** Community leaders who are well-informed about the challenges and solutions related to ZD and UI children can help mobilize local resources and support. Meetings with community leaders have highlighted specific local barriers to immunization, such as misinformation, logistical challenges, and cultural beliefs. Understanding these barriers allows for tailoring interventions more effectively. Several cross-

cutting challenges were also identified, including accessibility issues related to flooding in Dwarabazar, which impacted IR intervention implementation. As noted earlier, there is also a need for further training and support for HAs and CHCPs to effectively use digital tools and carry out their roles. Additionally, while the sub-national committees were effective in focusing on ZD and UI, their role in broader intervention performance reviews could be strengthened.

MONITOR AND MEASURE

During this reporting period, Bangladesh CLH conducted a secondary analysis of DHIS2 data for 2023, covering all upazilas, municipalities, and zones of city corporations. This analysis followed the same methodology as the first phase of the rapid assessment in 2022. The analysis revealed:

- **An increase in rural upazilas with high ZD populations:** The number of rural upazilas with high populations of ZD children rose from 149 in 2022 to 227 in 2023. The cutoff percentage for designating areas as high ZD also increased from 7.4 percent to 12.6 percent.
- **Growth in high ZD city corporation zones:** The number of city corporation zones classified as high ZD increased from eight to 17.
- **Geographical shifts:** The distribution of high ZD areas has changed, with only three areas from 2022 continuing as high ZD zones in 2023. This shift underscores the need for ongoing reassessment of ZD hotspots.

The rolling review and data systems assessment highlighted notable changes in the ZD and UI landscape from 2022 to 2023. Different upazilas have now been classified as high ZD and UI areas due to an increased number of ZD children. Previously identified high-burden areas have experienced an increase in ZD children. These changes challenge previous assumptions about the primary causes of ZD and UI, suggesting that vaccine supply issues may be an important barrier in addition to geographic access in the hard-to-reach areas. This raises questions about the optimal frequency and methods for identifying missed communities in a country with high vaccination coverage like Bangladesh.

Jhpiego, in collaboration with EPI and immunization partners, has been actively engaged in the development and implementation of the ZD Data Improvement Plan, a strategy to improve monitoring and tracking of ZD children. The ZD Data Improvement plan responds to the results of the CLH's data landscape report, presented during the co-creation workshop in November 2023. The plan focuses on prioritizing actions to enhance ZD monitoring and tracking, particularly at the union level, including enhancing the DHIS2 user interface to allow simultaneous data analysis across different administration levels and creating a dashboard to promote data interpretation. Internal consultations have been held to prepare for a follow-up workshop with the MOHFW. The workshop will focus on reviewing progress, prioritizing activities, identifying resource needs, and developing detailed action plans to improve ZD data monitoring.

EMERGING LESSONS: MONITOR AND MEASURE

- **Repeat analysis of administrative data shows shifts in ZD areas:** The secondary analysis of DHIS2 data has revealed significant shifts in high ZD areas from 2022 to 2023, highlighting an evolving landscape in Bangladesh's immunization challenges. This analysis not only identifies new high ZD areas and trends but also questions previous assumptions about systematically missed communities, suggesting that vaccine shortages play a critical role. These findings emphasize the need for regular reassessments of existing data and a systematic approach to track and improve both ZD and UI metrics, ensuring that interventions are informed by reliable and up-to-date information.

- **Improve monitoring and address vaccine supply issues:** The increase in identified high ZD areas and the prevalence of ZD children from 2022 to 2023 highlights the need for continuous and improved monitoring. This increase may be attributed to vaccine shortages, emphasizing the importance of addressing supply issues to reduce ZD.
- **Strengthen data quality and use:** The establishment of ZD task forces at district and national levels, alongside strategies to improve data quality, can help in making better use of existing data for more accurate monitoring and tracking of ZD cases. The data improvement plan workshops and the ongoing monitoring of its implementation by icddr,b are steps towards enhancing data systems and addressing the identified challenges.

ADVOCATE

STAKEHOLDER ENGAGEMENT METHODS

The CLH continued its advocacy efforts through targeted activities working to raise awareness, leading to the inclusion of ZD and UI in policy and operational discussions with the MOHFW and EPI. A monitoring committee was formed at national level to monitor the CLH research activities. The committee chair is the Additional Secretary (Public Health Wing), Health Service Division, MOHFW. Other members include EPI and management information systems officials from Directorate General of Health Services (DGHS), and representatives from World Health Organization (WHO), UNICEF, and PATH. The committee meets quarterly and is responsible for reviewing the activities of the Bangladesh CLH and providing necessary guidance and feedback for implementation.

At the sub-national level, monitoring committees have formed that are headed by the civil surgeons of the IR focus areas. The members of the sub-national committees are the managers and supervisors of health and family planning departments at relevant upazilas and districts and the representatives of WHO and UNICEF. The committees meet regularly and review the progress of IR activities at the study areas.

The CLH organized the second round of sub-national committee meetings, which supported data sharing and assessing intervention effectiveness. These meetings, involving district- and upazila-level health officials, medical officers, and local project teams, facilitated a review of current practices and the identification of necessary adjustments. Based on evidence generated and shared by the CLH, the EPI is planning to implement changes such as modifying vaccination sessions and improving data collection tools.

Additionally, the CLH uses data from IR activities to inform and advocate for improvements to current programming. As noted above, findings from the IR suggest challenges with the e-tracker implementation, particularly around the volume of data collected and the effectiveness of e-messaging. The CLH will discuss these findings with EPI and UNICEF and advocate for solutions that respond to the challenges identified, promoting effective adaptive learning and management.

EMERGING LESSONS: ADVOCATE

Data on immunization gaps and emerging IR results generated by the CLH are driving local government action. For example, as described above, in response to IR results indicating that more flexible service hours were needed to accommodate urban working women, the DNCC introduced evening EPI sessions. Additionally, in response to IR findings that identified high numbers of ZD and UI children in Dowarabazar Upazila, the EPI conducted a crash immunization program in four unions. After the CLH shared qualitative IR evidence that ZD and UI children were not being vaccinated immediately upon identification through the e-screening tool, the sub-national EPI committee mandated that all identified children should receive vaccinations without delay. Such advances in immunization policy and programs suggest that the dissemination activities conducted by the Bangladesh CLH are effective advocacy outlets, driving engagement and action by different stakeholders, including the government.


ADDITIONAL RESEARCH

ASSESSMENT OF ZD AND UI CHILDREN AMONG FDMN

The Bangladesh CLH is currently leading a mixed-methods assessment of ZD and UI children among FDMN and host communities. The study has progressed following ethical approval from the MOHFW, DGHS, and the Refugee Relief and Repatriation Commissioner. Data collection initiated with social mapping activities in the Cox’s Bazar Rohingya Camps in June 2024.

The current study builds on earlier assessments, including a comparison with a Cox’s Bazar Medical College/WHO study that focuses primarily on traditional routine immunization for infants. The icddr,b study encompasses a wider range of age groups and places a strong emphasis on humanitarian and migration factors and lived experiences that may affect access and demand for immunization, while also maintaining a focus on ZD and UI children. This study not only includes FDMN but also explores host community dynamics. Key aspects of icddr,b’s study include:

- **Broader Scope:** icddr,b investigates a wide age range (children aged 4.5–24 months and 2–11 years) and includes non-traditional immunization determinants, such as the lived experiences of FDMN.
- **Comprehensive Mapping:** The study features a mapping component that incorporates community characteristics and a larger household survey sample to provide detailed estimates for both FDMN and host communities.
- **Methodology:** icddr,b employs questionnaires using the behavioral and social drivers of immunization framework and explores migration experiences and supply-side factors affecting vaccination. The study’s approach integrates observational, quantitative, and qualitative data to understand and address immunization gaps comprehensively.



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