Zero-Dose LEARNING HUB

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

April 2025

Gavi The Vaccine Alliance

JSI

IIHMR DELHI

THE GENEVA LEARNING FOUNDATION

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 (UI) children globally by facilitating high-quality evidence generation and uptake.

Recommended Citation

Gavi Zero-Dose Learning Hub. 2025. "Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: Semiannual Update—Uganda (April 2025)." https://zdlh.gavi.org/.

Contact Information

JSI Research & Training Institute, Inc.
2733 Crystal Drive 4th Floor
Arlington, VA 22202 USA

ZDLH website: https://zdlh.gavi.org/

CONTENTS

ACRONYMS iv
EXECUTIVE SUMMARY 5
KEY LEARNINGS & RECOMMENDATIONS 6
Identify: Understanding the ZD Burden in Learning Hub Study Communities 6
Reach: Ensuring Access to Immunization Services 6
Monitor & Measure: Improving Data Systems and Tracking Immunization Coverage 8
Advocate: Strengthening Policies, Stakeholder Engagement, and Financing 9
UGANDA COUNTRY LEARNING HUB 10
ZDLH Technical Assistance 10
Related Resources 11
IMPLEMENTATION RESEARCH AND ASSESSMENTS 12
Evaluation of UNICEF-Supported House-to-House Registration 12
Process Evaluation of the Equity Accelerator Fund Interventions 13
Evaluation of the Big Catch-Up Campaign 13
Health Facility Assessment 17
KNOWLEDGE TRANSLATION 19

ACRONYMS

AEFI	adverse events following immunization
BCU	Big Catch-Up
CLH	Country Learning Hub
CSO	civil society organization
DHT	district health team
DTP	diphtheria, tetanus, pertussis [vaccine]
EAF	Equity Accelerator Fund
eCHIS	electronic community health information system
EPI	Expanded Program on Immunization
HC	health center
HFA	health facility assessment
HTH	house-to-house
IDRC	Infectious Diseases Research Collaboration
IR	implementation research
IRMMA	Identify, Reach, Monitor, Measure, and Advocate
JSI	JSI Research & Training Institute, Inc.
KII	key informant interview
KT	knowledge translation
MOH	Ministry of Health
NIRA	National Identification and Registration Authority
PHC	primary health care
RE-AIM	reach, adoption, implementation, and maintenance
SPT	Smart Paper Technology
UI	under-immunized
UNEPI	Uganda National Expanded Programme on Immunisation
VHT	village health team
WHO	World Health Organization
ZD	zero-dose
ZDLH	Zero-Dose Learning Hub

EXECUTIVE SUMMARY

This semiannual update presents key findings and recommendations from the Uganda Learning Hub for the period July to December 2024. The Learning Hub, led by the Infectious Diseases Research Collaboration (IDRC) in partnership with PATH and Makerere University School of Public Health, continues to generate and translate evidence to support national and subnational efforts to identify and reach zero-dose (ZD) and under-immunized (UI) children and missed communities. Guided by Gavi's Identify, Reach, Monitor, Measure, and Advocate (IRMMA) framework, the Learning Hub's research is directly informing programming and planning at multiple levels.

In response to delays in the implementation of the Equity Accelerator Fund (EAF), the Learning Hub pivoted from a planned impact evaluation of EAF-supported interventions to documenting the implementation process and contributions of ongoing activities, such as the EAF roll-out and Big Catch-Up (BCU) campaign, to generate practical evidence to inform adaptation and planning. Across its evaluations of the BCU, UNICEF house-to-house (HTH) registration, and immunization data systems, the Learning Hub has highlighted gaps in data quality, sustainability, and follow-up systems. Multiple, fragmented digital data platforms for immunization tracking and tracing and weak community identification and community-to-facility linkages remain obstacles to tracking ZD children over time. The Learning Hub's recommendations call for integrated digital tracking systems, stronger VHT support, tailored outreach strategies, and improved vaccine logistics.

The Learning Hub has played a critical role in translating research into action. Through structured knowledge translation activities—including technical consultations, district planning sessions, and policy dialogues—Learning Hub findings have directly influenced programmatic decisions in the country. The Uganda National Expanded Programme on Immunization (UNEPI) is using this evidence to refine HTH registration strategies and explore real-time data capture approaches. At the sub-national level, district teams in Mubende have used Learning Hub data to adjust outreach plans, prioritizing households with home births and those in underserved areas. At the national level, findings also informed UNEPI's consideration of expanding EAF coverage to additional high-risk populations.

The Uganda Learning Hub continues to demonstrate how ZD research and sustained stakeholder engagement can shape more equitable and responsive immunization strategies. Its contributions are strengthening evidence-based decision-making to support the identification and reach of ZD and UI children.

KEY LEARNINGS & RECOMMENDATIONS

IDENTIFY: UNDERSTANDING THE ZD BURDEN IN LEARNING HUB STUDY COMMUNITIES

Key Learnings

- As trusted members of the community, village health teams (VHT) play a critical role in identifying ZD/UI children, particularly through household registration and sensitization activities.
- The effectiveness of VHTs in identifying ZD children and facilitating community-to-facility linkages is limited in some cases by untimely salary payments, inadequate training on registering children without immunization cards, and insufficient time and resources to conduct social mobilization activities.
- During workshops held by UNEPI in collaboration with CHAI in October 2024, district stakeholders identified additional high-risk communities for inclusion and targeting by interventions funded by the Equity Accelerator Fund (EAF) grant, including mining communities, sex workers, mobile laborers, tea estate workers, migrants, residents of ungazetted forests and resettlement areas, pastoralists, and street children.

Recommendations

- **Regularly engage sub-national stakeholders to identify high-risk populations:** Given that populations are dynamic (i.e. changing in size, composition, and distribution due to factors like migration, urbanization, etc.), sub-national stakeholders should be regularly engaged to identify new or previously untargeted populations at risk for immunization coverage gaps.
- **Enhance immunization data tracking:** Develop a real-time digital data system that integrates community and facility-level data to improve the accuracy of tracking ZD and UI children and reduce reliance on immunization cards.

REACH: ENSURING ACCESS TO IMMUNIZATION SERVICES

Key Learnings

- Rural and urban areas face unique immunization challenges. Rural barriers include home births and lack of early contact with health facilities, long travel distances to health facilities, difficult terrain, insecurity, and religious resistance. Urban barriers include gated communities, street families, private facilities charging for immunization, misinformation from social media, and VHT capacity. Community engagement and trust-building in rural areas are essential for immunization uptake, particularly among resistant families and immigrant populations.

- Sub-national stakeholders from across the 59 EAF districts—including districts with urban, pastoral, fishing, mountainous, refugee, island, and conflict-affected communities—partnered with UNEPI to successfully co-create customized solutions to reach newly identified and targeted high-risk populations in their districts. These solutions included expanding immunization services in high-risk communities, particularly in underserved areas like Kiruuma sub-county, by increasing outreach frequency as well as proposing construction of new health facilities.
- District stakeholders in Mubende identified additional barriers to coverage, including poor communication with sub-district and district teams about vaccine stockouts at health facilities and inadequate outreach services. Vaccine stockouts may be linked to issues such as poor stock management and documentation at facilities, and limited outreach was attributed to inadequate transportation to outreach sites, all of which hinder timely and equitable delivery of immunization services.
- UNICEF-supported HTH registration in Wakiso and Kamuli districts encountered barriers such as VHTs not registering children from resistant families or those lacking immunization cards, as well as incomplete registration of eligible children in certain villages. Selection of VHT members, training, and supervision are critical to ensure effective registration. Some VHTs were unable to meet the physical demands of house-to-house (HTH) registration, highlighting gaps in planning and selection criteria.

Recommendations

- **Strengthen planning, VHT capacity, and coordination for house-to-house registration:** Address VHT capacity gaps by ensuring equitable resource allocation (i.e., consider geographical context when determining resource allocation), improving training and supervision, and addressing delays in payments for VHTs. Improve VHT selection processes to ensure physically capable, well-compensated, and trained individuals are deployed for HTH registration and outreach efforts. Increase the frequency and coverage of outreach sessions, particularly in hard-to-reach areas with difficult terrain, insecurity, or low population density. Address the lack of VHT representation in some villages, which led to gaps in HTH registration and incomplete coverage of eligible children.
- **Expand social mobilization and community engagement during intervention planning to reduce vaccine resistance:** Improve intervention planning and sensitization by ensuring that target communities and leaders are aware of and engaged in the design of proposed interventions to reduce vaccine hesitancy and promote cooperation. Improve social mobilization strategies to counter vaccine misinformation, particularly in rural community settings where political and religious leaders may influence vaccine hesitancy. Enhance targeted communication efforts, ensuring local leaders, health workers, and VHTs actively engage male caregivers, caregivers who are not biological parents, families with home births, and caregivers facing prolonged illness.
- **Engage sub-national stakeholders in developing solutions:** Engage local actors in the planning phases of all interventions, adopting a bottom-up approach to planning, when possible, to ensure local, contextually appropriate solutions. For example, promote UNEPI's engagement with local stakeholders during EAF intervention planning to enable accurate identification and targeting of high-risk communities and develop custom solutions to reach them.

- **Improve vaccine stock management and logistics:** Address vaccine stockouts by improving stock tracking systems and storage practices at health facilities, especially in districts experiencing frequent shortages. Expand transport and logistical support to ensure vaccination teams can effectively reach remote, high-risk communities.
- **Develop targeted urban immunization strategies:** Create specific strategies to address urban immunization challenges, such as mapping mobile populations, engaging private providers, and ensuring equitable vaccine resource allocation between city divisions and rural districts.

MONITOR & MEASURE: IMPROVING DATA SYSTEMS AND TRACKING IMMUNIZATION COVERAGE

Key Learnings from the Learning Hub's Immunization Data System Landscape

- The lack of a national child immunization tracking system linked to the National Identification and Registration Authority (NIRA) civil registry makes monitoring vaccination schedules difficult, particularly for migratory and pastoralist communities. Multiple immunization data systems exist at different levels, including DHIS2, Smart-Paper Technology (SPT), and electronic community health information system (eCHIS), but they generate different ZD/UI estimates due to data source differences, quality issues, and denominator discrepancies.
- DHIS2 primarily captures facility-based data, which limits its ability to track individual immunization status at the community level and leads to gaps in timely and complete reporting. SPT enables unique identifier tracking but shows discrepancies between facility records and DHIS2 data. eCHIS captures household-level data with high accuracy, but immunization status is difficult to confirm without child health cards, and it is not yet fully integrated with DHIS2.
- Most immunization data systems are donor-funded pilot projects, raising concerns about long-term sustainability and national integration, and there is no systematic way to track whether ZD children referred by VHTs actually receive vaccines, making community-to-facility referrals weak.

Recommendations

- **Strengthen immunization data systems and digital integration:** Invest in and deploy a fully digitalized immunization data system at the community level to improve accuracy and real-time tracking of ZD and UI children. Ensure full interoperability between eCHIS and DHIS2 to integrate community-level data with facility-based records for more accurate immunization tracking. Expand the use of SPT and eCHIS to improve individual-level data collection and ensure the identification and follow-up of ZD children.
- **Improve data quality and verification mechanisms:** Conduct frequent and systematic data triangulation exercises to validate immunization coverage estimates. Enhance training for health workers and data clerks on data management, real-time reporting, and quality control to improve the completeness, timeliness, and integrity of immunization records.
- **Strengthen community-to-facility referral and follow-up systems:** Develop a national child immunization tracking system, linking birth registration data with health records to monitor vaccination status at all points of care. Improve VHT referral mechanisms to ensure proper

follow-up on ZD children, particularly by creating feedback loops between community-based registries and health facility data systems.

- **Address data gaps and sustainability of immunization platforms:** Reduce reliance on donor-funded pilot immunization data systems by securing government investment in long-term, sustainable national data systems. Expand routine monitoring of vaccine stocks and immunization service capacity, and assess human resource constraints to ensure data-driven planning and decision-making.

ADVOCATE: STRENGTHENING POLICIES, STAKEHOLDER ENGAGEMENT, AND FINANCING

Key Learnings

- In November 2024, the Ministry of Health (MOH) onboarded 17 civil society organizations (CSOs) to support Full Portfolio Planning (FPP) grant implementation, focusing on community engagement, social mobilization, and advocacy in the 59 EAF districts. CSOs are expected to contribute to demand generation, service delivery, and vaccine logistics, including tracking defaulters, monitoring vaccine stock levels, and advocating for improved immunization financing.
- Policy dialogues at the regional and district levels are important to strengthen political commitment, mobilize resources, and integrate immunization into broader health and development policies.
- Across the 59 EAF districts, advocacy through facility-based accountability forums with health workers, facility in-charges, and local leadership is needed for the allocation of primary health care (PHC) funding toward immunization activities.

Recommendations

- **Strengthen CSO engagement in immunization advocacy and accountability:** Ensure CSOs play a key role in demand-generation, community mobilization, and service delivery by supporting social accountability efforts, defaulter tracking, and reconciliation of child registers at both facility and community levels. Enhance CSO involvement in immunization policy planning and financing by enabling their participation in budget planning, monitoring the use of PHC funds, and advocating for equitable resource allocation.
- **Expand cross-sectoral collaboration for immunization advocacy:** Engage non-health stakeholders, including local leaders, religious figures, and private-sector actors, to enhance immunization demand generation and reduce vaccine hesitancy. Ensure political leaders and policymakers actively participate in regional and district-level policy dialogues to drive continued immunization investment and policy alignment.
- **Secure long-term immunization financing and political commitment:** Institutionalize structured policy dialogues at the national and district levels to advocate for sustained immunization financing and resource allocation. Ensure continuous tracking of immunization funding gaps to inform decision-making and improve budgetary commitments for immunization programs.

UGANDA 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 the 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 sub-national levels. In 2023, Gavi selected the Infectious Disease Research Collaboration (IDRC) as the country learning partner for Uganda, with partners PATH and Makerere University School of Public Health.

This semiannual update for the Gavi Board and other stakeholders highlights the ZDLH consortium's efforts to generate and share evidence for a deeper understanding of the factors that affect the implementation and performance of strategies to identify and reach ZD and UI children and missed communities. It synthesizes findings, challenges, and recommendations across Gavi's Identify, Reach, Monitor, Measure, and Advocate (IRMMA) framework emerging from the Learning Hubs.

ZDLH TECHNICAL ASSISTANCE

During the period July–December 2024, JSI, as the global learning partner, continued to provide technical assistance, collaborate, and co-create with the Uganda CLH. JSI provided technical support for strengthening the Learning Hub's theory of change, measurement approaches, and stakeholder engagement. JSI facilitated an outcome mapping exercise to clarify intermediate outcomes to support the Learning Hub's measurement approaches and intervention planning discussions with stakeholders. To support data collection and analysis, JSI engaged a health economist to review costing materials, provided feedback on analysis approaches for the targeted community survey, and reviewed key research tools, including the Health Facility Assessment (HFA) and key informant interview (KII) guides. Additionally, JSI collaborated with the Learning Hub to refine its measurement strategy in response to delays in the EAF programming and developed a customized KII tool for facilities in Mubende district based on multiple data sources. In response to the EAF delays, the Learning Hub revised its plan to conduct a prospective impact evaluation of the EAF. Instead, the Learning Hub pivoted its implementation research to documenting both the contributions and impacts of existing immunization interventions in the study districts and conducting exploratory research and process evaluations to document large-scale immunization efforts, such as the Big Catch-Up (BCU) and the EAF roll-out. This revised approach aimed to provide evidence-based recommendations for planning purposes and to better understand implementation challenges and opportunities to guide future efforts.

RELATED RESOURCES

- Burden of Zero-Dose Children in Pastoralist, Hard-to-Reach and Underserved Communities: A Case Study of Mubende District, Uganda (December 2024)
- Utility of Data Capture Platforms for Identifying Zero-Dose Children in Uganda (December 2024)
- Report on a Rapid Assessment of the Zero-Dose Situation in Uganda (September 2024)
- Uganda Zero-Dose Learning Agenda (September 2024)
- Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: Semiannual Update—Uganda (October 2024)
- Uganda Data Dashboard (January-June 2024)
- Gavi's Zero-Dose Learning Hub IRMMA Aligned Interventions: Semiannual Update—Uganda (May 2024)

IMPLEMENTATION RESEARCH AND ASSESSMENTS

In this reporting period, the Learning Hub conducted a process evaluation of the EAF roll-out and BCU implementation, and finalized the evaluation of the UNICEF-supported HTH registration of children under age five by VHT members in Wakiso district. Each study is outlined below.

EVALUATION OF UNICEF-SUPPORTED HOUSE-TO-HOUSE REGISTRATION

To complement broader evaluations of the EAF and BCU, the Learning Hub conducted an evaluation between January and September 2024 of a UNICEF-supported house-to-house (HTH) registration initiative led by VHTs in 2023 in Wakiso and Kamuli districts. Using the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework, the study (1) estimated the number of ZD and UI children identified and vaccinated through the HTH registration in Wakiso and Kamuli districts in 2023; (2) documented the challenges and enablers of HTH registration implementation; and (3) assessed the reach, adoption, implementation, and maintenance of the HTH registration in Wakiso district in 2023. The Learning Hub combined analysis of HTH registration data with qualitative interviews with caregivers, VHTs, and health workers in Wakiso district.

Key Findings

- HTH registration identified 3,501 ZD children and 3,306 UI children under five years of age in Wakiso and Kamuli districts. In Wakiso district, there were 1,851 ZD and 1,638 UI children, while Kamuli district had 1,650 ZD and 1,668 UI children. Not all eligible children were registered due to multiple challenges, including:
    - VHTs not registering children from resistant families for safety reasons and children without immunization cards
    - Villages without VHT representation during planning and implementation resulted in gaps in coverage
    - Some VHTs were unable to meet the physical demands of registration, affecting their ability to reach and register all households
- HTH registration data collection weaknesses included missing and inconsistent data, delays in register submission to health facilities, and difficulties in data processing due to poor handwriting and incomplete information.
- Health workers conducting follow-up were overwhelmed with data processing, delaying the identification of ZD and UI children for follow-up despite UNICEF's provision of computers and data entry support.
- Inadequate social mobilization contributed to caregiver resistance, attributed to lack of sensitization, immunization fatigue, and suspicion of registration efforts.
    - Despite these challenges, HTH registration was generally accepted by district, facility, and community stakeholders, with some health workers using the registration data to guide outreach efforts. In Wakiso, success was attributed to strong VHT-community

relationships, proactive resource mobilization by some VHT coordinators, and VHTs applying prior experience from other programs.

This evaluation demonstrated that HTH registration can successfully identify ZD and UI children but requires stronger planning, better data systems, and increased financial and supervisory support to VHTs. Concerns about its long-term sustainability remain, as it currently relies on unpaid or underpaid VHTs, prompting discussions on how to ensure viability as a regular ZD intervention. Findings have informed UNEPI and district-level discussions on improving outreach strategies and VHT support mechanisms, and also contributed to planning for the national BCU campaign.

PROCESS EVALUATION OF THE EQUITY ACCELERATOR FUND INTERVENTIONS

The Learning Hub continued its process evaluation of the EAF intervention by reviewing planning documents and observing coordination meetings. UNEPI and partners conducted key activities in preparation for the implementation of EAF interventions, including orientation of the 59 districts on the EAF package. Based on the Learning Hub's rapid assessment finding on emerging undocumented high-risk communities, UNEPI and partners engaged district stakeholders to identify the high-risk communities, barriers to reaching ZD children, and solutions to the barriers in their districts. Newly identified high-risk communities include mining communities, tea estate workers, mobile casual laborers, sex workers, migrants, and street children.

District stakeholders identified supply-side barriers to reaching ZD children, including inadequate supportive supervision, inconsistent scheduling of immunization services at facilities, vaccine stock-outs, and inappropriate distribution of health facilities to meet the population's needs. For demand-side challenges, they identified weak and untargeted social mobilization efforts, myths and misconceptions about immunization, vaccine resistance from subpopulations within communities, and geographical inaccessibility (such as mountainous areas, gated communities, and islands). Urban-specific challenges included insufficient resource allocation for highly populated areas, transient populations, unpaid VHTs, and out-of-pocket costs for immunization at private facilities. These findings underscore the importance of consulting local stakeholders during intervention planning as well as adaptive and inclusive immunization strategies to reach overlooked populations and enhance the effectiveness of EAF-supported interventions. UNEPI acknowledged findings from the district stakeholders, which highlighted the need to consider additional high-risk communities for inclusion in the EAF interventions.

EVALUATION OF THE BIG CATCH-UP CAMPAIGN

During the Gavi mission meeting in September 2024, the Learning Hub presented plans for an evaluation of the roll-out of EAF interventions. UNEPI also cited findings from the HTH registration assessment, which documented challenges such as inadequate social mobilization and barriers faced by VHTs in registering, identifying, and referring ZD/UI children. Although sub-national stakeholders agreed with the Learning Hub findings, UNEPI was not able to shift their campaign intervention plans, and sub-national stakeholders were unable to shift their approaches due to standardized national protocols. Nevertheless, UNEPI did request that the Learning Hub evaluate the forthcoming BCU campaign, which was acknowledged as the beginning of the implementation of the EAF interventions. In response, the

Learning Hub conducted a process evaluation of Uganda's November 2024 BCU campaign in the three Learning Hub districts, as summarized in Table 1 below.

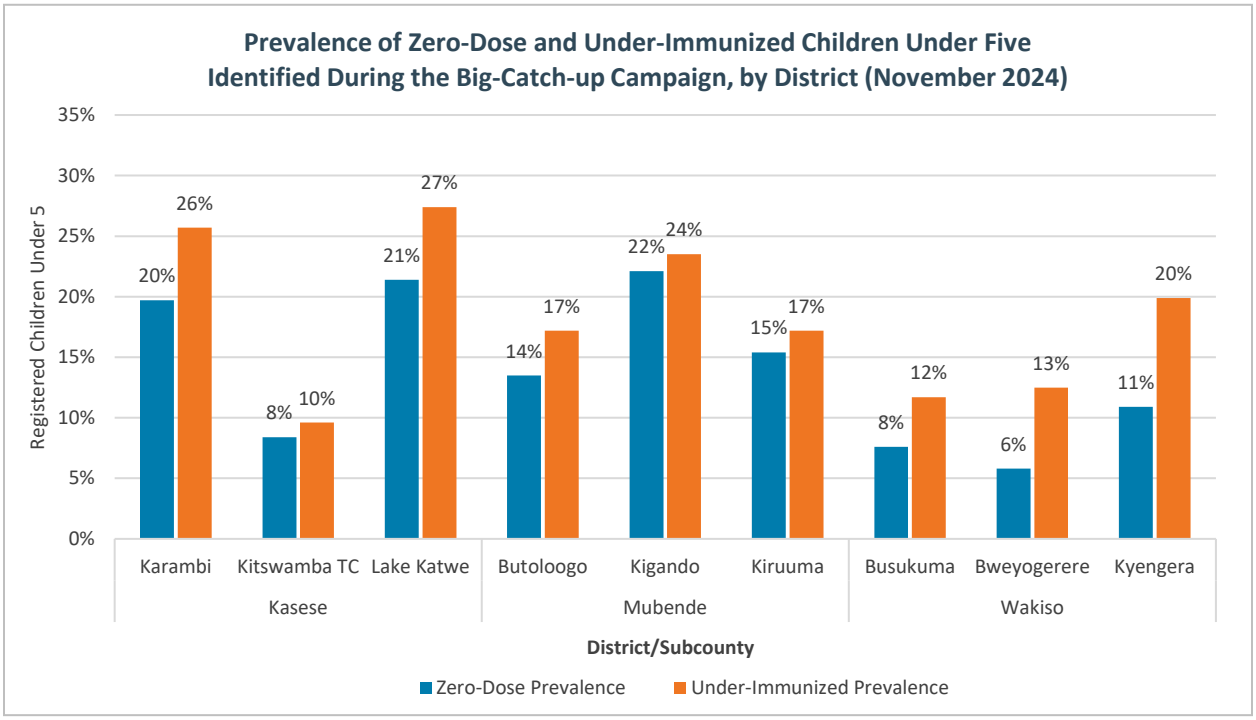
Table 1. Summary of the Evaluation of the November 2024 BCU Campaign

Overall Objective	Assess implementation of the November 2024 BCU campaign in Wakiso, Kasese, and Mubende districts
Evaluation Focus	• Planning and implementation **processes, challenges,** and **enablers** of a large-scale, national immunization campaign • **Identification:** Effectiveness, enablers, and challenges with HTH registration of <5-year-olds by VHTs • **Reach:** Effectiveness, enablers, and challenges of follow-up immunization services
Specific Objectives	1. Estimate number and proportion of ZD/UI children <5 **identified** during BCU 2. Estimate number and proportion of ZD/UI children <5 **reached** during BCU 3. Document **process, enablers,** and **challenges** of BCU implementation
Districts: Sub-counties	**Kasese:** Kitswamba Town Council, Lake Katwe, Karami **Wakiso:** Busukuma, Kyengera Town Council, Bweyogerere division **Mubende:** Kiruuma, Butoloogo, Kigando
Methods	• Document review • Secondary data analysis • Observation of national and sub-national planning meetings • Facility- and community-level assessments

Key Findings

- **Identification of ZD and UI children:** Across the assessed districts, ZD (no DTP1) and UI (no DTP3) prevalence varied widely across the three districts. In Kasese district, Karambi and Lake Katwe had the highest ZD prevalence among children under five at 19.7% and 21.4%, respectively, with UI prevalence among children under five at 25.7% and 27.4%. Kitswamba Town Council had lower prevalence, with 8.4% ZD and 9.6% UI among children under five. In Mubende district's Kigando subcounty, 22.1% of children under five were ZD and 23.5% were UI. Wakiso district showed lower overall prevalence, with ZD prevalence ranging from 5.8% to 10.9% among children under five and UI prevalence from 11.7% to 19.9% among children under five across Busukuma, Bweyogerere, and Kyengera sub-counties (See Figure 1).

Figure 1: Prevalence of ZD and UI among children under five identified during the Big Catch-Up campaign, by district (November 2024)



Source: HTH registration data from the Big Catch-Up Campaign

- **Operational challenges and systems-level lessons:** Beyond the prevalence estimates, the evaluation highlighted operational challenges and systems-level lessons. Across the Learning Hub districts, the proportion of UI children consistently exceeded that of ZD children, underscoring persistent difficulties with follow-up and routine immunization services:
  - In Wakiso and Mubende, more children were vaccinated during the BCU than were registered through HTH, partly due to targeted mop-up activities and flexible outreach strategies like the cluster model, which involved moving to different locations within a village to improve access.
  - In Kasese district, fewer children were vaccinated than registered, pointing to service delivery or access issues.
  - Weak HTH registration practices in some areas, driven by low VHT morale, lack of community trust, and insufficient tools, contributed to underreporting.
  - No system was in place to track whether children identified during registration were ultimately vaccinated.
- **Gap between registration and vaccination:** More children were vaccinated during the BCU than were captured during HTH registration. This gap reflects both strengths of the vaccination campaign and weaknesses of the household registration. On the one hand, targeted mop-up activities and flexible outreach strategies like the cluster model expanded access and improved vaccination coverage. However, registration was constrained by a short two-day window per

village, limited availability of forms, and low VHT motivation—driven by delayed facilitation and limited support from the MOH. These factors resulted in lower household registration but broader vaccination coverage.

- **Implementation enablers:**
  - Strong DHT commitment, and a culture of adaptive learning, using evidence to drive implementation
  - Timely technical support from national and district supervisors
  - Clear, accessible national BCU guidelines provided structure for activities
  - Coordination and support from key partners, including PATH, UNICEF, Infectious Diseases Institute, and Centers for Disease Control/African Field Epidemiology Network
- **Challenges:**
  - Short two-day registration period, inadequate VHT training, and a lack of proper registration tools. Additionally, some children from resistant households were not registered.
  - Inadequate or delayed payments affected VHT morale and reduced engagement in registration and outreach. Some VHTs also feared that documenting ZD/UI children would reflect poorly on their pre-BCU performance.
  - Vaccination teams encountered operational challenges, including high transportation costs, inadequate staffing, and reluctance from private health facilities to help fill staffing gaps, particularly in Wakiso district.
  - Social mobilization was inadequate, leading to low caregiver turnout at vaccination posts. Specific barriers included private schools not being informed in time to obtain consent for students to participate, ineffective audio messages from mobilization vans, and insufficient VHT engagement due to funding gaps.
- Data management weaknesses affected tracking and decision-making. HTH registration data aggregation lacked proper analysis and reporting mechanisms, making it difficult to generate individualized ZD child line lists for vaccination follow-up and hampering targeting efforts. PATH Uganda supported efforts to aggregate registration data at the parish level and submit summary reports to the national MOH server, but this did not fully resolve challenges with individualized tracking.

The November 2024 BCU evaluation underscores the need for stronger planning, logistical coordination, robust data systems, comprehensive follow-up, and sustained VHT support to improve identification, reach, and overall campaign impact. UNEPI and PATH have begun using the evaluation findings to improve health facility microplanning and to explore new approaches to real-time data capture. These efforts aim to address gaps in registration, outreach planning, and tracking identified during the BCU campaign.

ASSESSMENT OF IMMUNIZATION DATA SYSTEMS

During a previous reporting period in 2023, the Uganda Learning Hub conducted an assessment of immunization data systems to evaluate the effectiveness, gaps, and opportunities in the country's immunization data ecosystem. The data systems report was finalized during this reporting period, and is summarized in Table 2 below.

Table 2. Summary of Assessment of Immunization Data Systems in Uganda

Assessment Purpose and Methods	Assessed immunization data systems (March–December 2023) to evaluate platforms, identify gaps, and strengthen ZD/UI estimation. Methods included document reviews, scoping meetings with UNEPI and MOH, KIIs at national/subnational levels, and structured observations of DHIS2, SPT, eCHIS, and house-to-house registration systems.
Platforms Assessed	**DHIS2:** Widely used at facilities **SPT:** Piloted in 11 districts **eCHIS:** Tested in 19 districts **House-to-house registration** systems
Key Findings	• Multiple platforms at different deployment stages; most are donor-funded pilots, raising sustainability concerns • Immunization estimates vary: eCHIS shows higher ZD/UI rates than DHIS2 • DHIS2 lacks individual-level data, causing incomplete/untimely reporting • SPT tracks individuals but data integration issues affect reliability • eCHIS captures community-level data accurately but faces tracking and integration gaps • No system confirms referral-to-vaccination linkage for ZD children • No national system linked to NIRA, complicating monitoring for migratory/high-risk populations
Implications and Actions	• The findings of the assessment and the UNICEF HTH VHT evaluation supported the need for an improved platform with timely data for tracking and tracing ZD/UI children. As a result, UNEPI and PATH developed a real-time system using ODK for daily VHT reporting and parish-level aggregation to support outreach and microplanning.

Learn more: Utility of Data Capture Platforms for Identifying Zero-Dose Children in Uganda

HEALTH FACILITY ASSESSMENT

In October–November 2024 the Learning Hub carried out an HFA to identify supply-side constraints affecting immunization services in six health facilities across Butoloogo, Kigando, and Kiruuma sub-counties in Mubende district. The study included the training of seven research assistants, pre-testing of tools in Wakiso district, and quantitative data collection in October 2024. Data were analyzed using a case study approach and contextualized with findings from the baseline survey and rapid assessment. A debrief session was held with the research team in November 2024 to support data interpretation and design KII guides for qualitative data collection, planned for early 2025.

Key Findings

- Several health facilities reported vaccine stockouts—specifically of DTP, yellow fever, rotavirus, human papillomavirus (HPV), and inactivated polio vaccine (IPV)—between July 2023 and September 2024. However, poor documentation made it difficult to confirm the timing and duration of these stockouts.
- Outreach sessions were completed at four of the six facilities, and the other two health facilities (Kituule Heath Center [HC]II and Mawujjo HCII) had irregular outreach activities. At Kituule HCII, staffing was limited to two health workers serving an entire sub-county, which likely contributed to missed outreach.
- At Butawata HCIII, despite regular outreach activities, several ZD children were identified in the catchment area.
- None of the six facilities had documented any adverse events following immunization (AEFI), which may reflect a lack of awareness among caregivers about how to report such events and a lack of understanding on behalf of health workers regarding what constitutes an AEFI.

The HFA highlighted persistent challenges in vaccine stock management, human resources, outreach coordination, and documentation practices. Plans are underway to conduct further qualitative follow-up to better understand the causes of irregular outreach and ongoing ZD cases in areas with reported outreach coverage. The findings are informing efforts to strengthen immunization service delivery in the district, particularly by improving staffing and outreach planning at the sub-national level.

KNOWLEDGE TRANSLATION

Knowledge translation (KT)—the systematic process of moving research into policy and practice—is central to the Uganda Learning Hub's approach. To ensure that research on ZD immunization translates into actionable change, the Learning Hub has engaged national and sub-national stakeholders including UNEPI, WHO, UNICEF, MOH, community leaders, DHTs, VHTs, and CSOs through dissemination activities, policy dialogues, and technical consultations. These efforts have facilitated the use of evidence in immunization planning, programmatic adjustments, and advocacy initiatives. Over the reporting period, Learning Hub findings have informed discussions on immunization strategies, contributed to policy development, and supported outreach to missed communities. Each stage of the KT process—dissemination, transmission, acquisition, application, and impact—has played a role in shaping immunization policies and services, helping Uganda identify and reach more ZD/UI children.

Dissemination: Sharing Evidence with Key Stakeholders	Findings from the Uganda Learning Hub were shared through national and district-level meetings, technical reports, policy dialogues, and engagement with UNEPI and implementing partners. At the national level, the Learning Hub disseminated evidence from the targeted community survey and evaluations to key stakeholders, including UNEPI, WHO, UNICEF, CSOs, pediatricians, and members of parliament. The Learning Hub also participated in BCU orientation sessions in the 59 districts targeted by the EAF. More targeted dissemination took place in Mubende and Wakiso districts. In Mubende, the Learning Hub shared findings from the baseline survey, HTH registration evaluation, and rapid assessment with VHTs, health workers, and health information assistants during planning and training sessions. In Wakiso district, findings were shared during district-level planning meetings and training sessions with DHTs and frontline health workers. This ensured that decision-makers were informed of the latest evidence on ZD immunization.
Transmission: Tailoring Findings for Programmatic Use	To facilitate uptake, research findings were translated into practical recommendations for UNEPI and the three district health teams. This process focused on tailoring insights from the baseline survey, HTH registration evaluation, and rapid assessment to guide planning, supervision, and implementation practices. In Mubende, the Learning Hub shared findings emphasizing strategies for engaging VHTs in follow-up with ZD children. Recommendations were developed to address implementation barriers such as short HTH registration timelines, insufficient training on register use, and logistical gaps in reaching home births. In Wakiso and Kamuli districts, findings from the HTH registration evaluation informed guidance on strengthening the VHT model. The Learning Hub highlighted the need to pair VHTs based on literacy levels. Additional recommendations focused on data flow improvements, including structured handovers of completed registers and more consistent tracking mechanisms. At the national level, the Learning Hub shared tailored findings with UNEPI and partners to inform strategies for improving social mobilization, clarifying VHT roles in HTH data collection, and addressing gaps in supervision and training. These tailored recommendations were developed and shared through policy dialogues, planning meetings, and targeted consultations to ensure they aligned with ongoing program priorities and operational realities.

Acquisition: Stakeholders Recognizing and Adopting Knowledge	During orientation workshops held for the 59 EAF districts, district-level participants reviewed evidence shared by the Learning Hub and identified additional high-risk communities that had not been included in earlier planning. These newly identified communities included populations in mining areas, tea estates, ungazetted forests, and resettlement areas, and groups such as sex workers, mobile casual laborers in industrial parks, migrant communities, and street children. In Mubende district, stakeholders engaged with findings during district and sub-county planning meetings, using the evidence to prioritize follow-up with ZD children identified during HTH registration and to identify implementation barriers such as home births, inter-district service access challenges, and caregiver mobility limitations. Across both national and sub-national levels, stakeholders expressed appreciation for the Learning Hub's contributions. UNEPI, WHO, and district teams acknowledged that the findings were timely and informative for shaping forthcoming EAF implementation frameworks and ongoing sub-national programming.
Application: Integrating Evidence into Policy and Practice	Learning Hub findings were used by stakeholders to inform planning and decision-making in the three districts. In Mubende district, Learning Hub research led district teams to task VHTs with following up on ZD children identified during HTH registration and prioritize households with home births, which are populations more likely to be missed. District teams worked to harmonize the catchment areas of health facilities located near district borders to improve service delivery. Based on the evaluation of HTH registration in Wakiso and Kamuli districts, UNEPI and PATH designed a data management system to facilitate real-time data use, where VHTs submit daily registration forms and sub-county data clerks analyze and aggregate the data to support microplanning at the parish level.
Impact: Measuring the Effect of Knowledge Translation	The application of Learning Hub research led to tangible changes in programming and stakeholder behavior: • **Enhanced community outreach**: Incorporating one VHT per village as part of microplanning in Mubende district helped ensure localized, sustained community engagement and supported efforts to reach more ZD children. • **Policy dialogue on VHT sustainability**: Insights prompted discussions among UNEPI and district health teams in Mubende and Wakiso districts on how to address key issues, including inadequate and delayed payments and gaps in training for VHTs conducting HTH registration.

Through each stage of the knowledge translation process—from sharing evidence to informing decisions—the Uganda Learning Hub has ensured that research findings are actively used to shape immunization strategies including outreach activities. Continued engagement with UNEPI, WHO, and district health teams has contributed to programmatic shifts, improved planning, and targeted outreach to better reach ZD and UI children. These efforts highlight the value of ongoing documentation, adaptation, and use of evidence to strengthen immunization programs in Uganda.

JSI Research & Training Institute, Inc.
2733 Crystal Drive
4th floor
Arlington, VA 22202
USA

ZDLH website: https://zdlh.gavi.org/