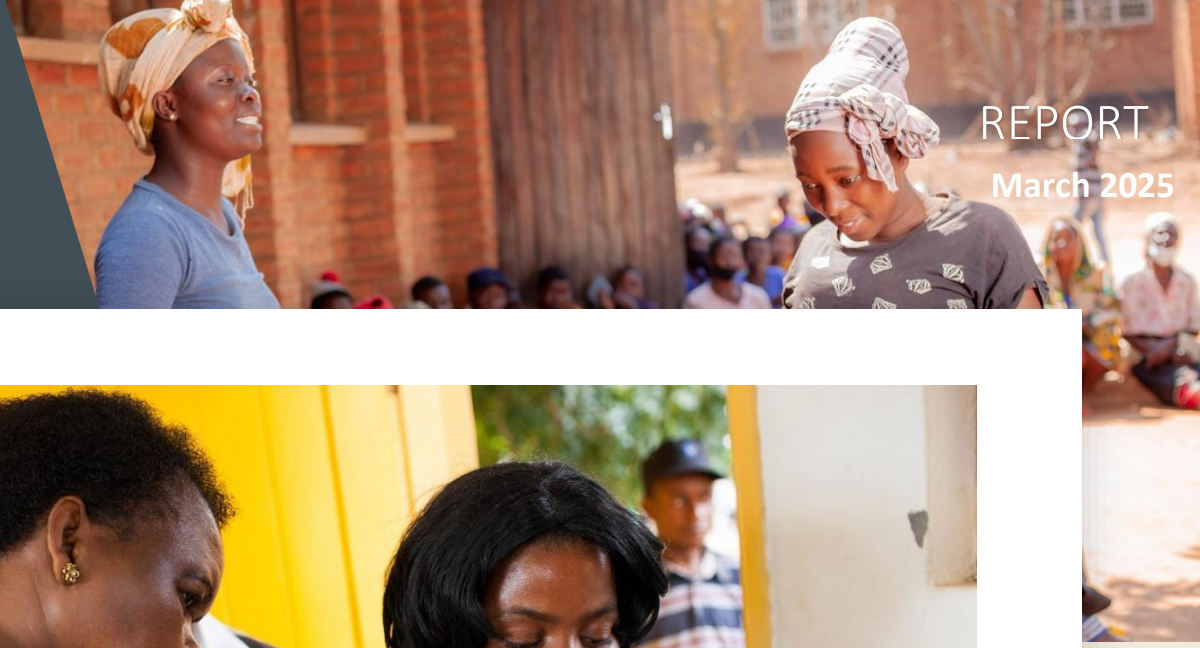
VILLAGE REACH



REPORT

March 2025

The ‘Let’s Talk About Vaccines!’ Project in Lilongwe and Mzimba North, Malawi

Enhancing community engagement in immunization programs: The Impact of the ‘Let’s Talk About Vaccines!’ Pilot Project on Under-Two Immunization Coverage in Malawi

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Acronyms

BCG	Bacillus Calmette–Guérin
CBPR	Community-Based Participatory Research
CFIR	Consolidated Framework for Implementation Research
CHW	Community Health Workers
DHIS	District Health Information Systems
DPT	Diphtheria-Tetanus-Pertussis
EPI	Expanded Immunization Programme
FGD	Focus Group Discussion
GAVI	The Vaccine Alliance or Global Alliance for Vaccines and Immunization
HAC	Health Advisory Committees
HCD	Human-centered design
HFW	Health facility workers
HSA	Health surveillance assistant
IEC	Information Education Communication
ITS	Interrupted Time Series Analysis
M&E	Monitoring and Evaluation
MMR	Measles, Mumps and Rubella
MOH	Ministry of Health
RE-AIM	Reach Effectiveness Adoption Implementation Maintenance
TOC	Theory of Change
UCT	University of Cape Town
UNICEF	United Nations Children's Fund
UWC	University of the Western Cape
USAID	United States Agency for International Development
VDC	Village Development Committees
VHC	Village Health Committees
VR	VillageReach
WHO	World Health Organization

Executive Summary

Enhancing Community Engagement in Immunization Programs: *The Impact of the 'Let's Talk About Vaccines!' Pilot Project on Under-Two Immunization Coverage in Malawi*

The Let's Talk about Vaccines! Project is a five-year initiative, funded by Wellcome, aimed at improving coverage of routine immunizations in Namarroi and Gile, Mozambique as well as Lilongwe and Mzimba North, Malawi. This project collaborates with caregivers of children under two years old, health workers and the Ministries of Health (MoH) to identify and understand the barriers caregivers face in fully vaccinating their children. By employing a collaborative approach, the project seeks to identify, implement and evaluate interventions designed to reduce routine immunization dropouts.

This endline evaluation report presents results from Malawi regarding the pilot project's reach and effectiveness. It assesses the adoption, implementation, potential maintenance and scalability of the co-created interventions.

The "Let's Talk About Vaccines" interventions collaborate with district health authorities, Health Surveillance Assistants (HSAs) and community leaders in Lilongwe and Mzimba North to address under-two immunization dropouts.

These interventions have three key components:

(1) Community engagement through educational drama and songs.
(2) Enhancing immunization services and education at both static and outreach facilities using Amplio © talking books for vaccine education; and
(3) An adapted community scorecard process that mobilizes communities and health facilities to improve the delivery and service experience of outreach services.

Evaluation Overview

This cross-sectional, mixed-methods evaluation was conducted by the University of the Western Cape (UWC) and University of Cape Town (UCT). The evaluation design utilized the RE-AIM Evaluation Framework to assess the effectiveness and implementation of the 'Let's Talk About Vaccines!' pilot interventions in Lilongwe and Mzimba North, Malawi. To ensure alignment with the project's activities, an embedded realist approach was employed. The evaluation involved quantitative data analysis of immunization records from health facilities and qualitative insights from interviews and focus group discussions with participants involved in the implementation.

The evaluation assessed the following key areas:

1. **Impact on Immunization Outcomes:** The impact of the co-created interventions on primary outcomes of interest, such as immunization coverage and dropout rates.
2. **Implementation Mechanisms:** The mechanisms underlying the implementation process of the co-created interventions and their contribution to the results, whether positive or negative.
3. **Perceived Impact on Access and Dropout:** The perceived impact of co-created interventions on improving access to quality immunization services and reducing dropout rates.
4. **Perceived Impact on Knowledge, Attitudes and Norms:** The perceived impact on knowledge, attitudes and social norms surrounding immunization.
5. **Unintended Consequences:** Identification of any unintended consequences resulting from the implemented interventions.

Key Findings

The 'Let's Talk About Vaccines!' project has demonstrated significant success in improving immunization access and uptake through its innovative, community-centered interventions. Key highlights include:

Reach and effectiveness

- Participants **widely recognized the project's success in reaching a broad audience and strengthening community engagement in immunization**. Health facilities and Expanded Immunization Programme (EPI) officials reported improved vaccine coverage and reduced dropout rates. The project also enhanced caregiver experiences, addressed accessibility barriers and increased male involvement and family support in childhood routine immunization.
- The project helped to **enhance caregivers' experiences with vaccination services by improving accessibility, timeliness and vaccine availability**, leading to higher satisfaction among caregivers.
- The intervention had a **significant positive effect** on the total number of vaccines administered, compared to comparison sites. This effect was particularly pronounced for the Diphtheria, Pertussis and Tetanus (DPT) vaccine, including all doses in the series.

- **The Diphtheria, Pertussis and Tetanus (DPT) vaccine dropout rate (1st dose – 2nd dose) decreased significantly** in the intervention sites. However, this decrease was not significant relative to the change observed in the comparison sites. The Measles dropout rate (DPT 3rd dose to Measles 1st dose) did not show a significant change in either study arm.

Adoption

- The **project's intervention components align strongly with national plans and strategies that focus on community engagement, behavior change and strengthening immunization uptake and access.** This includes the Malawi Community Health Strategy and the National Immunization Plan. This alignment fosters stakeholder confidence and widespread acceptance with the intervention components such as the scorecards, drama performances and Amplio talking books.
- The **project received widespread positive feedback from caregivers, community members, health care workers, drama groups, Village Health Committee members and health officials.** Drama performances, Amplio talking books and scorecards were highly appreciated for their educational value and cultural relevance, leading to increased immunization attendance and community engagement. Challenges, such as initial skepticism about implementing an adapted community scorecard process or low participation were mitigated through tailored messaging and leadership mobilization, resulting in strong community buy-in and health officials, health care workers and community leaders' endorsement for the project's long-term adoption.

Implementation

- The project demonstrated **a strong commitment to maintaining fidelity to its core interventions**—drama performances, Amplio talking books and scorecards—despite facing various challenges. Health care workers and drama groups adhered closely to the planned interventions supported by training and robust feedback systems, ensuring consistency in delivery. However, adaptations were necessary to address resource limitations and contextual factors to ensure consistent implementation.

Maintenance and scalability

- Participants showed **strong commitment to sustaining interventions post-pilot**, with local structures like Village Health Committees and drama groups eager to continue. This commitment relies on receiving adequate training, supervision and support.
- Health officials and health care workers showed **strong support for scaling the interventions nationally but emphasized the importance of securing the resources necessary for nationwide implementation through external partnerships with organizations like UNICEF, Plan International and World Vision to expand the project's reach and improve its impact.**

Let's Talk Above Vaccines' Project: Lilongwe and Mzimba North, Malawi

The 'Let's Talk About Vaccines!' interventions were developed through community-based participatory research (CBPR) and human-centered design (HCD) workshops. The CBPR/HCD approach aimed to generate new knowledge and develop targeted interventions to meet the routine immunization needs of caregivers, health workers and community health workers (health surveillance assistances in Malawi) in select sites in Lilongwe and Mzimba North, Malawi. The project took place in three distinct phases:

(1) Phase 1 - identification of drivers of immunization dropout
(2) Phase 2 – co-design and piloting of co-created interventions and
(3) Phase 3 - evaluation of the implemented interventions

During Phase 1 of the research, VillageReach hired and trained Caregiver Researchers from the study communities who worked to identify key barriers hindering the routine immunization journey. This research was guided by the behavioral and social drivers of vaccination framework (1) and the immunization journey framework (2) and identified five key reasons why children under two missed their vaccinations:

1. Poor caregiver knowledge of the vaccine schedule and how many vaccines are needed for full protection
2. Caregivers' fear of repercussions after not following vaccination schedule
3. Rumors and concerns if vaccines are repeated or new ones, including for COVID-19, are introduced
4. Limited family support and vaccination burden placed largely on the mother
5. Opportunity cost of each trip to the facility, exacerbated by long wait times, stockouts and other missed opportunities

The research findings were published in BMJ Open in 2024 (3) and shared with key stakeholders, including community leaders, caregivers, government officials and health workers during two HCD workshops. During the workshops, participants actively built upon these findings to co-create low-cost interventions that were subsequently implemented as part of phase 2.

During Phase 2, the National Expanded Immunization Programme (EPI) Department and Lilongwe and Mzimba North District EPI and Health Department reviewed and prioritized the interventions ideated during the HCD workshop based on the available budget (approximately $50,000 direct materials and travel costs), feasibility and alignment with government, ability to address both supply and demand side factors and partner priorities, ultimately approving a one-year pilot program.

Throughout this process VillageReach conducted several feedback and engagement sessions with the participating health facilities and District Health Departments to present findings from the research, share plans for implementation and gather further information and feedback.

Based on these findings, VillageReach co-developed an intervention consisting of three key components:

1. Community Engagement to Enhance Routine Immunization: VillageReach worked with the health education department to create and implement dramas aimed at addressing and combating key social and knowledge barriers around routine immunization identified through the CBPR and HCD consultations.

2. Immunization Service Experience Improvement: VillageReach deployed Amplio © talking books to Health facilities so that all caregivers who came late at the health facility could listen to engaging messages that addressed the knowledge gaps identified during the research. This in turn could enable HSAs to begin immunization sessions on time without having to wait for enough caregivers to arrive before delivering the health talk.

3. Community-Based Continuous Process Improvement & Monitoring (CB-CPIM): VillageReach supported implementation of a community-based continuous process improvement process to improve vaccination outreach sessions as well as monitor the implementation of components one and two. This process adapted CARE International's Community Score Card process.

Community members perform a drama promoting immunization at Kango'ma Health Centre in Lilongwe, Malawi. Photo credit: Cosmah Chaula

To support implementation, VillageReach conducted several start up and supportive activities:

Training

VillageReach provided comprehensive training for each intervention component. The training sessions covered various topics, including:

- **Intervention Components:** Detailed information about each component.

- **Empathetic Communication Techniques:** Strategies for engaging vaccine-hesitant caregivers and training for Drama Group members.
- **Key Vaccine Messages:** Essential information to convey during interactions.
- **Context-Specific Drama Development:** Collaborative working sessions to create relevant dramas.

This training was conducted in partnership with the National EPI and officials from Lilongwe and Mzimba North Districts. The breakdown of participants trained in each intervention component is as follows:

- Drama: 32 drama group members and 8 health education focal points were trained.
- Amplio® talking books: 80 health workers received training.
- CB-CPIM Approach: 144 individuals were trained, including community leaders, village health committee members, health facility in-charges and health workers.

Routine monitoring and evaluation

VillageReach implemented regular monitoring to ensure fidelity to the planned interventions. This included tracking metrics such as:

- Number of dramas conducted
- Attendance at drama performances
- Messages played on Amplio talking books
- Number of scorecard meetings and participation rates

Additionally, data on the total number of vaccines administered and the number of fully vaccinated children were monitored, with a target of achieving 95% coverage in all health facility catchment areas. Surveys conducted during dramas assessed their influence on caregivers, family and community norms. Feedback from 191 caregivers indicated that:

- 100% reported improved understanding of the vaccination process
- 97% felt more likely to fully vaccinate their child
- 97% were more motivated to attend vaccination sessions when a drama performance was scheduled
- 96% believed men should take a more active role in vaccination after watching the drama.

Government and community engagement

VillageReach regularly engaged with national and district officials, as well as health workers and health surveillance assistants, through meetings and visits. These engagements included:

- Presentations of monitoring results
- Sharing mid-line evaluation findings
- Addressing logistical or technical issues related to the interventions

Additionally, a WhatsApp channel was established with Health Surveillance Assistance Supervisors to enhance the uptake of the Amplio talking books.

For further details on the intervention, please refer to this overview and blog story.

Evaluation Overview

EVALUATION APPROACH

To assess the effectiveness of the 'Let's Talk About Vaccines!' co-created interventions and implementation process, University of the Western Cape (UWC) and University of Cape Town (UCT) conducted a cross-sectional evaluation using both quantitative and qualitative methods guided by the RE-AIM framework (4) in VillageReach Let's Talk About Vaccines implementation sites in Lilongwe and Mzimba North.

The evaluation focused on the following key areas:

- Assessing the impact of the co-created interventions on main outcomes of interest such as immunization coverage and dropout rates.
- Understanding the mechanisms underlying the implementation process of the co-created interventions and contribution by the mechanisms (positive or negative).
- Assessing the perceived impact of the co-created interventions on improving access to quality immunization services and reducing dropout rates.
- Assessing the perceived impact on knowledge, attitudes and social norms around immunization
- Identifying any unintended consequences of the implemented interventions

Additionally, the evaluation explored the project's scalability in similar contexts by identifying crucial factors for successful replication.

THE RE-AIM Framework

The RE-AIM framework guided the project's evaluation, shaping the development of the data collection tools and informing the analysis process. The framework considers contextual and equity issues in the evaluation process (4–9).

Table 1 outlines the RE-AIM evaluation dimensions and how they were applied in this project's evaluation.

Table 1: RE-AIM dimensions and evaluation focus

RE-AIM Dimension	Evaluation focus
Reach	Evaluating whether the interventions are reaching the intended populations and hard-to-reach groups comparing the reach before the project commenced with the current reach and identifying opportunities to extend the reach to more caregivers.
Effectiveness	Measuring the project's effectiveness in improving under-two immunization coverage, reducing dropouts and assessing the project's perceived impact among caregivers, government officials and health care workers.
Adoption	Determining acceptance of the project and the alignment of the project's co-created interventions with existing government strategies and policies to assess potential adoption.
Implementation	Assessing the extent to which the project was implemented as planned and in line with the training provided, ensuring fidelity and consistency across the intervention sites and identifying implementation barriers and facilitators.
Maintenance [and Scalability]	Recommendations for maintaining and expanding the interventions, along with lessons learned for scaling up.

The theory of change maps the "path" to outcome generation for the identified solution components in Malawi and can be accessed in Appendix A.

EVALUATION DESIGN

To evaluate the project against the RE-AIM dimensions, UWC and UCT conducted a cross-sectional evaluation using a mixed-methods approach, using qualitative methods to assess all five RE-AIM dimensions and employing quantitative methods to evaluate the effectiveness of the project (see Table 1).

EVALUATION SETTING

The evaluation was conducted in VillageReach intervention sites, located in two districts in Malawi: Mzimba North, a rural district and Lilongwe, an urban district that includes some peri-urban sites.

QUANTITATIVE METHODS

To evaluate the effectiveness of the project, we analyzed district health system data using a quasi-experimental design to assess whether drop-out rates declined more in intervention sites relative to comparison sites over the course of the intervention.

Sampling

All eight intervention sites were included in our analysis. **Selection of the eleven comparison sites was primarily based on comparable DPT dropout rates (main outcome of interest) for sites which had data available in DHIS2 for 2022** (Table 2). Additional criteria that were considered by the project team included: average geographical distance to the facility, catchment population, immunization coverage, spread across various districts, outreach sessions and other initiatives comparable to or with a potentially strong influence on this project's intervention.

Data collection

Data were obtained from August 2021 until October 2024 from the Malawi District Health Information Systems (DHIS). Data related to antigens available in the DHIS2 and administered to under 1-year olds (i.e. BCG, DPT1, DPT2, DPT3, IPV, OPV0, OPV1, OPV2, OPV3, MMR1) as well as the second dose of MMR (recommended administration between 12-23 months).

Table 2: Intervention and Comparison Sites

	Intervention Sites			Comparison Sites		
District	Health Facility	DPT dropout rate*	Distance to DHO** (km)	Health Facility	DPT dropout rate*	Distance to DHO** (km)
Mzimba North	Bwengu	-5.8	58	Kabwafu	-23.0	80
	Kaweche	-22.9	25	Emsizini	-18.6	45
	Manolo	-23.5	113	Luzi	-2.3	67
	Kamwe	-0.9	55	Ekwaiweni	-0.5	20
				Matuli	0.3	30
Lilongwe	Area 18	12.1	9	Nsaru	-27.6	40
	Area 25	-69.3	16	Chiwe	-27.3	53
	Kawale	5.9	5	Biwi	-7.2	4
	Kang'oma	11.8	18	Lumbadzi	0.7	28
				Nathenje	6.8	28
				Chadza	10.3	26

* all dropout rate data come from DHIS2; These three antigens were used because other vaccines e.g., MR 1&2 had a high proportion of missing data.
**Distance estimated from google maps; ignores roads cut-off due to washed away bridges; diversions, etc.

Data analysis

The main outcomes were defined as follows:

- **DPT dropout**: the percentage of children who receive the first dose of the DPT vaccine but not the third
- **Measles dropout:** the percentage of children who receive the first dose of BCG (delivered at birth) but not the first dose of the measles-rubella vaccine (MR) administered at 9 months of age (See Appendix B for the formulae).

Secondary outcomes included separate antigens (e.g., MMR dose 1, polio dose 2), the number of fully vaccinated children and the sum of the selected 11 antigens combined.

First, per arm (intervention and comparison) and per outcome, a pre-test-post-test evaluation was done comparing the monthly reported number of vaccinations during the 12 months preceding the intervention with the 12 months of intervention implementation.

Second, a longitudinal analysis was performed from baseline, 1 month before the start of the implementation until 1 month thereafter (i.e., 14 months) comparing intervention and comparison sites for each outcome. Repeated measurements and clustering per health center over time were accounted for by including a random effect.

Third, interrupted time series analysis was performed to compare intervention and comparison sites over the course of the implementation until 1 month thereafter. Autoregressive Integrated Moving Average (ARIMA) modelling was used to control for seasonal effects and autocorrelation.

Table 3: Childhood routine immunization, Malawi (vaccine and doses)

Vaccine	Antigen (Doses)
Tuberculosis	BCG
Oral Polio	OPV 0 OPV 1 OPV 2 OPV 3
Inactivated Polio	IPV
Pentavalent: diphtheria, pertussis, tetanus, hepatitis B, haemophilus influenzae type B	DPT-HepB-Hib 1 DPT-HepB-Hib 2 DPT-HepB-Hib 3
Pneumococcal conjugate	PCV 1 PCV 2 PCV 3
Rotavirus	RV 1 RV 2
Measles-rubella	MR 1 MR 2

QUALITATIVE METHODS

A total of 76 participants participated in the qualitative evaluation, (Table 4). We conducted 19 in-depth interviews and 11 FGDs with 57 participants. Below is a breakdown of the sampling criteria:

Sampling and sample size

We used purposive sampling to select participants from four health facilities (two in each district- one high-performing and one average based on review of VillageReach monitoring data) and selected national and district health officials and project staff in consultation with VillageReach staff.

Participants consisted of caregivers of children under the age of two, Caregiver Researchers, senior health surveillance assistants (SHSAs), health surveillance assistants (HSAs), national and district EPI officials, district community health officials, community leaders, Information education and communication (IEC) focal points, interface meeting representatives, drama group representatives and VillageReach project staff.

Table 4: Qualitative data collection participants

Category	Number of participants
National and district health officials	4
VillageReach	3
Caregiver Researchers	2
Senior health surveillance assistants (HSAs)	4
IEC-HSAs	4
Community leaders	2
Caregivers	24
Interface reps (Village Health Committees (VHC), Health Advisory Committees (HAC), Senior HSAs and HSAs)	17
Drama group representatives	16
Total	**76**

Caregiver researchers and S/HSAs assisted in selecting community leaders and caregivers at the health facilities and outreach sites to participate in the focus group discussions (FGDs) according to the criteria set. All members of the drama groups from the selected health facilities

were included in the FGDs. SHSAs, HSAs and IEC focal points will be referred to as health care workers and national and district EPI and community health officials as health officials in the results section.

Criteria for determining high and average performing facilities

From each district, one high and one average performing intervention health facility were selected for the qualitative data collection based on key monitoring indicators' performance over a year. Performance was based off of:

- The number of dramas conducted versus the set target.
- Progress towards the target number of kids vaccinated.
- Completion of community scorecards process.

Criteria for selecting caregivers

- Mothers with a second child not older than 4 and a young child within vaccination age (under 2).
- Exposed to one or all the intervention components.

Criteria for selecting participants for the interviews and focus groups

- Participants who were involved in or coordinated one or more intervention components of the project during the pilot period.

Data collection

Qualitative data collection involved both key informant interviews and FGDs. Key informant interviews lasted between 30 and 60 minutes and were conducted with health officials, VillageReach staff, community leaders and health care workers. Focus group discussions, each lasting about 60 to 90 minutes, were conducted with caregivers, drama group representatives and interface representatives.

We conducted 19 key informant interviews with health officials, health care workers, VillageReach staff and community leaders and 11 FGDs with caregivers, drama group and Village Committee representatives. The breakdown of participation in the FGDs is outlined below:

- 4 FGDs with caregivers (6 caregivers per facility) (2 FGDs in Lilongwe and 2 FGDs in Mzimba North).
- 3 FGDs with Interface reps (VHC and HCAC reps) (2 FGDs in Mzimba North (11 participants) and 1 FGD in Lilongwe (6 participants).
- 4 FGDs with grama group reps (4 reps per facility) (2 FGDs per district).

The evaluation team consisted of two researchers and a translator. We recruited a translator proficient in Chichewa (Lilongwe) and Tumbuka (Mzimba North) to facilitate translations for interviews and FGDs. Information sheets and informed consent forms were translated into local languages to ensure participants fully understood the study. Participants were provided with information sheets and the evaluation process was explained to them before obtaining written consent to participate.

Data analysis

We transcribed the audio recordings from the key informant interviews and FGDs verbatim. Next, we entered the transcripts into Atlas.ti 24 for qualitative thematic data analysis. We employed both deductive and inductive approaches in our analysis, guided by the dimensions of the RE-AIM framework.

Ethics approval

The Biomedical Science Research Ethics Committee of the University of the Western Cape (Ethics Reference Number: BM22/4/3) and the National Health Sciences Research Committee of Malawi (Protocol # 22/08/2987) approved this evaluation.

Evaluation Findings

REACH AND EFFECTIVENESS

To evaluate the project's reach, we examined whether the interventions effectively reached the intended populations, including hard-to-reach groups, both before and after implementation. We also identified opportunities to extend our outreach to under-reached caregivers. Additionally, we measured the project's effectiveness in improving immunization coverage for children under two, reducing dropout rates and assessing its perceived impact among caregivers, government officials and health care workers.

The project components aimed to enhance caregivers' knowledge of the immunization schedule, motivate both caregivers and their families to ensure children are vaccinated and improve caregivers' experiences during service delivery and vaccination outreach sessions (VillageReach SOPs, 2023). Participants interviewed widely recognized the project's success in reaching a broader audience, strengthening community engagement, improving vaccination indicators and services, enhancing caregivers' experiences, addressing accessibility barriers and increasing male involvement and family support.

Both qualitative and quantitative findings are presented below.

Key Takeaway
Reach and Effectiveness

- The drama performances, Amplio talking books and scorecards successfully reached diverse community groups, including caregivers, men, women, youth and local leaders, ensuring broad and inclusive engagement with the target audience.
- Overall, the project enhanced caregivers' experiences with vaccination services by improving accessibility, timeliness and availability of vaccines, leading to higher satisfaction among caregivers.
- The intervention effectively increased the total number of administered antigens. In particular, the DPT antigens showed a significant increase.

Qualitative Findings on Reach

Insights gathered from interviews and focus groups with caregivers, health officials, health care workers, community leaders, interface and drama group representatives involved in the project's implementation highlighted perceived and observed changes in the reach and effectiveness of the project's components.

The qualitative findings on reach are organized under the theme, **Reach and accessibility of interventions** with associated subthemes below.

Reach and accessibility of interventions

According to respondents' views, the project's components considerably engaged diverse community groups and addressed gender inclusivity in delivering vaccination messages.

Broad community engagement and audience reach of the interventions

Qualitative findings showed that interventions reached diverse community, including caregivers, men, women, youth and local leaders. Drama performances engaged audiences on immunization in accessible locations such as at static health facilities, outreach clinics and marketplaces through entertainment and culturally relevant scenarios in local languages such as Chichewa and Tumbuka. Using culturally tailored scenarios, such as depicting men playing 'Bawo' [traditional Malawian board game] while integrating vaccination awareness, drama performances effectively captured the attention of men [previously less involved] and fostered engagement.

> *"Regarding the dramas, this project has managed to reach out to people everywhere. It indeed [helped us] to reach in under 5 outreach clinics. We were having the dramas at each outreach clinic and I would say that drama have scored a 100% reach out." health care worker, Mzimba North*

Ampilo © talking books were made accessible to caregivers at all vaccination points and the scorecards process was able to engage caregivers, community structures (VHCs, HCAs, Village development committees (VDCs)) and health care workers to engage in efforts to support immunization uptake and access.

> *"Most of the times the Amplio talking books were being used during clinic sessions or wherever community members gather, so it also had a bigger reach." Health official, Mzimba North*

Gender-inclusive accessibility of vaccine knowledge

Dramas and Amplio talking books delivered gender-balanced messages to involve both men and women, emphasizing the shared responsibility of immunization and encouraging men to support immunization efforts, both at home and in the community. For instance, scenarios in dramas demonstrated how men could assist during vaccination sessions. Amplio talking books were accessible to both men and women who had brought their child for vaccination or had come to the clinic and included scenarios demonstrating how men could support women in vaccination efforts. This was highlighted by respondents during interviews.

> *"Even men have access to listen to the talking book because some of the men come during the outreach clinics with their children. So, when the talking book is being played, they also listen to at the same time." Caregiver, Mzimba North*
>
> *"The dramas are being performed by both male and female and they have managed to portray how men and women live in the society and how men could also help women during the vaccination session and how they can support them, especially at home, during the household calls and also at the health facility." Caregiver researcher, Mzimba North*

Accessibility needs addressed by project's components

Respondents, especially caregivers, highlighted improvements in addressing accessibility needs for immunization services such as proximity of services and information availability due to the implemented interventions. The project's facilitative intervention components, especially the scorecards process, led to more outreach clinics being established and door-to-door visits by health care workers. Caregivers appreciated the convenience of having vaccination services brought closer to their communities, enabling timely immunizations. The increase in outreach clinics successfully addressed issues such as long travel distances, vaccine shortages and overcrowding at health facilities.

> *"Outreach clinics reduced pressure on health facilities, assisting caregivers in their communities." Health care worker, Lilongwe*
>
> *"Since the introduction of [more] outreach clinics, it has become easier to get important immunization messages and services in the community, unlike in the past when we had to depend solely on health facilities." Caregiver, Mzimba North*

Activities like dramas and the use of Amplio talking books carried out in accessible locations within villages, outreach clinics and at the static facilities ensured that even individuals in remote areas, previously excluded due to communication barriers or geographic isolation, could receive key vaccination messages and participate in outreach services.

The interventions also fostered a sense of collective responsibility for vaccination. According to respondents, there is now increased engagement from health care workers, caregivers and families who had been exposed to the immunization education in following up with individuals who missed vaccination sessions in their communities, which helped to reduce dropout rates. For example, caregivers described how health care workers conducted door-to-door follow-ups, verifying children's vaccination records and ensuring timely immunization.

Through the scorecards process, the mapping of underserved areas allowed health care workers to identify and prioritize remote regions for outreach services. This has bridged gaps in service delivery for marginalized communities, including those in mountainous or hard-to-reach areas. The closer proximity of outreach clinics fostered greater involvement from family and community members, enhancing support for caregivers in accessing immunization services.

> *"Currently, it's very easy to have our children vaccinated because children are being vaccinated right in the community because health personnel are coming in our communities. But in the past, we were supposed to walk long distances to get the vaccine. And because health personnels are in our communities we receive vaccines in good time and go back to our various homes in time because there are not a lot of people." Caregiver, Lilongwe."*
>
> *"Only those people who live close to the roads were able to hear from the announcements about, for those people living very far from the road, such as that far near to the mountains couldn't hear. But now with the Amplio talking books, when we come to the outreach clinics, we are able to hear from the Amplio talking books and now we are able to know the importance of child vaccinations through the Amplio talking books and dramas." Caregiver, Mzimba North*

Quantitative Findings on Effectiveness

Comparing the total number of administered antigens before and during implementation reveals a decrease in both arms (implementation sites and control sites), but less so in the intervention-exposed sites (Table 5).

Analysis of change pre-post implementation in the intervention-exposed sites compared to the comparison sites reveals a positive effect of the intervention (Table 6). DPT administration shows a significant increase in the mean number of antigens administered of 26.3% for DPT1 and 28.0% for DPT3 over 12 months study period, relative to the comparison sites. Administration of the other antigens did increase over this period compared to the comparison sites, but not in a significant way. Combining all antigens together, pre-post analysis reveals a significant increase of 23.5% over 12 months in the mean number of antigens administered, relative to the comparison sites.

DPT dropout did decrease significantly in intervention-exposed sites and remained status quo in the comparison sites (Table 5), but this decrease was not significant relative to the comparison sites (Table 6). Measles dropout and number of fully vaccinated children did not change significantly in any of both study arms (Table 5).

Table 5: Main outcomes over 12 months before vs. during implementation.

	Intervention-exposed sites				Comparison sites			
	Baseline	Endline	Diff.	Change	Baseline	Endline	Diff.	Change
Total number of vaccinations for all 11 antigens	238304	235627	-2677	-1.1%	131153	124373	-6780	-5.2%
Median[a] DPT Dropout rate	4.4	0.0	-21.1	-100%*	0.0	0.0	0.0	0%
Median[a] Measles Dropout rate	-18.8	-30.8	12.0	-63.8%	-30.8	-52.1	-21.3	-69.2%
# of children fully vaccinated	24613	21908	-2705	-11.0%	13132	11848	-1284	-9.8%

Note: Baseline covers the 12 months preceding the implementation of the intervention: for Lilongwe district from September 2022 until August 2023; for Mzimba-North district from October 2022 until September 2023. Endline covers the 12 months during the implementation of the intervention: for Lilongwe from September 2023 until August 2024.; for Mzimba-North from October 2023 until September 2024. [a] median per month and per health facility corrected for health facility clustering. Negative values for the dropout rates occur if the follow-up vaccination (DPT 3rd dose or MMR 1st dose) was reportedly higher than the selected reference point (e.g., DPT 1st dose or BCG).

**Change significant at a 0.05 level.*

Table 6: Intervention effect relative to the comparison sites

Outcome	Effect in % change over 12 months
DPT Dropout rate	-3.0
Measles Dropout rate	20.3
Total number of vaccinations for all 11 antigens	23.5*
# of children fully vaccinated	-7.3
BCG	14.7
DPT1	26.3*
DPT2	14.8
DPT3	28*
IPV	13.7
OPV0	1.9
OPV1	16.8
OPV2	15.9
OPV3	23.9
MR1	6.7
MR2	12

Note: *The monthly intervention effect was calculated using linear mixed models controlling for the change in comparison sites and then extrapolated over 12 months. For antigens and "# of children fully vaccinated" this reflects the % change in geometric mean per month; for dropout rates the % change in dropout rate per month. Data were included from one month before the start of the intervention until one month after the intervention (i.e. 14 time points).*

**Change significant at a 0.05 level.*

Qualitative Findings on perceived impact of the interventions

Complementing the quantitative findings, all participants widely recognized the project's contributions to improving immunization outcomes and addressing longstanding barriers to vaccination.

Perceived improvements in coverage and variation in dropout rates - Health officials and health care workers highlighted a notable rise in vaccination coverage (according to review of their own administrative data) due to the project's components and a reduction in preventable diseases in both Mzimba North and Lilongwe. Outreach efforts and community engagement facilitated by the project such as drama performances and Amplio talking books, were credited with positive changes in vaccination uptake and coverage. In some cases, coverage was said to have risen drastically, as noted by some health care workers,

> *"Yes, firstly, that time we were at 72% coverage, with this introduction of VillageReach, we are now at 96%." Health care worker, Mzimba North*
>
> *"…in Mtsinje area, there was low coverage as the vaccines were low as 58% but with the coming in of drama, …performing plays to do with importance of vaccines to the target audience and how the talking book or let's say the radio program was being played to the people, they started changing and listening… It was efficient... increasing the coverage rate up to 98%." Health care worker, Lilongwe*

Advocacy efforts by community representatives during the interface meetings in Mzimba North improved accountability among health care workers and health officials and ensured consistent vaccine availability, better vaccine utilization and higher coverage rates. A health official explained,

> *"One thing was that especially in Bwengu, there was an issue of booking when it comes to giving certain antigens. For example, BCG. Why? BCG has got 20 doses and it's expensive. So, when you have one child who is due for BCG, other people throw, I mean, other people weigh, they say cost benefit analysis. If I give this dose single dose to, or one dose to a child and I discard 19 doses, so what is it? So people were booking. But because of the scorecard and the like, they saw that the life of one person is worth 20 doses. So this time around, because of these scorecards, people, even if they find one person, they get the vaccine. So that's why there is also [improved] coverage. So that is the advantage of the program. We had one of the things that Village Reach has helped us to improve." Health official, Mzimba North*

Respondents also expressed progress in considerably reducing dropout rates, with several respondents noting that even previously missed doses were being administered in children's second year of life, leading to increased vaccination continuity and coverage. However, results varied across facilities in the project areas, with notable reductions observed in facilities like Bwengu and Manolo in Mzimba North achieving dropout rates below 10%, while areas such as Kaweche and Kamwe in the same district still faced challenges with higher rates.

> *"…it's a project [that] has helped us a lot more especially people from the community, in a sense that it has helped us to minimize the problem of low turn up for child vaccination…. Now a lot of children are receiving the vaccine, like where I stay like three quarters of the kids were not accessing the vaccines or just taking one dose of the vaccine that was enough but with the coming in of the project now almost 95% of the kids are accessing the vaccines." Interface Rep, Lilongwe*
>
> *"In terms of dropout, because usually dropout rates are supposed to be less than 10. In these other facilities, Penta 1, Penta, Penta 1, Penta 1, Penta 3. There's Bwengu and Manolo good, but from Kaweche and Kamwe, dropouts are above 10%, which is not good." Health official, Mzimba North*

Despite successes, health officials emphasized data disparities as a barrier to fully capturing the project's impact. Incomplete or inaccurate recording of immunization data created gaps in the district health information system (DHIS). This left stakeholders questioning the true impact of their work, as one health official noted, "*You can do a lot of work, but if those things that you have been doing are not well documented, now it leaves a lot to be desired*" (Health official, Mzimba North). Additionally, respondents observed discrepancies in recorded coverage rates for

antigens given during the same session, such as Penta 3, OPV 3 and IPV, which revealed gaps in data quality. As one respondent observed, "*You find that the other [antigen coverage] is at 60, the other one is at 85 and the other one is at 97. Now you begin to ask yourself…what was not going on*?" (Health official, Mzimba North). As a result, there was lots of missing data which hindered efforts to accurately analyze data across all sites.

Improved timeliness of vaccination services - A notable improvement resulting from the project was the punctuality of health care workers at outreach clinics, leading to improved outreach starting times and a considerable reduction in waiting periods. Caregivers shared that, in the past, they often arrived early but experienced delays and had to wait for health care workers who were late or seen as unprepared but they have since observed positive changes. These positive changes have been positively acknowledged by both caregivers and health care workers,

> *"Now health care workers arrive on time and we can vaccinate our children and go back home on time." Caregiver, Mzimba North*
>
> *"There is a huge difference now compared to before… When we come to have our children vaccinated, it is done instantly. Previously, we waited for hours or were told there were no vaccines, but now everything happens on time." Caregiver, Lilongwe*
>
> *"Health care workers are now more punctual, ensuring they watch drama performances to verify the accuracy of the messages. They also bring enough vaccines because they know the demand has increased due to the mobilization efforts." Health care worker, Lilongwe*

These advancements, facilitated by the feedback process established through the scorecards process, have strengthened proactive planning and ensured timely service delivery. Transparent communication established through the scorecards process has also helped in improving starting times as explained by one Health care worker,

> *"Yes, so I can say that, on the time to start the outreach clinic, there was an agreement on the starting time at the outreach clinic. Sometimes as Health care workers arrive late, then we inform the caregivers what transpired for us to be late. Because sometimes we have a challenge regarding fuel or transportation to go to outreach clinics, especially, those hard-to-reach areas. But we strive to ensure that we go and provide the health services because now we have been provided with pushbikes. So, when we are using a push bike, definitely," - Health care worker*

Improved vaccine availability - Health care workers noted a shift toward better stock management and proactive responses to increased demand. Due to this increased demand, they now ensure adequate vaccine supplies at outreach clinics, fostering trust among caregivers. Caregivers noted that the availability of vaccines has markedly improved compared to the past, ensuring consistent immunization for children. Previously, they often asked to return later due to vaccine unavailability. Caregivers shared that health care workers no longer delay administering vaccines due to insufficient numbers of children. Caregivers also observed the inclusion of new vaccines, which were not previously available for older children. These improvements have reassured caregivers, who emphasized the role of vaccination in preventing illnesses.

> *"In the past, we sometimes ran out of vaccines and had to send people away. Now, we collect enough vaccines to meet the demand, ensuring that every child receives their required vaccinations." Health care worker, Mzimba North*

> *"Since VillageReach came into our community, vaccination services have improved drastically. My older child missed vaccines due to unavailability, but now my younger child receives them on time because Health care workers come to the village with the vaccines." Caregiver, Mzimba North*
>
> *"Since VillageReach came in, health care workers go into villages with the vaccine and we can access them easily" Caregivers, Lilongwe*

Additionally, the project led to improvements in health care workers' approach to service delivery and relationships between health care workers and caregivers improved. Health care workers learned to better support vulnerable families, fostering trust within the community.

Positive shift in knowledge, attitude and practice towards immunization - Across all the views of respondents, they noted a considerable positive shift in community knowledge and attitudes towards immunization. The combined use of Amplio talking books, drama performances and scorecards successfully increased immunization awareness, enhanced community engagement in immunization activities, addressed misconceptions, increased male and family support and strengthened caregiver participation. Health officials reported higher levels of immunization knowledge among mothers and community members in project areas compared to those in non-project areas as described below.

Increased understanding of vaccines, vaccination schedules and side effects - Drama performances and Amplio talking books played a key role in providing accurate information. Participants expressed that they helped alleviate anxieties among caregivers by demonstrating how vaccines work, addressing fears about potential side effects, correcting misconceptions and rumors surrounding vaccination. Additionally, the importance of vaccines in preventing serious childhood diseases was emphasized, leading to improved vaccine acceptance.

Caregivers reported a clearer understanding of vaccination schedules, side effects and the diseases vaccines prevent. They also expressed greater awareness of the importance of timely immunization, motivating them to attend vaccination sessions promptly.

Respondents reported that many former skeptics, who had spread misinformation are now vaccinating their children, indicating a clear shift in perceptions. Caregivers who once hesitated are now willingly vaccinating their children. Moreover, dramas created an accessible and engaging platform for immunization education within communities, driving a noticeable mindset change within the community.

Participants reported increased understanding and appreciation of immunization and drama, enabling participants to relate vaccination information to their daily lives. This made the messages more understandable, memorable and impactful.

> *"Through drama, we have been able to give awareness with the right information on the importance of vaccines, such as preventing dangerous infections and untreatable diseases." Drama rep, Mzimba North*

> *"People used to say vaccines would sterilize our children, but now they understand it's to protect their health." Caregiver, Lilongwe*

Active participation in immunization activities and increased immunization attendance - While some behavior changes were immediate, health care workers noted that sustained efforts would ensure gradual, long-term improvements in practices. Community-driven awareness activities, including drama performances, motivated caregivers to prioritize immunization, leading to increased participation at clinics and outreach programs and adherence to vaccination schedules.

> *"What motivated me [to participate in vaccination activities] most was the awareness we get from health facilities or outreach clinics about the importance of vaccines... a vaccinated child does not easily get sick." Caregiver, Lilongwe*

Enhanced male involvement and family support in child immunization - Respondents expressed that there was a noticeable positive shift in family dynamics since the implementation of the project fostering greater male involvement in child immunization. The project components like the Amplio talking books, drama and targeted outreach raised awareness among male caregivers, challenging traditional gender norms that viewed immunization as solely a woman's responsibility. This shift has resulted in increased male attendance at immunization clinics and drama performances, more equitable caregiving roles and stronger family collaboration in immunization. Men are now actively bringing children to clinics, attending outreach sessions and supporting their partners financially and logistically contributing to higher vaccination coverage and more consistent immunization schedules. Moreover, local leaders and broader family networks, including grandmothers, now actively promote and participate in immunization efforts, thereby offering further support to caregivers.

> *"In the past, people in the community just thought that taking children for vaccines was a woman's responsibility. But now, I have observed that even men are taking part in immunizing their children." Health care worker, Lilongwe*
>
> *"Now, through the VillageReach project, men have come to understand the importance of taking part in immunization. Even local leaders, who didn't know much about immunization before, are now involved in community mobilization." Interface Rep, Mzimba North*
>
> *"Men have realized that if a child is sick, it affects the entire household, including their ability to work. They now come to the dramas to listen and learn about immunization." Community Leader, Lilongwe*

Health care workers and health officials noted that in the past, participation in immunization activities often skewed heavily toward women, particularly in clinic-based activities. Men were less engaged due to work commitments and entrenched social norms that assign childcare responsibilities primarily to women. They confirmed that as an attempt to address this imbalance, the community outreach drama performances and targeted messaging for male caregivers implemented were successful in reaching more males due to the interactive nature of the dramas.

While the project has driven substantial change, achieving fully balanced participation remains a challenge due to cultural norms assigning childcare responsibilities to women. Continued efforts are needed to sustain and expand male engagement in immunization activities.

Enhanced community ownership and support for immunization efforts - The project significantly fostered community ownership and support for immunization through scorecards, drama performances and Amplio talking books, which empowered both health care workers and communities to address health needs collaboratively. Health care workers

observed active and increased community participation in developmental activities, such as mobilizing resources like sand and bricks to construct vaccine shelters and supporting housing for health care workers in Mzimba North, ensuring proper storage of vaccines and improving immunization infrastructure.

This proactive involvement reflects a growing sense of agency and responsibility. Community leaders, who initially held incorrect beliefs about vaccines, now advocate for immunization, mobilizing their communities to protect their children's health. Some participants noted,

> *"Things have changed. In the beginning we didn't have shelters in many areas, but after the introduction of scorecards and countless consultation with village heads, a considerable number of vaccine shelters have been constructed, others are underway, while others are in the process of moulding bricks. This will make sure that vaccines are stored in a good shade away from sun heat. In the past clinics were being conducted under a tree but now they are conducted in the constructed shelters" Interface Rep, Mzimba North*

ADOPTION

To evaluate the potential adoption of the project (or its components), we explored the project's connection with local and national plans and strategies as well as community and stakeholders' acceptance.

Key Takeaway
Adoption

The project's components align with national strategies, including the Malawi Community Health Strategy and National Immunization Plan. This alignment boosts stakeholder confidence in interventions like scorecards, drama initiatives and Amplio talking books to address immunization barriers.

Drama performances, Amplio talking books and scorecards were well-received for their cultural relevance and alignment with public health goals. Despite initial challenges, their tangible benefits in improving immunization attendance, raising awareness and fostering community engagement highlight their potential for broader adoption and long-term integration

Qualitative Findings

Key factors potentially influencing the adoption of the project included the strong alignment of its different intervention components with the objectives of national plans aimed at strengthening immunization, fostering community engagement and promoting behavior change. Additionally, the positive perception and reception of the project by caregivers, the community at large, health care workers and health officials played a crucial role for its uptake. These factors contributed to the strong support for the project.

Alignment with government plans

Health officials and health care workers believed that the project aligned well with government strategies and national plans focused on community engagement, behavior change and strengthening immunization. Respondents from various roles emphasized how the project supports national goals by addressing critical issues such as sensitization, demand creation and equitable access to health services. For instance, one respondent highlighted,

> *"The national plans, they are saying, when we are giving new interventions, we are first to sensitize the providers as well as the community heads. So we go to the community, talk as well as sensitize the providers and intend to let these people to go to the caregivers and talk...this is the national plan!" Health official, Lilongwe*

Similarly, the project aligned with the Malawi Community Health Strategy through tools like the scorecards, which is recognized as a critical component of community mobilization. As one respondent explained,

> *"For scorecard, it is there in the community health strategy, Malawi Community Health Strategy. Scorecard is one of the tools encouraged to be used in the community and each and every community. " Health official, Mzimba North*

In terms of behavior change interventions, methods such as Amplio talking books and drama performances were noted as key strategies that successfully delivered health messages to communities, enhancing awareness and engagement, while aligning well with national plans. One respondent stated,

> *"In behavior change intervention, there is an issue of health talk, an issue of giving out messages to the people. And how do we give those messages? One of the means is through drama. So, drama was there which means it's well aligned. Talk Book is more of a person talking about immunization. It's like giving message about immunization." Health official, Mzimba North*

Health officials also viewed the project as impactful and aligned with national immunization strategies such as the National Immunization Plan by addressing barriers to access and supporting universal health coverage. One of the VillageReach project team members emphasized the systematic approach taken to address challenges in immunization, saying,

> *"This intervention helps in understanding what the barriers are and working with communities to overcome them...contributing to reducing inequities in immunization. Furthermore, the initiative aligns with Malawi's broader 2063 agenda for a healthy nation by fostering healthier communities through increased immunization coverage." VillageReach Team Member*

Despite overall alignment with objectives, some health officials noted that integration of services across various health issues were not fully utilized at a certain level, as depicted by the broader health sector strategic plan, potentially limiting resource efficiency,

> *"But, maybe one issue that we didn't factor much, we had less integration [with other health issues], because the latest portfolio is talking about the integration of the services. Yeah, so of course, when I go out, I will probably also integrate, do other things. But for example, if somebody goes out, that you have dedicated, that component was overlooked. So maybe, since we are talking more of the integration, so that we would yield more results by using less resources, maybe at a certain level, it wasn't fully utilized, but all in all, it was well aligned." Health official, Mzimba North*

Positive perception and reception of the project

The project received a largely positive reception and perception from the community, health care workers and health officials at various levels. Respondents expressed acceptance and appreciation for how the different intervention components had improved immunization attendance, raised immunization awareness and fostered community engagement.

Drama performances were highly praised and warmly welcomed by community members for their dual role in education and entertainment, though initial skepticism arose from some community members (both men and women) due to lack of understanding. As messages conveyed gained recognition acceptance grew, though challenges in engaging some religious leaders were noted. Similarly, caregivers appreciated the use of Amplio talking books for conveying clear messages and keeping latecomers informed.

The scorecards process was embraced by the community, fostering collective action to address local health challenges. Interface meetings were considered a good platform for positive interaction and participation. However, interface representatives expressed that they experienced confusion during the early stages of the scorecards process due to limited training, community monitoring and supervision. Whilst understanding improved as participants gained experience, variations in participation and delays persisted across districts, driven by limited awareness, governance issues of community structures and training and many participants considered it to be costly. Some respondents shared,

> *"The [vaccination] message we have been distributing has been well received by the people…. When we distribute the message, we see that the people are accepting it well and we have seen some chiefs, appreciating our efforts, saying that their village now has improved as some women who were going to the herbalists have now started going to the clinic instead." Drama Rep, Lilongwe*
>
> *"The caregivers received it [the talking book] very well because some of them were coming late after the health education is done. So when they were given the Amplio talking books they were having an opportunity to be given a health talk and were listening attentively. This enabled them to be informed about child immunization." Health care worker, Lilongwe*
>
> *"This [scorecards] is a welcomed development in our community for it exposed some of the reasons why our women were failing to access immunization services, others were citing that they had to walk long and unbearable distances to access health services while others could say agricultural activities hindered them from going to the health facilities to get their babies vaccinated." Interface rep, Mzimba North*
>
> *"Scorecards, usually are expensive so we can use them maybe once in a while but let's also intensify much on these. The interface meetings are very good, they are very good because the leadership of the community also partake in the implementation of the project. But mostly they are expensive. But, it's good." Health official, Mzimba North*

Participants recognized the interventions as adaptable and essential components of a long-term public health strategy. At the national level, there was acknowledgment of the potential for broader adoption, with the Ministry of Health showing interest in incorporating tools like Amplio talking books into the district health systems. While there are still opportunities for improved integration, the overall perception was that the interventions were effective and aligned with the broader health sector strategic plan for 2023-2030. A health official noted,

> *"These interventions are lasting. They are not just a project; they are a program, in a way. They need to be integrated permanently, no matter what." Health official, Mzimba North*

IMPLEMENTATION

We explored how the interventions were introduced and gathered participants' experiences to understand the implementation process. This allowed us to determine whether the interventions were carried out consistently as originally planned.

Respondents shared their perspectives on various aspects of the implementation, highlighting factors that influenced the process including successes, challenges and recommendations related to the use of drama performances, scorecards and Amplio talking books for community engagement and immunization awareness.

Key Takeaway
Implementation

Overall, there was a strong commitment to maintaining fidelity and delivering quality interventions supported by training, adaptive practices and robust feedback systems.

Feedback mechanisms and open communication among stakeholders supported ongoing improvements, although constraints such as resource limitations, transportation issues and a short implementation period posed as challenges.

The successful implementation of the project was largely influenced by a participatory and collaborative approach throughout its introduction and execution with initial training and support. Key implementation factors included a strong commitment to maintaining implementation fidelity, adaptability and openness to feedback, effective communication, cultural relevance, robust monitoring mechanisms and strategies to overcome initial resistance. However, challenges such as initial confusion, delays, resource limitations and technical and logistical issues affected the implementation process.

Qualitative Findings

Participatory and collaborative approach to the introduction and implementation of interventions - Respondents emphasized that the interventions were introduced through a participatory approach, engaging caregivers, health care workers, district and national officials, local stakeholders and community members. Training from the outset and full district involvement throughout the implementation process ensured a sense of ownership. Health officials stated,

> *"We were involved in the selection of the facilities and… in identification of the problems, …that these facilities were facing. During the identification of the solutions, during the development of the messages, we were also there. During the translation of the messages from Chichewa, from Chizungu to Chichewa, from Chichewa to Tumbuka, we were also involved. So, the district was involved at each and every stage, the district leadership, at each and every stage, including even the monitoring, we were involved. So, even the other programs that I think they could also help us, they were involved as well, like the health promotion, the community health coordinator, we were also involved. And other players like the cluster leaders, cluster supervisors were also involved, the HSAs were also involved. So, all in all, everybody was involved." Health official, Lilongwe*

> *"We have been meeting laterally in the project because we started at looking at what are the interventions, we looked at what are the problems… So during implementation, we targeted those ones because we are choosing together with some of the community members like the volunteers, some of the community*

> *members, the guardians, we are also included in this project because they are the ones that would give us an insight of what the community think…I feel that it has been very important." Health official, Mzimba North*

The involvement of community leaders and local stakeholders was said to be crucial in mobilizing caregivers and promoting interventions, enhancing awareness and participation. A community leader also attested to the participatory process:

> *"For the drama to be introduced here, firstly, there was a study to find out mechanisms that would be best to mobilize the community for the child immunization campaign. So, the drama was identified because it has the ability to reach a lot of people with awareness, education and entertainment. The audience can understand the messages better by watching, hearing and relating to their daily life experiences." Community leader, Lilongwe*

A strong commitment to maintaining implementation fidelity and overcoming challenges through adaptation and collaboration: Overall, the implementation fidelity of the drama performances, Amplio talking books and scorecards process was commendable despite contextual challenges and variation across facilities, outreach sites and the two districts. Health care workers, drama and interface representatives noted closely following the original plans for the different components ensuring consistent use of Amplio talking books, drama performances and the scorecard process.

Intervention participants remained committed to delivering quality interventions while making some adaptations to meet contextual needs. **Amplio talking books** were consistently used during child vaccination sessions as noted by health care workers and confirmed by caregivers, both at outreach clinics and static health facilities though logistical and technical issues occasionally hindered access.

> *"Yes, the Amplio talking books we use them every time on the facility as well as in the outreaches…we use them Monday to Friday when we are working at the static facility." Health care worker, Lilongwe*
>
> *"Yes, we have listened to Amplio talking books here at the hospitals and even at the community outreach clinics, especially when we arrive late. So, we are given the Amplio talking books to listen to, which helps us catch up with the messages that were shared during health talks." Caregiver, Lilongwe*

Drama groups exceeded targets, voluntarily conducting extra performances despite transport and funding constraints, adjusting performances for greater engagement. See figure 1 and 2 below on drama performances held.

> *"Per quarter we have five drama performances. So, if we have finished what we planned per quarter we also have time on our own to just perform extra performances." Drama Rep, Mzimba North*

However, limited resources, lack of protective gear in harsh weather, transport issues and large, dispersed catchment areas, sometimes hindered performance schedules. In some facilities, planned performances were cancelled due to transport issues or lack of funding. For instance, in Kawale, reduced partner support from another non-governmental organization (NGO) led to fewer outreach sessions impacting drama schedules. Despite these setbacks, many drama groups adapted creatively, maintaining community engagement and ensuring the message of promoting child vaccinations remained central.

The scorecards process particularly in Mzimba North adhered closely to the intended design, with regular quarterly interface meetings which brought together community representatives and health care workers, following a systematic approach of data collection, issue discussion and action plan development. In contrast, inactive Health Advisory Committees (HACs) and leadership challenges in Lilongwe limited implementation of the scorecards process to only two facilities. Respondents emphasized strict fidelity to protocol, ensuring accuracy and alignment with field realities.

Participants affirmed:

> *"We follow protocol… we take exactly what is happening on the ground and ensure it correlates." Interface Rep, Lilongwe*
>
> *"Yes, the scorecard was implemented as planned. The process was like the community representatives meet in the community to find and discuss affecting health service delivery and then bring them at interface meeting, where completed the scorecards together with community and the healthy workers and then come up with action plan. So, from the action plan, we take the action plans back to the community for implementations. We are able to review progress if the activities have been achieved or not. " Health care worker, Mzimba North*
>
> *"The procedure for doing the scorecards is the same as we were trained, we did not change anything…. This is so, because the community is the source of all the information in the scorecards process. We started with community meetings to solicit information from the community then bring it to the interface meeting every 4 months." Interface rep, Mzimba North*

Responding to a question on fidelity to scorecards process implementation in the two facilities in Lilongwe, a project team member stated,

> *"Initially we said we implement four, one each quarter, but we have done, in the other facility we did two, the other one we did three. The reason for the first one that I already mentioned, the first quarter that we couldn't do, … for the Area 18 was because their HAC was not really active… So, I think they were having trouble within their community which, which affected the implementation of the solution at that facility. But, for the community…they were pushing on their part, they just didn't have the support of the HAC." VillageReach*

Challenges identified during the midline evaluation in Mzimba North were resolved through participatory feedback, reinforcing the commitment to fidelity.

Across all interventions, adaptive strategies helped overcome obstacles, balancing fidelity with flexibility. Respondents' views highlighted a collaborative and adaptive approach to incorporating feedback across the three intervention components while preserving the project's integrity.

Drama groups refined performances based on audience and health care worker input, expanding venues to reach a broader audience to market days and community meetings making performances more accessible than initially planned to be performed only at static and outreach clinics. Funding constraints also led to limiting drama performances to a few outreach sites instead of all per facility. While efforts were made to improve Amplio talking

books functionality, challenges persisted with maintenance and volume in large gatherings. Due to resource constraints, the scorecards process was implemented as an abridged version, with stakeholders agreeing it should target specific underperforming communities rather than being applied universally.

As one drama group representative explained:

> *"It happens sometimes other people give us advice or correct to change in some area of our drama. As a drama group, we sit-down together with Health workers to discuss issues in the drama group, including discussing feedback from the audience and stakeholders. We make sure that, as a drama group, we are always open and ready to change so that we should offer good services". Drama Rep,*

As one health official explained,

> *"We deviated from what a real scorecard should be, just to suit the finances we had. So that was a challenge." Health official, Mzimba North*

Overall, these adjustments illustrate a commitment to maintaining fidelity and effectiveness while navigating resource and contextual challenges. Despite challenges, these adaptations upheld intervention integrity while enhancing impact.

Quantitative Findings on drama performances conducted versus set targets

The project's target for drama performances was for each intervention health facility to conduct 5 dramas per quarter (4 at the outreach sites and 1 at the static facility). Drama performances varied according to contextual factors as described above. Figures 1 and 2 below show drama performances conducted at static and outreach sites per facility for the duration of the pilot project, showing that despite these contextual factors over time health facilities exceeded set targets.

Figure 1 Drama performances conducted in Lilongwe per quarter

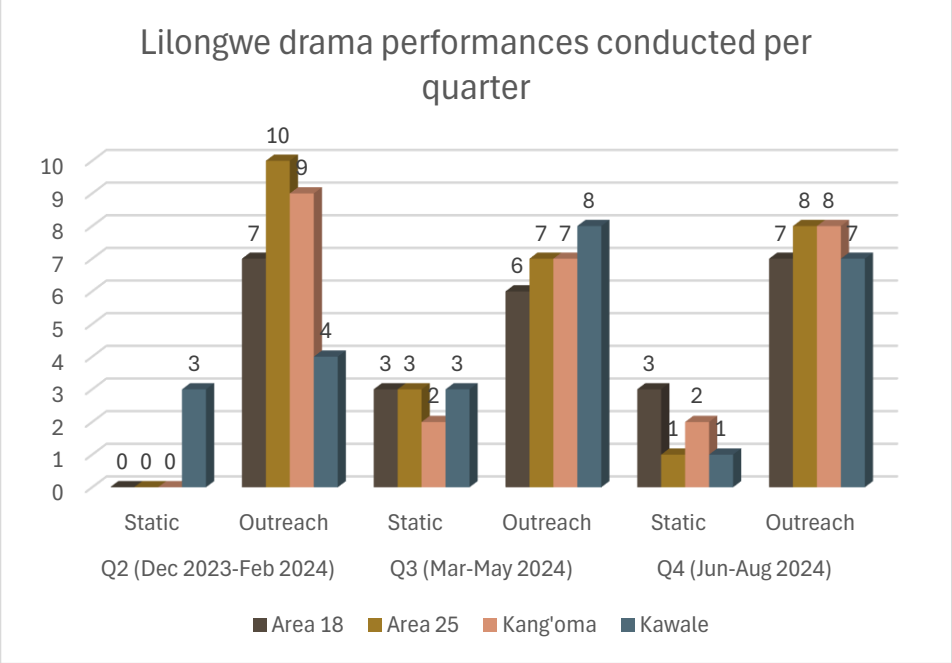
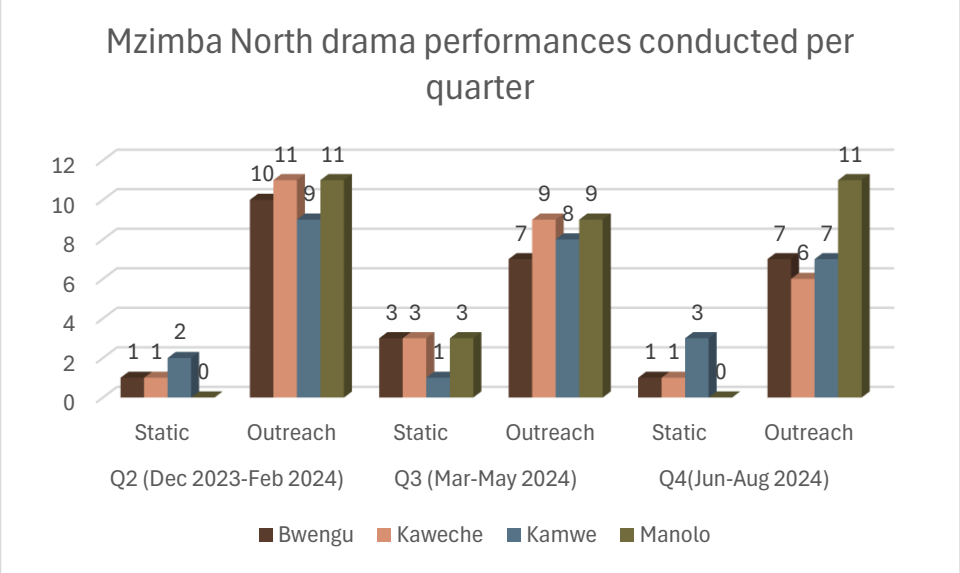


Figure 2 Drama performances conducted in Mzimba North per quarter



Cultural relevance and clear messaging in interventions

The integration of culturally relevant content and the use of local language in both drama performances and Amplio talking books was highly effective in conveying health messages and promoting positive health behaviors in the community. Some caregivers explained,

> *"…Dramas are performed in our own local language Chichewa and performed in a culturally accepted manner. about culture, they make sure to follow up on our culture and also, they encourage that when child is sick have to take him to hospitals not talking our children to witchdoctor." Caregiver, Lilongwe*
>
> *"The language during drama performances depends on the location where these dramas are being done, for example if they are performing here at Kaweche Health Centre then the languages they will use are Tumbuka mixed with some Chichewa since they are aware that people around Kaweche are Tumbuka and Chichewa speakers. On top of that, they could also add up some cultural aspects of the community so that people can grab the right information and can be able to relate immunization to their culture." Caregiver, Mzimba North*

Effective and positive communication facilitated implementation success

Effective communication among the district team, health care workers, community actors and VillageReach played a central role in the project's implementation success, highlighting several key aspects of the positive interactions between stakeholders. Robust communication and feedback mechanisms enabled a collective decision-making process, addressing challenges and celebrating successes. These mechanisms included:

- **Data utilization -** Respondents emphasized the critical role of monitoring data particularly on drama performances and Amplio talking books in identifying disparities and informing action. Health officials also

noted that without proper utilization of immunization data, decision-making and project outcomes would be limited.

- Structured communication channels - Formal communication channels, such as emails, phone calls, WhatsApp and official meetings, ensured efficient information flow. All communications were routed through the District Health Office and shared with the EPI office before dissemination. Regular feedback loops, facilitated by face-to-face meetings and shared reporting, engaged health care workers, community members and VillageReach staff in addressing challenges and implementing improvements.

- Scorecards as a communication tool - The scorecard was viewed as a vital communication tool between the community and health providers, especially during interface meetings. It allowed stakeholders to assess progress, identify areas for improvement and discuss support needs. One health care worker from Mzimba North shared,

    > *"For us to communicate with the community, the scorecard was a tool used. In the community, we were all coming together to see which side we are progressing and where we need to improve. There was also good communication between us here and the VillageReach we could communicate how we have done, where we have failed and how they can help us then. VillageReach could come in and guide us how we can do it….sometimes we were having interface meetings as we are doing sometimes, we were making calls to report that some Amplio talking books are not working so they could come and help."*

- Regular reviews - Quarterly meetings were held to review progress, discuss action plans and assess areas for improvement. Feedback from the district team led to budget revisions and adjustments in project logistics, fostering continuous improvement through an ongoing dialogue among stakeholders.

Challenges during implementation

The following are a summary of challenges encountered during implementation, affecting the effectiveness and reach of interventions:

- Insufficient and delayed funding and materials hindered various activities, including scorecards process implementation, outreach drama performances and Amplio talking books. For example, the frequency of drama performances was restricted due to financial limitations. Additionally, the availability of Amplio talking books was low and their reduced volume at large gatherings limited their effectiveness. Health facilities faced difficulties in completing action plan items, such as building staff houses or clinic shelters, due to inadequate resources.
- A lack of essential mobility tools, such as push bikes and visibility materials further constrained implementation efforts, particularly for drama groups.
- The one-year timeframe was considered short and insufficient to foster significant behavior change. Shifting community mindsets and achieving sustained impact require longer implementation periods.
- The need for comprehensive and refresher training sessions to better prepare participants and enhance the quality of interventions was identified as a key challenge.

Geographical and logistical differences in intervention implementation: Mzimba North vs. Lilongwe

Comparing respondents' views, the implementation of interventions in Mzimba North and Lilongwe during the one-year pilot period showed notable differences due to geographical and logistical factors. In Mzimba North, the scorecards process was successfully completed across all facilities, with active participation and strong facilitation by the district's community health office. The district's rural facilities were proactive in extending outreach to additional communities, leveraging local resources like bicycles to overcome transportation challenges. In contrast, Lilongwe faced delays due to the expiration of the Health Advisory Committee's term, which required retraining before implementation could proceed. This resulted in fewer completed scorecard sessions and slower progress overall.

Geographically, rural areas like those in Mzimba North were more proactive in replicating the intervention efforts to reach wider communities. Rural facilities were able to leverage local resources like bicycles to support outreach, unlike urban areas where transportation issues were more prevalent.

MAINTENANCE AND SCALABILITY OF INTERVENTIONS

Key Takeaway
Maintenance and scalability

Stakeholders showed strong commitment to sustaining and scaling interventions, driven by community ownership, tangible achievements and innovative strategies. However, financial and logistical challenges highlight the need for training, local partnerships and targeted funding to ensure long-term impact and national expansion.

We explored participants' perspectives on sustaining the interventions beyond the pilot project. Participants expressed commitment and readiness for ongoing implementation while highlighting both positive aspects and challenges to sustainability. Key concerns included logistical, resource and capacity limitations, stressing the importance of ongoing support and partnerships to address these issues and ensure the long-term success of the interventions. A recurring concern was the dependency on external funding to sustain interventions and the resource-intensive nature of some interventions, particularly for scorecards and drama performances for outreach sites far from the static facility.

Qualitative Findings

Stakeholder commitment and concerns regarding sustainability: There was strong commitment from all participants to sustain intervention activities. Communities and local structures, such as Village Health Committees and drama groups, expressed readiness and willingness to continue interventions, provided they receive adequate training, supervision, empowerment and a maintenance plan. Tangible achievements, such as improved health services and enhanced community capacity, motivated stakeholders to maintain these initiatives. According to health officials, positive feedback from closeout meetings underscored community and stakeholder willingness to sustain interventions with action plans being developed to ensure continuity, supported by collaboration among VillageReach, health workers and community members. District officials expressed readiness to supervise scorecards and monitor interventions and materials such as SOPs for drama and scorecards had been shared with partners to facilitate integration into routine services. Drama groups, for instance, emphasized their determination to continue performances despite the project's conclusion, with one representative noting,

> *"We can't stop performing because the project is going to an end. We will be trying though there will be no support." Drama Reps, Lilongwe*

Documentation and resource optimization emerged as key strategies for maintaining drama components. The groups suggested innovative strategies, such as creating and distributing video clips, social media and youth networks, reflecting their sense of ownership and commitment to sustaining awareness efforts. A health official stated, *"If we train them [committees], especially in their roles, they would carry on the activities very well"* (Health Official, Mzimba North).

Communities have embraced the scorecard process, with representatives affirming, *"Since it's the community members managing the scorecards, there is no way we can fail to continue"* (Interface Reps, Mzimba North).

Despite logistical challenges like transportation for outreach clinics, community leaders are exploring solutions like local fundraising and partnerships. To reduce costs, caregivers and stakeholders recommended leveraging local performers and minimizing transport and allowance expenses.

Partnerships and external monitoring were also seen as key motivators for sustaining activities. Participants also suggested community-led initiatives, such as monthly savings and agricultural projects to support implementation, demonstrating local commitment to long-term sustainability.

Stakeholder optimism and recommendations for scaling interventions: Stakeholders expressed strong optimism and desire to scale interventions nationally, emphasizing their positive impact on communities. However, they acknowledged the key challenges stated above as well as the importance of maintaining equipment to ensure sustainability.

Opportunities for sustaining and expanding the project's reach were suggested through local partnerships and collaboration with external partners. Health officials advocated for expanding the project to additional districts to serve underserved areas and address routine immunization challenges.

District health officials emphasized the importance of collaborative efforts and targeted funding strategies, highlighting organizations such as UNICEF, World Vision and Plan International as key partners to broaden the project's reach, amplify its impact and enhance its long-term sustainability.

> *"It can be implemented countrywide, but maybe the only problem that we can have, for example, you know, like the drama, the way I said that not only be at the health facility, they were going out for the outreach clinics, they would also go elsewhere. But then at the end of the day, it means VillageReach gave them something, lunch allowance, they are working out of their duty station, of which if we implement it countrywide, we'll have a problem to say where will the lunches come from. But then maybe if they can be, if we can have a partner, which can partner with us for that, I think it will be a good initiative." Health official, Lilongwe*

Recommendations

The following recommendations were suggested by the participants interviewed to improve implementation and sustain project and intervention components success in the future:

Enhance information dissemination and accessibility of interventions:

- Improve the number and functionality of Amplio talking books by addressing issues such as low volume and ensuring access to more suitable devices to reach larger communities and ensure critical health information is widely available.
- Conduct frequent drama performances to maintain engagement, reinforce health messages and broaden community reach.

Ensure adequate logistical and resource support:

- Provide sufficient logistical resources to ensure smooth scheduling and execution of activities, especially drama performances.
- Allocate additional resources, such as funding, mobility tools and amplification devices (e.g., public address systems), to support the successful implementation of health initiatives, particularly Amplio talking books and drama groups.
- Address logistical challenges for drama groups by training local performers
- Invest some of the funding into supporting outreach efforts such as fuel for the duration of the pilot period

Offer comprehensive training and capacity building:

- Provide extended training that incorporates both theatre techniques especially in Mzimba North and advanced vaccine knowledge to better equip personnel involved in health education efforts.

Monitor and supervise community engagement and data collection:

- Regularly monitor and supervise the completion of community scorecards to ensure accountability and accurate data collection.
- Implement regular debriefings and joint meetings to assess progress, adapt strategies and ensure sustained community impact.

Sustained and scalable implementation:

- Extend the project's duration to allow for gradual mindset changes and sustained impact.
- Rotate drama performances and Amplio talking books across various outreach sites to ensure consistent community exposure.
- Explore national and external partnerships (e.g., with organizations like UNICEF, Plan International and World Vision) to integrate interventions into new projects and expand their reach.
- Leverage local resources and partnerships to ensure sustainability and integration into routine immunization systems. Close-out meetings have facilitated the drafting of sustainability plans by local structures, with some health facilities already independently mobilizing resources.
- An intensive national consultation needed to explore possibilities for securing resources nationally or through external partnerships.

Future Project Scale-up and Integration:

- For future projects, consider implementing the scorecards process as the main intervention. This approach can facilitate the development of various action plans, offering a structured framework for improving immunization and other related outcomes and sustained action.
- Opportunity for joint partnerships to offer targeted training for health care workers on data management, with a focus on using the DHIS effectively and understanding the importance of high-quality data for decision-making.

Discussion

The 'Let's Talk About Vaccines!' project demonstrates the transformative potential of community-driven interventions in improving immunization uptake and strengthening health systems, particularly in resource-constrained settings. Its emphasis on local engagement, alignment with health policies and efforts to address inequities positions are a valuable complement to both national and local health strategies.

Reach and effectiveness

Improving accessibility and timeliness to vaccination services through expanded outreach efforts and immunization awareness has been a fundamental aspect of the project. The evaluation findings indicate that these efforts have significantly reduced travel distances for caregivers, addressing a common barrier to immunization (10). As evident in respondent views, increasing the availability of vaccination services in communities can lead to higher coverage rates (11). The project's emphasis on timely service delivery and improved stock management as a positive unintended consequence has also fostered trust among caregivers, further encouraging participation in immunization programs.

The project's focus on gender inclusivity is another critical factor in its success. By actively involving men in immunization discussions and activities, the project challenged traditional gender norms that often assign childcare responsibilities solely to women. Literature suggests that male involvement in child health can lead to improved health outcomes (12). This shift not only enhances family support for immunization but also contributes to a broader cultural change regarding health responsibilities.

The project effectively dispelled long-standing myths linking vaccines to infertility and other fears. This aligns with findings from the World Health Organization (WHO), which emphasizes that misinformation can severely hinder vaccination efforts (13). By utilizing drama to portray the benefits of vaccination and address fears, the project not only educated caregivers but also fostered a supportive environment for immunization. The positive shift in perceptions, as noted by health care workers and caregivers, indicates that targeted educational interventions can lead to increased vaccine acceptance and uptake.

Analysis of routine immunization data showed a substantial increase of the total number of administered antigens during implementation of the intervention. This effect was identified through comparing health centers where the intervention was implemented with comparison centers. This increase was particularly noticeable for the DPT

antigens. The other antigens showed an increase, but this was not significant, which may have been due to a lack of statistical power.

Dropout rates did not improve significantly when comparing intervention and comparison sites. However, DPT dropout rate did improve significantly when comparing the intervention-exposed sites before and after implementation. Dropout rates were already low at the start of the implementation (close to zero for DPT and negative for measles), which may explain why we were not able to see a significant improvement.

Adoption

The potential adoption of the project's components as whole or separately is closely tied to their alignment with national health strategies, such as the Malawi Community Health Strategy and the National Immunization Plan. This alignment has fostered a strong sense of confidence among stakeholders, including health care workers, community leaders and caregivers, regarding the project's relevance and potential for long-term impact (8,14). The qualitative findings indicate that community leaders, who previously held misconceptions about immunization, have become advocates for the project, highlighting a shift in attitudes that is crucial for sustained adoption.

Moreover, the participatory approach employed during the project's introduction has been instrumental in fostering acceptance. Stakeholders were actively involved in the planning and implementation phases, which not only enhanced their understanding of the interventions but also cultivated a sense of ownership. This is consistent with the principles of CBPR and HCD, emphasizing the importance of community involvement and involving the intended target population in health initiatives, as it leads to greater acceptance and sustainability (15–18). The widespread positive reception of the project's components highlights its potential for adoption, given the tangible benefits seen across various communities, their cultural relevance and educational impact, driving community buy-in.

Implementation

The implementation of the "Let's Talk About Vaccines!" project has been characterized by a strong commitment to maintaining fidelity to the original intervention plans, supported by adaptive practices and robust feedback mechanisms. This commitment to maintaining implementation fidelity is crucial, as it directly impacts the effectiveness of the interventions in achieving their intended outcomes.

The project's implementation process was marked by a participatory and collaborative approach, which allowed for the incorporation of feedback from community members and health care workers. This adaptability is essential in addressing the contextual challenges faced during implementation, such as resource limitations and logistical issues. For instance, the drama groups were able to modify their performances based on audience feedback, enhancing their relevance and engagement.

This aligns with findings from the literature that highlight the importance of flexibility in health interventions to respond to community needs (6). Its adaptability is evident in the successful balancing of resource limitations with the goal of maximizing community impact through innovative and inclusive approaches.

Despite these successes, the implementation faced several challenges and additionally, the one-year timeframe for the pilot project was deemed insufficient to foster significant behavior change, indicating that longer implementation periods may be necessary to achieve sustained impact.

While the 'Let's Talk About Vaccines!' project has made commendable progress in implementation, ongoing efforts are needed to address the challenges of financial sustainability and logistical support. Strengthening local partnerships and securing external funding will be critical in ensuring that the project's interventions can be maintained and scaled effectively, ultimately contributing to improved immunization outcomes in Malawi.

Maintenance and scalability

For long-term sustainability, the project has emphasized the importance of local ownership and resource mobilization. The involvement of Village Health Committees and local leaders in advocating for immunization reflects a growing sense of community agency, which is crucial for the sustainability of health interventions (19). Integrating health initiatives into existing community structures can enhance their effectiveness and longevity (20). Future scaling of the project should focus on strengthening these local partnerships and exploring additional funding avenues to support resource-intensive components like drama performances.

Despite local commitment, significant challenges persist, such as reliance on external funding and the resource-intensive nature of certain processes. Addressing these challenges will require strategic partnerships, capacity building and the integration of interventions into local systems to ensure long-term success.

Key components, such as drama performances, scorecards and Amplio talking books, are considered sustainable if supported through collaborative partnerships and resource-sharing mechanisms. These interventions were widely recognized as impactful and feasible for scale-up, though certain adaptations and financial collaborations will be necessary to overcome sustainability barriers.

The enthusiasm, innovation and proactive strategies demonstrated by community-based groups highlight a strong foundation for continuity. With targeted support and strategic planning, these initiatives can be maintained and expanded to further benefit underserved communities.

Conclusion

The ‘Let’s Talk About Vaccines!’ project has made commendable progress in enhancing immunization access, fostering gender inclusivity and addressing misinformation. While challenges such as financial sustainability and logistical support remain, the project’s successes highlight its potential for scale-up. Strengthening local partnerships, mobilizing resources and securing stable funding will be critical to maintaining and expanding these interventions.

Similar to the endline evaluation findings of the Bate-Papo project in Mozambique (21), by leveraging community engagement, innovative approaches and alignment with health policies, the project offers valuable lessons for future immunization initiatives. Its ability to adapt and integrate into local systems positions it as a model for improving health outcomes in underserved communities.

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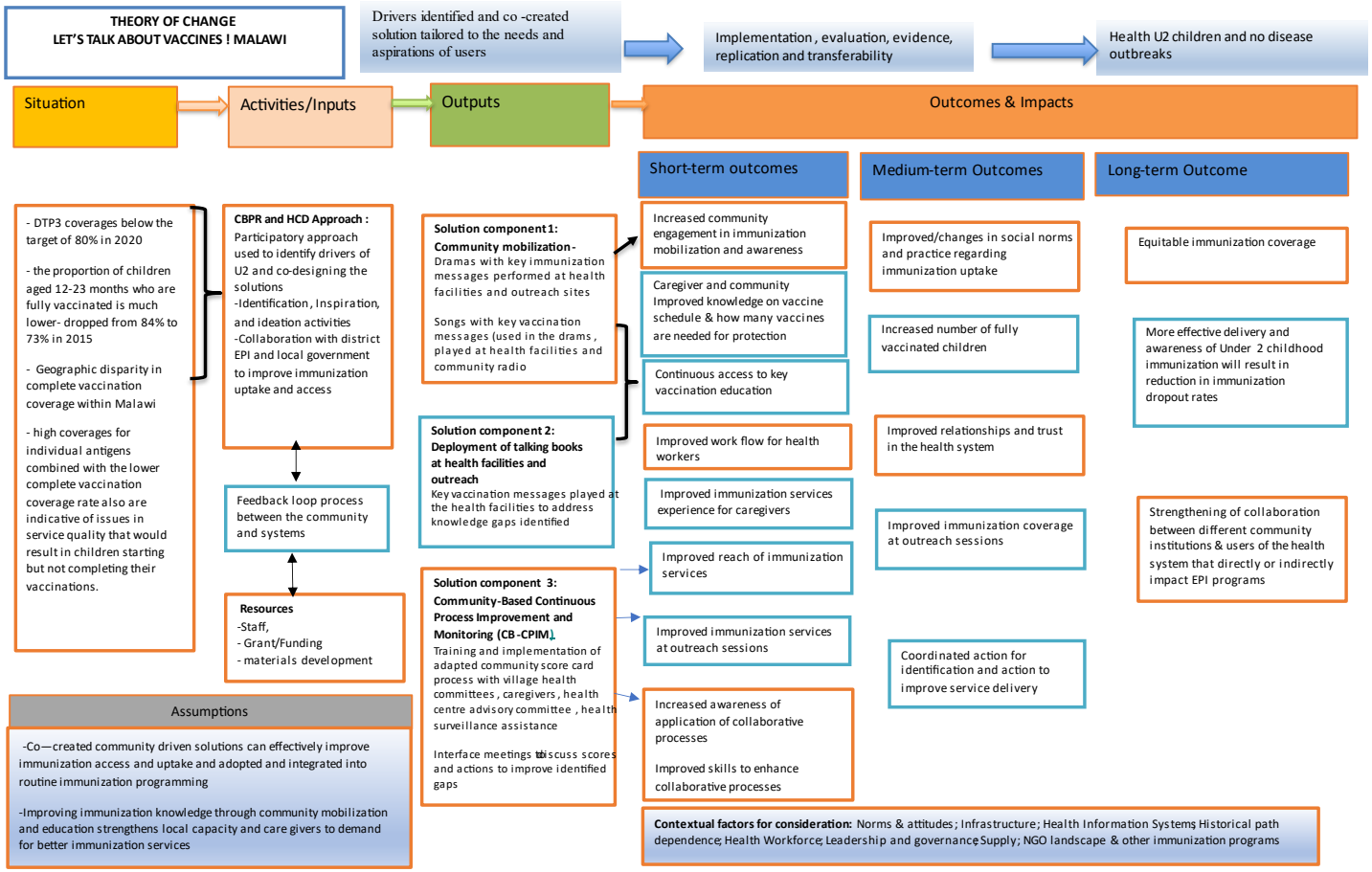
Appendix A: Theory of change

The Theory of Change (ToC) for the project is illustrated below. The ToC outlines the logical sequence of steps employed by the intervention to achieve its objectives in community engagement and immunization. It was used to assess the impact of the project components and how they yielded positive outputs, short and intermediate outcomes in line with the ToC. Additionally, it was utilized to monitor key indicators and provide valuable insights into project performance, as well as to solicit and incorporate community input effectively, contributing to the project's success and sustainability.



Appendix B: Dropout Formulae

DPT drop-out:

$$\frac{(\#\ DPT\ 1°\ dose\ -\ \#\ DPT\ 3°\ dose) * 100}{(\#\ DPT\ 1°\ dose)}$$

BCG-Measles drop-out:

$$\frac{(\#\ BCG\ -\ \#\ MMR\ 1°\ dose) * 100}{(\#\ BCG)}$$

Appendix C: Timeline of preparatory activities

Date	Activity
September 2022- January 2023	Community Based Participatory Research
February 2023 – May 2023	Human Centered Design Workshops
June 2023- July 2023	Pre -Implementation stakeholder meetings

Appendix D: Additional quantitative results and qualitative quotes

Figure 1 Monthly drama performances over the pilot period in Lilongwe

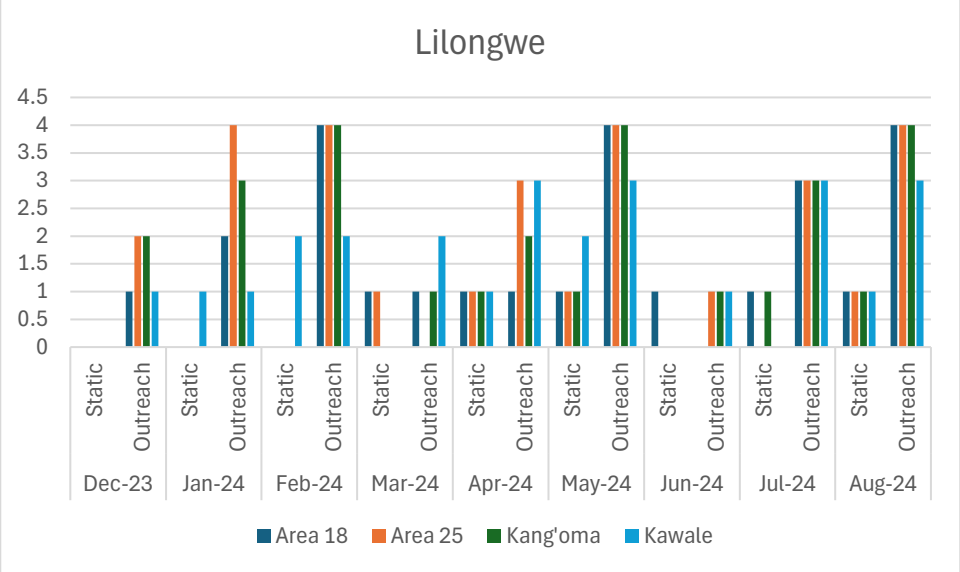
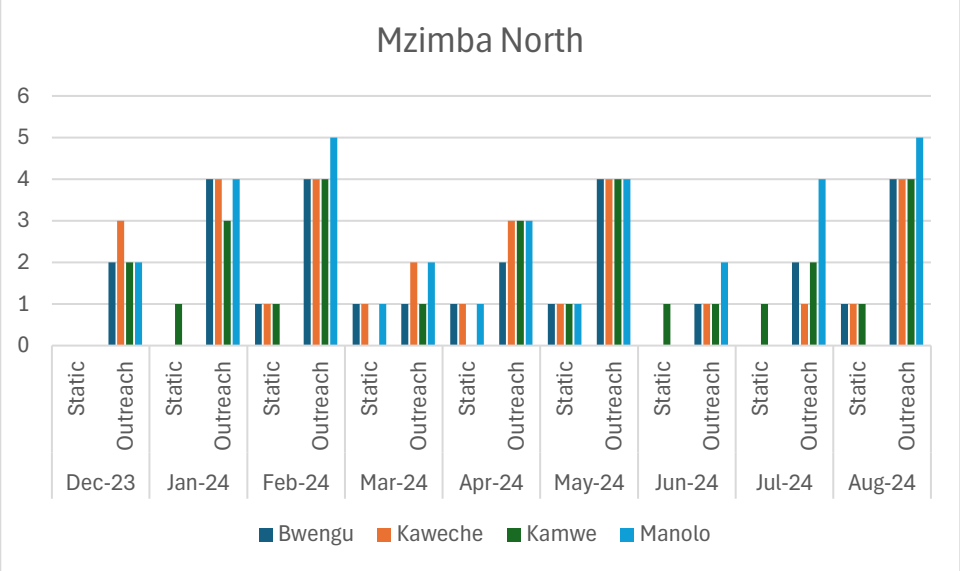


Figure 2 Monthly drama performances over the pilot period in Mzimba North



Additional quotes

Reach and effectiveness	
Broad community engagement and audience reach	"The needs is that they needed to have their children immunized, but for the children to get immunized, there must be some of the issues which have to be there is that the services must be brought to the, near to them. Yeah. So, ...these three interventions managed to do that. For example, the performance of dramas were done closer to the people, even the messages itself, people are going to the village for, for listening, uh, the members of a score card committee that it would go to the people. And because of that, even some areas where maybe outreach clinics were not taking place, they could do some clinics because there was a time where identifying areas, which are far from the people. There were instances, especially last year, where sometimes services, instead of doing the routine services, people would take initiative of going door by door…" - Health official, Mzimba North
Gender-inclusive accessibility of vaccine knowledge	"Because both male and female are being invited at times to talk about the vaccination in their areas at the same time caregivers go around providing the services which looks and likely that male as well as females have adapted the needs of the vaccination." - Community leader, Mzimba North "It was possible for both men and women to get the message from Amplio talking books." - Caregiver, Lilongwe
Positive community - health worker relationships	"This project has helped a lot as it has reduced on how people complain or doubt us and it has made us be valued and our job to be important." - Health care worker, Lilongwe
Adoption	
Alignment with government plans	"This project aimed at reducing infection rate of children from preventable diseases and deaths in the community so the project is really aligned to local and national plans because the goal of the community and nation is to ensure that people live a health life and well-being through improved health service delivery. So, this project aimed at promoting child immunization as one way of promoting public health in the community." - Health care worker, Mzimba North
Positive reception	"The community received it [scorecards] very well because, in the first place, we did not have a community outreach clinic site. As a community through scorecard process, we found place and built a small building, we call it a CBO, which was being used an outreach clinic. Through the scorecards, the community were mobilized to source building Materials such as bricks, cement, Iron sheets and labour so that we can build a big building. All community leaders in the catchment area were given task to mobilize their community in building the outreach clinic. We have now finished building and that is where outreach clinic are being conducted now. These achievements are all responsibility and commitment of the

	community members. Thus, how the community show how they have received the scorecards process." - Community leader, Lilongwe
Implementation	
Adaptations	"I think maybe with the dramas, at first, they were supposed to just be at the clinic or during a day where the clinics are, since the clinics are in different areas in different days. The thing I think which was introduced was to say that they should not only be doing at the hospital setting, they can also be doing it on market days, or maybe if there's a community, say maybe a community meeting by the chiefs or something like that, that maybe it should not only be hospital-based and that was for the drama. That's something that I remember that was adding it up." Health official, Lilongwe "So, I can say that for each and every intervention, I think over times, ...there were, like, changes which...were made. I'll give you an example of drama. So, dramas, I think when we drafted the schedule from the very beginning, we just see like, okay, so how many outreach per facility, but because of some economic costs, we had to revise to say, we'll be doing five dramas per facility, per quarter. So this was like a change from the initial plan..." - VillageReach
Maintenance	
Strategies for continuity of intervention	"We planned that maybe at the end of the year we would ask them if they would allow us to continue with the dramas. we were waiting for a time like what we have now so that we should share with you. We have videos that need editing, 30 minutes and 1-hour films." - Drama rep, Lilongwe "We will continue performing in walkable distance places but challenge are those places which are far. But for the outreach site that are nearby we will continue because we will be able to walk or use cheap transportation within our means." - Drama rep, Mzimba North "Since, we are working with community members, we have asked community leaders to help us identify other drama groups within the communities so that we may have more drama groups." - Health care worker, Lilongwe " another strategy which we use are using this year is doing agrobusiness where we have secured land to grow groundnuts and maize. We have used the money which we contribute monthly to secure land for farming. We want that the returns from the farming to sustain our operations for the drama" - Drama rep, Mzimba North