Photo: World Vision/Coumba Betty Diallo

AIM Health Plus

Digital Health Brief

4 countries

Mauritania
Sierra Leone
Tanzania
Uganda

1,120* digital tool users

92% community health workers
7% other health workers
1% other user types

149,438* CHW clients reached

55% children ages 0–18
36% adult females
9% adult males

A multi-year digital health experience in four African countries

The Access to Infant and Maternal Health Plus Project (AIM Health Plus) was a health programme operating within the confines of one of the most sensitive and fundamental human experiences—those of pregnancy, childbirth, motherhood and the well-being of mothers and their children during the first 1,000 days of life. Supported by Irish Aid, the programme was launched in 2017, with a mandate to serve this vulnerable population in two communities in each of these four sub-Saharan countries—Mauritania, Sierra Leone, Tanzania and Uganda (see map on page 2). The ultimate goal of the programme was to decrease the number of maternal and child deaths from preventable causes. The set of approaches used by the programme to address this are listed on the back page under *Project Models and Approaches*.

The term *digital health* describes a broad range of information technology, wearable technology or artificial intelligence that work to improve health outcomes. There is growing global evidence that digital health approaches contribute to a range of maternal, newborn and child health (MNCH) outcomes. Potential pathways towards achieving this include improved service utilisation and compliance with follow-up appointments, higher levels of trust and satisfaction with services among clients and efficiency gains in the collection, reporting and timely use of data for decision making. The potential value of these pathways was informally tracked in Sierra Leone and Uganda during a pilot phase prior to 2017.

For AIM Health Plus' digital health component, community health workers (CHWs) were equipped with mobile phones and trained to use a custom application designed with Dimagi's CommCare software to help them as they counselled women and other family members during home visits. The app served as a job aid and tool to help improve the efficiency and quality of CHWs' work. Throughout this report, the mobile phone and app together are referred to as the *digital tool*. The home visits were structured following World Vision's Timed and Targeted Counselling (ttC) intervention. This approach trains CHWs to use evidence-based techniques to coach clients, encourage home-based preventive behaviour and prompt use of the health system when indicated.

CommCare is an open-source digital platform that enables frontline services such as data collection, case management and decision support. It has been deployed by hundreds of NGOs and governments in 130 countries around the globe.

The digital health approach used by AIM Health Plus also can potentially transform health information systems. Improved access to near real-time data at local, district, regional and potentially national levels enables health system leaders to adjust more quickly to changing realities. This emphasis on community health data streams is of increasing importance as health systems work to achieve the United Nations Sustainable Development Goals (SDGs) and universal health care.

This report presents an accounting of the digital health achievements and learnings under AIM Health Plus through the programme's closure in December 2022. Leveraging the longer-standing experience in Sierra Leone and Uganda, both Mauritania and Tanzania launched their digital health component later in the programme period.

Primary digital tool:
CommCare

Years of experience:

3 - Mauritania
Tanzania
5 - Sierra Leone
6 - Uganda

78*
health facilities supported

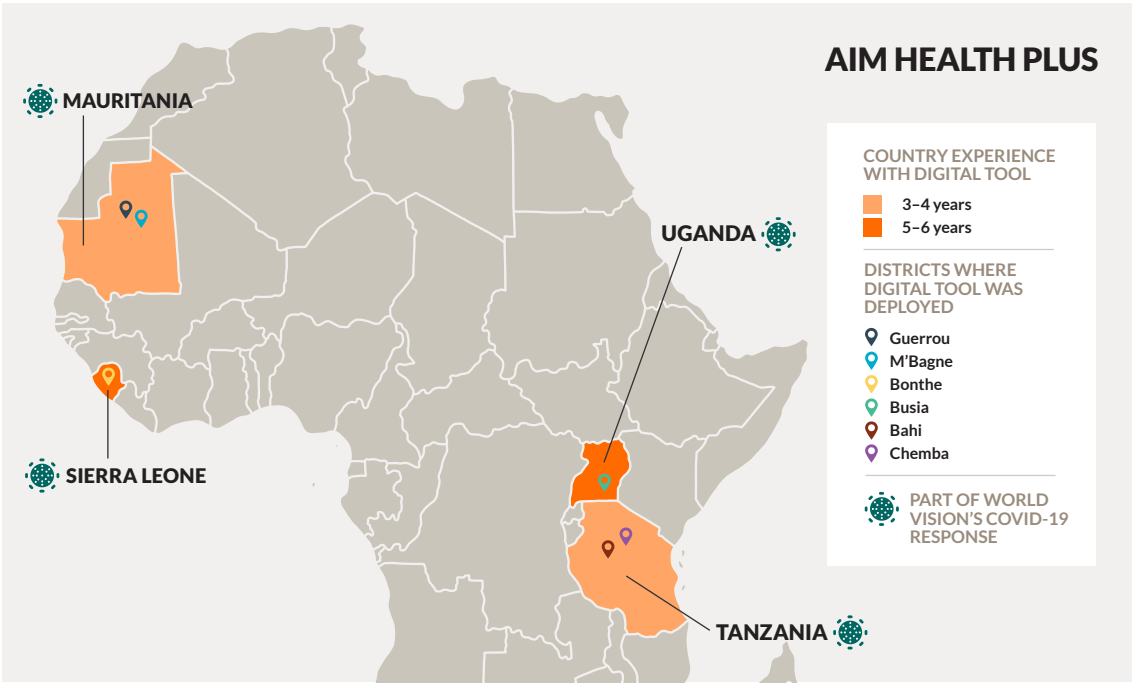
Languages:
Arabic, English, French, Kiswahili, Mende, Peul, Samia, Sherbro

Collaborating sectors:
Child Protection & Participation, Education, Livelihoods, WASH

Strategic imperative:†
Deepen our commitment
to the most vulnerable girls and boys

AIM HEALTH PLUS DIGITAL HEALTH KEY FINDINGS

- CHW clients reported how often a CHW used the digital tool during their home visits—this reflects the *penetration* of the digital tool. There was high penetration among CHWs serving communities in Mauritania, Uganda and Sierra Leone. Lower penetration in Uganda most likely resulted from the project's design. Budget constraints from the outset led to a proportionately limited number of the CHWs in Uganda's comparably larger programme area from being trained and provisioned with the digital tool.
- CHW clients strongly appreciated the routine functionality of a case management digital tool such as CommCare. Clients noted its utility in supporting CHW work, reminding CHWs of appropriate visit timing and facilitating referrals for clinic-based care. Behaviour change communication enhancements (BCC) were less frequently appreciated by clients, but images were noticed more often than audio clips. BCC features of the digital tool appear to have been underutilised for AIM Health Plus in general.
- Client perceptions of the digital tool's merits ranged from positive in Mauritania, Tanzania and Uganda to strongly positive in Sierra Leone. These merits included information sharing between CHWs and clients, client referrals for clinic-based care and confidence and trust in the CHWs who used the digital tool.
- Analysis suggests there is a link between clients that had more exposure to a CHW using the digital tool and better health outcomes. This was seen clearly for complete childhood vaccination and skilled birth attendance in Mauritania and Sierra Leone.
- Programme experiences led to robust learnings. Operations-related learnings highlighted the importance of gender sensitivity, user training, technical support for users, data sharing with supervisors and considerations for supporting technology. Strategic learnings focused on scalability, sustainability, the central role of ongoing partnering efforts and the importance of data alignment.
- The learnings informed the AIM Health Plus teams' recommendations for future digital health programmes. They felt that a robust digital landscape and readiness assessment at the design or start-up stage were indispensable to a programme's success. They also advocated for strong stakeholder communication throughout, especially as a key preventive measure when facing operational challenges during implementation. These and other recommendations address the challenging themes of partnering for scalability, sustainability and interoperability with government health information systems to achieve universal health care.



RESULTS

Extent of Digital Tool Coverage

In the four AIM Health Plus countries, the estimated proportion of CHWs that are users of the digital tool varied. In Sierra Leone, Mauritania and Tanzania, project teams estimated that all available CHWs in the areas where AIM Health Plus was implemented were trained and actively used the CommCare application. In Uganda, this estimate was considerably lower (32%). This was due to budgetary constraints which limited the number of CHWs who could be trained and provided with the digital tool since the Uganda project operates in a comparably larger area.

> ***Whenever she [the CHW] comes to visit, she will use a mobile phone to ask me questions about my pregnancy.***
> —Mother, Mogbamoh village, Sierra Leone

This difference in the coverage of digitally-enabled CHWs helps to explain the **CHW clients' exposure to the digital tool** (Figure 1). This exposure can be thought of as the degree of *penetration* of the digital tool in the programme areas. In countries where this coverage was high, penetration was also higher. The highest level of penetration was observed in Sierra Leone (91%), with digital tool exposure occurring at every or most CHW visits. This may reflect their longer experience with digital health deployments compared to Mauritania and Tanzania. The low level of penetration in Uganda appears to be driven in part by the project's design. For example, approximately 30–40% of their CHWs were equipped with the digital tool in the programme's final two years, which resulted in clients having less exposure to the tool. This would help explain why 43% of the community-based sample reported that they never encountered a CHW using the digital tool.

Client Perception of Tool Functionality

> ***We do not have enough education, but through visual [shown by CHWs] we can easily understand the MNCH services.***
> —Community member, Mundemu village, Tanzania

During the endline data collection, clients who experienced a CHW using a mobile phone were asked to provide their thoughts on the intended purpose of the device. These results are summarised for each country in Figure 2. The two different categories that the CHW clients could choose were classified as either **core case management functionalities** or **behaviour change-eliciting functionalities**.‡

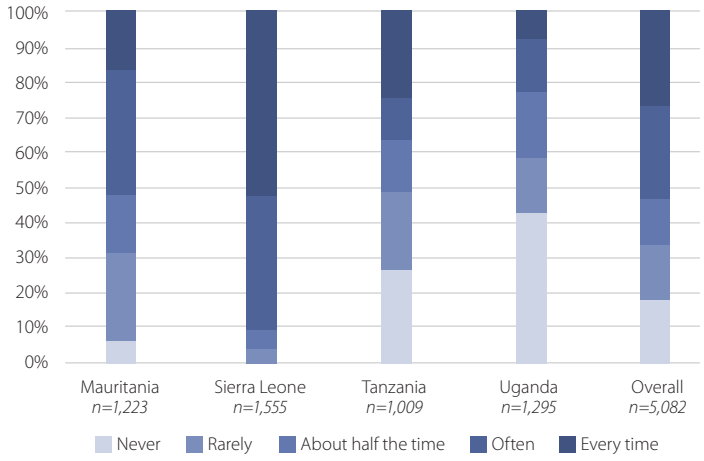
METHODS

The information presented is based on a systematic review of existing documentation. The AIM Health Plus programme's 2018–2022 progress reports and a self-assessment that included the use of World Health Organization's (WHO) *MAPS Toolkit* were foundational to the development of the lessons learned and recommendations that are presented on pages 6–7. This review was supplemented by group interviews with the four AIM Health Plus project teams that helped clarify findings, refine lessons learned and brainstorm recommendations for future projects.

Programme evaluation results were also mined for digital health information. Rounds of community-based data collection to measure outcomes in pregnant women and children under 2 were conducted in 2017 (baseline), 2019 (midline) and 2022 (endline). For each country, information from two project sites have been combined to present country-level estimates only. Unless otherwise indicated, none of the data underwent formal statistical testing.

For the CHW clients' perception of the merits of the digital tool, the data shown is consolidated from an original series of nine questions. By design, these questions were combined to represent the digital tool's ability to support CHW routine work, facilitate the sharing of information, expedite referrals for clinic-based care, help strengthen trust between the client and the CHW and protect the client's personal information. Ultimately, two of these merits were unable to be used due to measurement issues.‡

Figure 1: How often were CHW clients exposed to the digital tool during home visits?

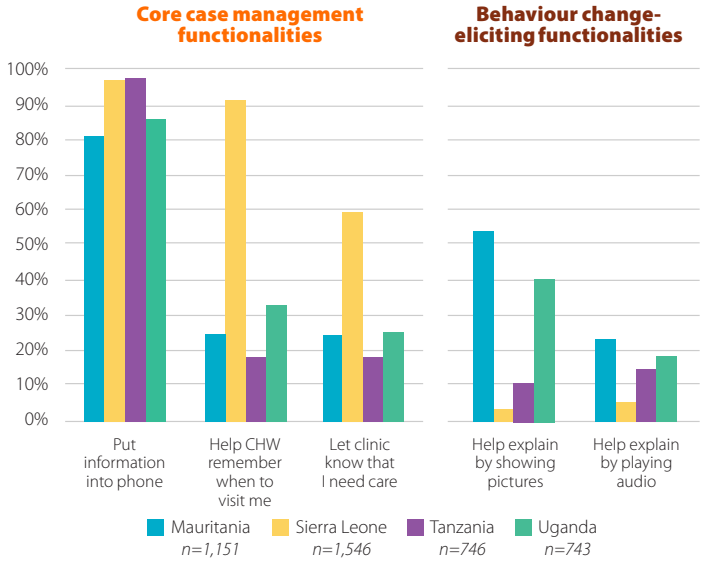


NOTE: *Data shown is from the endline evaluation in 2022.*

Case management functionalities refer to built-in features of the CommCare app that help CHWs properly manage cases from a clinical perspective. For example, if a CHW's client has experienced any of a number of standard danger signs during pregnancy—such as severe headaches—the CHW is immediately prompted to refer her to a health facility. Additionally, the health facility's staff are notified to expect the client's arrival.

Behaviour change-eliciting functionalities refer to the audio and/or video resources embedded within the app that support CHW counselling. For example, if a client has concerns about child vaccination, the CHW can play them an audio clip of a medical professional describing the vaccines' benefits and safety record in a culturally-appropriate way that complements the CHW's guidance.

Figure 2: How did CHW clients view the digital tool's functionality?



NOTE: *Data shown is from the endline evaluation in 2022. Although not formally assessed, differences of ±5 percentage points between countries for each functionality are assumed to be statistically significant considering the sample sizes.*

In all countries, CHW clients strongly appreciated the data entry function of the digital tool (all near or above 80%). The remaining case management functionalities, namely supporting CHW's adherence to visit schedules and enabling referrals for clinic-based care, were appreciated in Sierra Leone to a much greater degree compared to the other three countries.

In general, the behaviour change-eliciting functionalities were not as frequently noticed by CHW clients. Exceptions are seen for Mauritania and Uganda where CHWs who used images to help them communicate with clients were more frequently observed (by 53% and 40% of CHW clients, respectively). CHWs who used audio clips to assist with communication were generally taken less notice of compared to those who used images. Among the four countries, use of audio clips was the most commonly observed in Mauritania (23%).

> ***The workload has been simplified. It has given me enough time to register more mothers a day than before.***
> —Village Health Team member (CHW), Bulekei B village, Uganda

Client Perceptions of the Digital Tool's Merits

The information presented in Figures 3 and 4 is based on a series of nine opinion-related questions regarding the merits of the digital tool (see the *Methods* box on page 3). These questions were asked in Mauritania and Tanzania at endline only and in Sierra Leone and Uganda at all three evaluation timepoints.

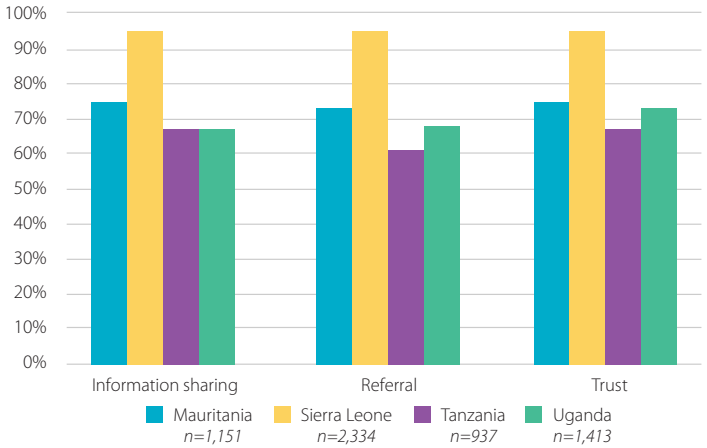
As Figure 3 shows, the ratings of the digital tool's merits were consistently highest in Sierra Leone (>90%), followed by Mauritania (>70%), then Uganda (>65%), and then Tanzania (>60%). Figure 4 displays the perception trend of three potential merits of the digital tool in Sierra Leone and Uganda over a six-year period. These include how the tool reflects **information sharing** between CHWs and clients, client **referrals** for clinic-based care, and confidence and **trust** in the CHWs who used a mobile phone compared to those who did not. For these three characteristics, the trend was generally positive for Sierra Leone. For Uganda, the information sharing merit shows a clear, progressive decline. The Uganda team speculated that in the later years of the project, an increasing number of CHWs used older phones that began to fail. As funds for replacing devices became unavailable, growing numbers of CHWs no longer could use the digital tool to share information with their clients.

> ***Before the arrival of digital health.... There were many challenges to properly measure their [CHWs'] activities. Now we are equipped with [the digital tool] ... which makes our work proud. We obtain on-site data from the CHWs, with the follow-up situation of the visits carried out at our posts. It's a wonderful thing that enhances and complements our work.***
> —Head nurse, Garlol village, Mauritania

Digital Tool's Link with Health Outcomes

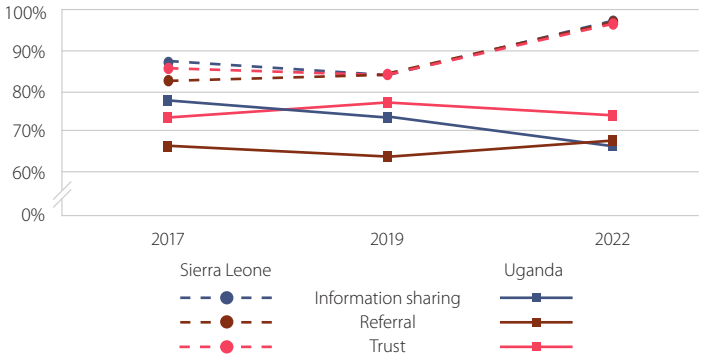
The original AIM Health Plus evaluation design precludes the ability to make a causal link between its digital component and observed changes in MNCH outcomes. Instead, any observed changes only can be linked to the programme's primary intervention approaches (see *Project Models and Approaches* on the last page), as the digital component supported the Timed and Targeted Counselling (ttC) approach that is included as part of the CHW project model.

Figure 3: What did CHW clients think were the merits of the digital tool?



NOTE: *Data shown is from the endline evaluation in 2022.*

Figure 4: How did client perceptions of the digital tool change?



NOTE: *The 2022 sample sizes are indicated in Figure 3. The sample sizes in 2017 were about 100 per country and in 2019 about 500 per country.*

FROM THE FIELD

Mogbamoh community, Bonthe District, Sierra Leone

> ***"Sometimes from the results she [the CHW] gets from the phone, she will advise me to follow her to the hospital at once."***

Margret is a mother of two from Sierra Leone. She shared her experiences with the AIM Health Plus team, detailing her interactions with her CHW, the process of registration, and how she was asked questions and referred to the hospital when needed.

She also spoke about what it was like before the CHWs came, when a lot of women lost their lives in childbirth. The positive change that the CHWs' work has made in her community clearly meant a lot to her, and she was relieved that her and her neighbours' stories have changed for the better.

While her own experiences were positive, she did, however, worry about how it might be once the AIM Health Plus project concludes. She was concerned that pregnant women and children under 5 might "go back to the old difficult ordeal."

For this report, a subset of health outcomes assessed by the programme were selected by considering how strongly they could be influenced by the introduction of a digital tool. These outcomes among mothers or caregivers of children under 2 include: complete childhood vaccination, skilled birth attendance, exclusive breastfeeding and acute respiratory infection. The levels of all four outcomes at the endline evaluation in 2022 are given in Figure 5. Figure 6 shows exploratory analyses of a potential link between clients' exposure to a CHW using the digital tool and these outcomes. If there is an association, clients with more digital health exposure would be expected to more frequently experience positive outcomes.

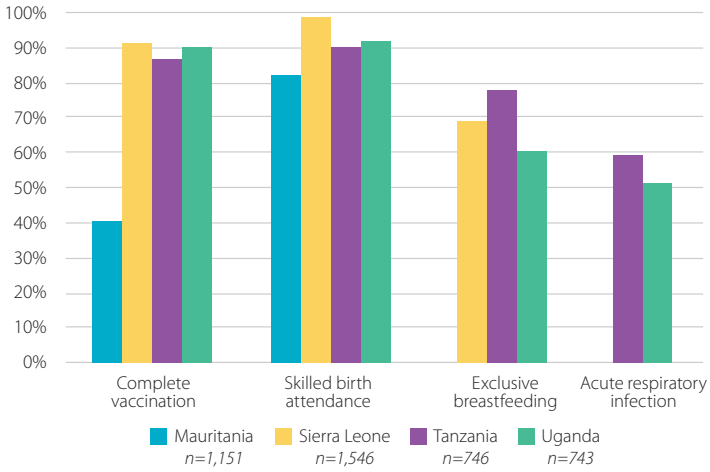
CHWs' encouragement of **complete childhood vaccination** by 1 year of age has been shown to improve child survival by reducing the spread and severity of communicable diseases. As shown in Figure 5, levels for complete vaccination were quite high except for Mauritania (41%), which is low compared to national estimates of vaccination coverage in 2021.[5] The link between digital health exposure and complete vaccination was statistically significant for Mauritania and Sierra Leone, which suggests that higher exposure to a CHW using a digital tool was associated with higher vaccination coverage.** A similar pattern was observed in Tanzania, though it was not statistically significant. The opposite pattern was statistically significant for Uganda.** In addition to the issue of not having the funds to replace failing devices, the Uganda team speculated that obtaining information on digital tool exposure was challenging because of a general suspicion of technology that was not fully addressed through the project's efforts. This may have resulted in client hesitancy to report or a tendency to downgrade exposure to the digital tool.

CHW support of **skilled birth attendance** is key to averting both maternal and neonatal deaths and to ensuring a safe birthing experience. Figure 5 indicates that skilled birth attendance was common, exceeding 80% in all four countries. As with complete vaccination, there was a positive relationship between exposure to digital health and skilled birth attendance with statistically significant results for Mauritania and Sierra Leone,** but not for Tanzania (Figure 6). This supports the idea that as clients' exposure to the digital tool increased, the likelihood of higher levels of skilled birth attendance increased as well. The opposite pattern was seen for Uganda, likely due to the same reasons speculated for complete vaccination.

> ***The municipality of Bonthe is so pleased with the activities of the AIM Health Plus programme. Over the years, we have recorded the highest in terms of maternal mortality [and] child mortality.... World Vision came in timely and helped a great deal [in] reducing the maternal mortality in the Sherbro area [in addition to] reducing the child mortality.***
>
> —Mayor, Bonthe Municipal Council, Sierra Leone

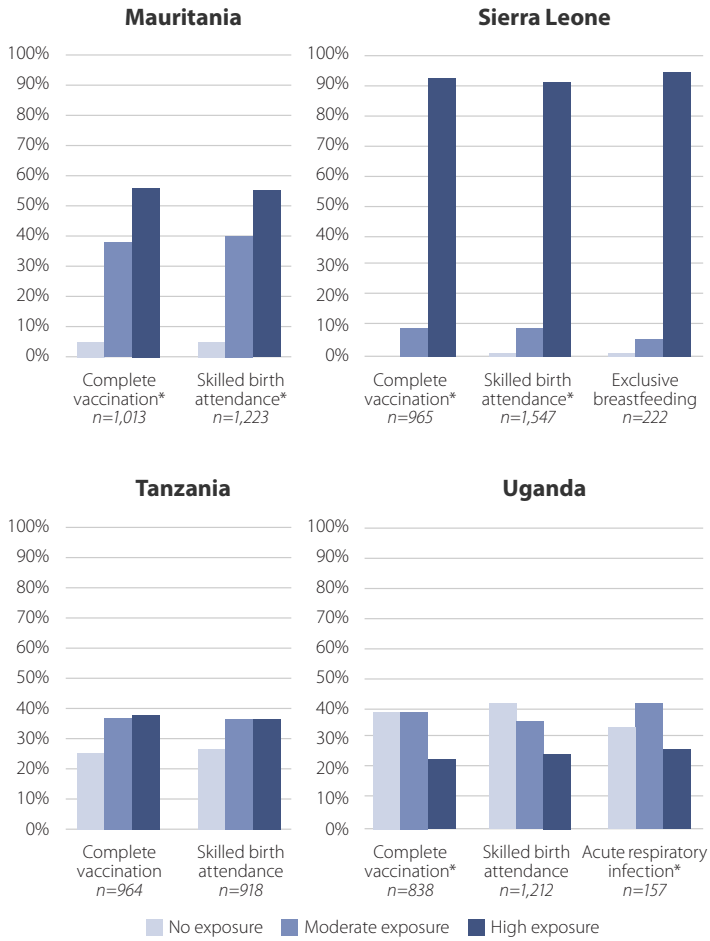
CHWs routinely support **exclusive breastfeeding** of children up to 6 months of age as a preventive behaviour that can save lives by offering newborns natural immunity and ensuring optimal nutrition. In Figure 5, the prevalence of exclusive breastfeeding was moderately high for Sierra Leone, Tanzania and Uganda (ranging from 61% to 77%). In Figure 6, when examining clients' digital health exposure in relation to exclusive breastfeeding, only Sierra Leone had a sample size suitable enough to appreciate this relationship. There was a strong, though not statistically significant, association where the highest levels of exclusive breastfeeding were observed in the high exposure group compared to the moderate and no exposure groups.

Figure 5: What was the percentage of positive health outcomes?



NOTE: *Data shown is from the endline evaluation in 2022. Values for prevalence based on sample sizes less than 50 are not reported.*

Figure 6: Is there a link between client digital tool exposure and percentage of positive health outcomes?



NOTE: *The asterisk denotes a statistically significant difference ($p<0.05$) in the percentage of positive outcomes experienced by clients across the three levels of digital tool exposure. Data is not reported for cases where a country had fewer than 100 respondents providing information on both digital health exposure and health outcomes.*

CHWs are uniquely positioned to identify **acute respiratory infection** and refer for effective treatment, thereby addressing one of the top three killers of young children globally. Figure 5 indicates moderately high (>50%) levels of this measure for Tanzania and Uganda. Though speculative, these results may have been negatively affected by the COVID-19 epidemic to a greater degree than the other indicators if caregivers more often preferred a no-contact approach when attending to this illness. The ability to study the link between digital health exposure and an adequate response to acute respiratory infection (Figure 6) was limited by the sample size because of the narrow timeframe used to capture this outcome.[††] Only in Uganda did analysis reveal a statistically significant negative association.[**]

LESSONS LEARNED AND RECOMMENDATIONS

> ***At the beginning several challenges existed—the connectivity and the use of the system—but all these barriers did not prevent AIM from going after the implementation.***
>
> —Head nurse, Kamour village, Mauritania

The following are lessons learned and recommendations from the AIM Health Plus teams. The lessons learned are derived from ways that the teams creatively improved the digital tool's deployment when faced with challenges and are based on experiences shared by two or more countries. The recommendations informed by these lessons, wherever possible, also consider the project lifecycle and the ideal timing to make them the most useful for future digital health projects.

FROM THE FIELD

Aly Baydi village, M'Bagne District, Mauritania

> ***"We thank God since the arrival of these phones. It is better than papers, which are destroyed by children, goats or water."***

Fati, a CHW from Mauritania, spoke of the practicalities and sense of accomplishment her mobile phone provides. She said she and her fellow workers are enthusiastic to know that the information they collect is seen by the AIM managers, nurses and the Chief Medical Officer.

Moving from paper to digital, she said, had a range of benefits. At a practical level, she found it much better because carrying a phone is more practical, and paper documents are more susceptible to damage.

At a family- and community-level, she says, the phone created lots of excitement: women were delighted to be registered by phone—everyone wanted to be the first, and even husbands encouraged their wives to register.

She also was reassured that the collected data is safe and was stored in a secure way that protected it even if there were a problem with her phone—assurances that she then experienced first-hand. "My phone was spoiled. I was afraid of losing all my data, but ... when World Vision bought me a new phone ... all my data reappeared."

Train and support digital tool users

LESSONS LEARNED	RECOMMENDATIONS
▪ While other characteristics such as community-level influence make them ideally suited to participate in a digital health project, many **users**—particularly older ones—may have **little or no prior experience** using a mobile device, much less a smartphone. ▪ **Extra support** may be needed for some users as they learn to fully utilise the digital tool. Illiterate users most likely will require **additional long-term support**. These users are most often female due to the literacy gender gap that exists in many countries.	▪ From the outset, design **training events** with a sufficiently slow pace for all users to become comfortable with the full range of the digital tool's functionalities. Consider the experience levels of the project's potential digital tool users when designing the training. ▪ During a project's initial development, create a **participatory learning process** with community stakeholders that continues throughout the project lifecycle. These efforts can facilitate agile remedies for a wide range of operational challenges and address community-level suspicion or hesitation related to technology. ▪ Ideally, offer twice-yearly **refresher training** for digital tool users. This helps ensure that users joining the project later on receive adequate training. It also gives experienced users the opportunities to refresh their skills and support newer users. ▪ Identify **locally-available basic (level 1) technical support** to help users overcome common challenges with using a digital tool. One way to do this is to recognise the project's more tech-savvy participants and leverage them to help build their peers' capability over time. As a last resort, teachers, government officials and other community members also may be able to provide basic technical support.

Take a gender-sensitive approach to digital projects

LESSONS LEARNED	RECOMMENDATIONS
▪ The impact of introducing technology into a community can greatly affect **gender-based** dynamics. Project teams learned to monitor this dynamic and respond on an ad hoc basis, primarily by engaging community stakeholders and leaders.	▪ Track **gender-based harms** systematically throughout the project lifecycle. When detected, act following a protocol that uses safeguarding principles and anticipates the existing community resources that can support or lead this work. ▪ Consider how technology design and methods of deployment can **address potential gender issues** as a preventative measure.

Choose and design supporting technology carefully

LESSONS LEARNED	RECOMMENDATIONS
▪ In geographically-remote areas, mobile devices with store-and-forward capability can be useful. However, this is not possible for many lower-end phones with **limited memory**. ▪ Budgets were limited and the need to **replace lost, stolen or defective mobile devices** was an ongoing challenge. When a CHW must return to paper-based record keeping either due to mobile device loss or temporary technical challenges, this can demotivate their continued use of technology. ▪ **Charging devices** remains a challenge in remote areas. Many community-charging options also carry the risk of SIM card theft. ▪ The **needs of some users**, such as the CHW supervisors, were not fully met by the digital tool.	▪ Consider procuring smartphones with **expanded memory capacity**. ▪ Carefully assess and plan for the additional **risks that the visibility of these devices** can bring to their users, including theft and suspicion by some community members. ▪ Ensure that projects develop policies to govern **mobile phone ownership** and establish budgets that anticipate the **cost of replacing** mobile phones approximately every three years. Also, set aside a surplus minimum number of mobile phones to replace faulty units during the project period. ▪ Consider procuring **power banks** as a stop-gap measure. ▪ Explore using community-level distributed **solar charging**, as it is currently the best long-term option. ▪ **All users should be considered** when developing requirements for the digital tool's design. This should be **supported by training** that addresses the key features and functionality each role should utilise to maximise the tool's ability to support their work.

Nurture partnerships

LESSONS LEARNED	RECOMMENDATIONS
▪ **Turnover in technical or strategic leadership** roles at World Vision or at a country's Ministry of Health is an impediment to the effective and productive partnering that enhances the potential scalability and sustainability of a project with digital components. ▪ While **handover of all digital resources** to the Ministry of Health is the goal for most World Vision digital health projects, this outcome is highly dependent on partnering efforts. ▪ The **value of digital health programming** is most apparent when data quality improves and accessibility by local stakeholders is evident. Teams found the *MAPS Toolkit* exercise to be a helpful resource when assessing progress towards interoperability and sustainability. Demonstrating the contribution to achievements against health or nutrition outcomes is more challenging.	▪ Maintain a **focus on partnering** throughout a project's lifecycle, as this is fundamental to its potential scalability and sustainability. ▪ Mitigate the effect of the **turnover of key project staff members** by implementing a dedicated handover period whenever possible. ▪ Develop a **partnership plan** with milestones that show the maturity of relationships. Systematically anticipate leadership changes at partner organisations that can stall or derail the shared vision or action. ▪ When **handover of digital resources** is not viable, explore alternatives such as leaving the project's available digital equipment and resources with the local community or facilitating the migration to other digital tools before the project closes. ▪ Align the project's **digital return on investment (ROI)** with the country's national digital health strategy and defend its utility by using existing evidence. At the design stage, consider practical yet rigorous ways to measure the contribution of the digital tool to the project's overall success and use this to further justify the project's ROI. ▪ Cultivate a **shared vision for sustainability** with the Ministry of Health and other partners throughout the lifespan of the project. A comprehensive readiness assessment can outline the starting point. ▪ Leverage existing resources such as the ***MAPS Toolkit*** to guide programme improvement towards interoperability and sustainability. ▪ Consolidate **monitoring and evaluation insights** to highlight the benefits of investing in digital health.

Build towards interoperability

LESSONS LEARNED	RECOMMENDATIONS
▪ Government commitment to **community health data streams** aligned to the SDGs can be unclear. This is a barrier to achieving interoperability. ▪ Another key stumbling block to **interoperability** is not understanding how the information being collected aligns to local or national government needs throughout the project's lifecycle.	▪ During design, pilot or initial project deployment, invest in a robust **digital landscape and readiness assessment**. Map staff capability while being mindful of the unique skill sets required to successfully execute these programmes. ▪ Undertake **focused advocacy** work to bring **community health data streams** to fruition. ▪ Assess **indicator and data alignment** at key points in the project to continually justify and reinforce how community health data complements clinic-based data and helps make progress toward the SDGs and achieving universal health care. ▪ Assess **data security** challenges that need to be overcome when considering interoperability.

> ***We would like the support of the Ministry of Health so that we continue to support health posts and with the follow-up of our women and children thanks to this digital health.***
>
> —Relay (CHW) from Diock village, Mauritania

ACKNOWLEDGMENTS

The AIM Health Plus programme extended over a six-year period. The contributions of these World Vision staff members past and present are gratefully acknowledged. The managerial, technical and strategic leadership of these individuals assured that the digital health work flourished.

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PROJECT MODELS AND APPROACHES[‡‡]

CORE
- Community Health Committees (COMM): *Primary intervention approach for AIM Health Plus*
- Community Health Workers (CHW): *Primary intervention approach for AIM Health Plus*
- Positive Deviance Hearth Plus (PDH+): *Sierra Leone*

ADDITIONAL
- Grandmother-inclusive Approach (GMIA): *Mauritania, Sierra Leone, Uganda*
- Health Facility Strengthening
- Nurturing Care Groups: *Uganda*
- Women, Adolescent and Young Child Spaces (WAYCS): *Uganda*

ENABLING
- Channels of Hope (CoH): *Sierra Leone*
- Citizen Voice and Action (CVA): *Primary intervention approach for AIM Health Plus*

DIGITAL TOOLS AND TECHNOLOGY PARTNERS

PRIMARY DIGITAL TOOL
- CommCare

ADDITIONAL DIGITAL TOOLS
- District Health Information Software 2 (DHIS2): *Uganda*
- KoboToolbox: *Uganda*
- Open Data Kit (ODK): *Tanzania, Uganda*
- Power BI

TECHNOLOGY PARTNERS
- Dimagi
- National Telecommunication Commission (NATCOM): *Sierra Leone*

MOBILE NETWORK OPERATORS
- Mauritania: Chinguitel, Mattel, Moov Mauritel
- Sierra Leone: Africell, Orange
- Tanzania: Airtel, Halotel
- Uganda: Airtel, MTN, Safaricom

STAKEHOLDERS

GOVERNMENT PARTNERS
- Ministries of Health, including targeted programmes such as sanitation and social welfare in Mauritania, Sierra Leone, Tanzania, Uganda
- District and local governments, health management teams and community health committees

NON-PROFIT AND NON-GOVERNMENTAL ORGANISATION PARTNERS
- Action for Wholistic Empowerment (AWE-SL): *Sierra Leone*
- Advocates for Sustainable Health and Wealth in Africa (ASHWA): *Uganda*
- Association Terre Espoir pour le Développement (ATED): *Mauritania*
- Community Advocacy and Development Agency, Sierra Leone (CADA): *Sierra Leone*
- Community Empowerment for Sustainable Development Tanzania (CESuDe-T): *Tanzania*

WORLD VISION PARTNERS
- World Vision Ireland
- World Vision Mauritania
- World Vision Sierra Leone
- World Vision Tanzania
- World Vision Uganda

FUNDING PARTNERS
- Irish Aid (Government of Ireland)

CONTACT

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* This information refers to the period October 2020–September 2021.
† Strategic imperatives are key elements of World Vision's *Our Promise* strategy.
‡ Although five categories of the digital tool's merits were captured, two were dropped (*how tool supports CHW work* and *data protection*) due to measurement error.
§ Mauritania's national estimates of vaccination coverage in 2021 were 68% for the third dose of Diphtheria Pertussis Tetanus (DPT) vaccine and 63% for the first dose of measles vaccine. Source: https://immunizationdata.who.int/pages/profiles/mrt.html. Accessed on 7 December 2022.
** Where statistically significant differences in a health outcome across the three digital health exposure groups are indicated, the p-value was below 0.05. The p-value for the association with the following health indicators was below 0.005: skilled birth attendance in Mauritania and complete vaccination in Sierra Leone.
†† Following global standard indicator definitions, caregivers were asked to give information about care-seeking and treatment if their child was ill with respiratory symptoms in the two weeks prior to being interviewed.
‡‡ These classifications have been defined organisation-wide by World Vision.

Irish Aid
An Roinn Gnóthaí Eachtracha agus Trádála
Department of Foreign Affairs and Trade

D4D DIGITAL FOR DEVELOPMENT

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For more information: https://www.wvi.org/digital-health