



PERFORMANCE MANAGEMENT GUIDE BOOK

How Living Goods Optimizes Community Health Systems

Acknowledgments

This guidebook has been developed through a collaborative process with expert teams at Living Goods. The research that supported this documentation was provided by subject-matter experts and the critical details that enriched the narrative were obtained through interviews with internal teams. We also acknowledge the [World Health Organization Guidelines on Health Policy](#)

[and System Support to Optimize Community Health Worker Programmes](#) which was reviewed alongside various reports and other documents.

The senior management team at Living Goods initiated this project and was particularly supportive in providing the guidance and coordination required for a successful documentation process.

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Introduction

About Living Goods

Across sub-Saharan Africa and other low- and middle-income regions, public health facilities struggle to be effective given the constraints of overstretched public funding, insufficient medical staffing, and the challenges of reliably stocking a supply of quality medicines. The high cost of essential medicines at private hospitals and pharmacies also often pose a barrier for families, as does the prevalence of counterfeit medicines. Health facilities are often difficult to access due to poor infrastructure, extreme weather conditions, and long queues.

As a result of these (and other) challenges, more than three million children die annually from treatable conditions like pneumonia, diarrhoea, and malaria¹ because of geographical inaccessibility, poor supply chains, insufficient follow-ups and referrals, and low-quality drugs.

¹ <http://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality>



**17,000-19,000
Lives Saved**

Living Goods estimates the CHWs we support doubled the lives they saved from 2019 to 2020 and filled key health system gaps due to effective performance management and other program adjustments we made.

Effective community health programs save lives. Living Goods leverages a powerful combination of catalytic technology, high-impact training, and quality treatments that empower government community health workers (CHWs) to deliver quality primary healthcare to their neighbours' doorsteps. These CHWs also earn meaningful compensation and enhance their stature in the community, reinforcing a cycle of trust.

Living Goods focuses on driving systemic change, partnering with governments and other organizations to transform access to primary health care for mothers and children. We put patients first and strive to create a world in which every mother gives birth safely and no child dies from an easily treatable-or preventable-disease like malaria, pneumonia, or diarrhoea. We believe universal health care is possible when CHWs are equipped to serve as the engine for stronger health systems.

| | |
|----------------|--|
| Mission | Living Goods saves lives at scale by supporting digitally-empowered community health workers who deliver care on call, <i>making it easy for families in need to get the care they need.</i> |
| Vision | Living Goods envisions a world where every family can easily access the healthcare they need to survive and thrive. |

Values



Put Families First



Make No Small Plans



Drive Towards Sustainability



Be Inventive and Adaptive



Master the Art of Collaboration

| Strategic Objectives | Scale our Impact | Strengthen our Impact | | Spread our Impact |
|--|--------------------------------------|--|--------------------|---|
| Strategic Goals <small>(2021 Big Wins)</small> | Deliver High-Quality Health Services | Drive Community Health Digitisation in 3 Countries | | Increase Prioritisation of Community Health |
| Strategic Enablers | Great Teams | Strong Organisation | Strategic Planning | Secure Funding for Success |

Objective

These guidelines are written as recommendations for program managers and implementing teams at Living Goods, highlighting key enablers and principles for building a successful, quality and resilient community health program. This document provides operating procedures for CHW selection, training, motivation, supervision, incentives, and equipping with requisite tools and essential medicines.

Drawing from the experiences of CHWs and their supervisors in Kenya and Uganda, the organization has documented the core elements of data-driven performance management, incorporating evidence and case studies.

Performance management for community health programs drives effectiveness of CHW networks to deliver better outcomes, improves motivation and reduces attrition, and ultimately yields a high return on investment.

Overview of the DESC framework

The **DESC framework (Digitally Enabled, Equipped, Supervised, and Compensated)** provides parameters for designing and institutionalizing high-impact community health system and is directly linked to WHO community health guidelines and Community Health Impact

Coalition (CHIC) Principles, and is aligned with other community health practitioner experience. This framework is a strong driver of Living Goods' theory of change based on our key priorities of reducing under five (u5) and maternal mortality in alignment with national guidelines and protocols.

Figure 1: An overview of the DESC framework



Several key steps are involved in the CHW performance management process to enhance CHW efficacy and improve community health systems. The core components include:

Figure 2: The CHW performance management process



ELEMENTS OF PERFORMANCE MANAGEMENT TO OPTIMIZE COMMUNITY HEALTH SYSTEMS

1

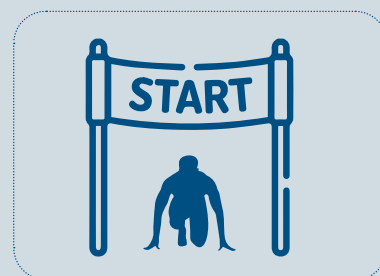
Equip CHW Selection

Definition of CHW selection

Community health worker selection refers to the process of identifying target communities from which to recruit CHWs using standardized criteria. The process includes administering literacy and numeracy exams, assessing community membership and acceptance, and conducting character assessment interviews. Candidates scoring the highest marks are then invited to attend a pre-service training and will have to pass a competency-based certification at the end to then become a certified CHW.

Importance of the CHW selection process

CHWs are critical to the primary health care system. The nature of their work depends on a unique skill set: a combination of community connection, the ability to learn and practice new technical skills competently and motivation to make a difference in their community. A good selection process ensures that CHWs can learn important health skills, build rapport with communities, and engage household members for the effective delivery of health services.



Start well

- Use evidence-based criteria.
- Engage key stakeholders: local government representatives and communities.
- Follow through process.

CHW selection process

Two modes of CHW selection exist: selecting from a pool of government-recruited CHWs and/or recruiting candidates referred from the community who are then assessed, interviewed, and examined with the best performers selected as CHW for pre-service training.

In both modes of selection, it is important to set expectations and clearly explain the role of the CHW: the CHW does not replace the health facility worker but rather provides frontline care to households by assessing, diagnosing, and treating common illnesses, while referring complicated cases for care at health facilities.

1. Selecting CHW from a government pool

In this mode of selection, the Living Goods team works closely with Ministry of Health teams to recruit trained CHWs from the government pool for a specific geographic region. It is important for the Living Goods team to discuss the key roles and responsibilities of the CHWs to ensure that those selected understand the expectations of the role and can fulfil them per the guidelines. The Ministry of Health will then provide CHWs who will be trained with support from Living Goods on community health care and the use of mobile health applications on a basic smartphone.

2. Selecting CHW from the community

The process of selecting CHWs from the community is a comprehensive process that aims to mitigate attrition by ensuring the right CHWs are selected based on evidence of what works. (See figure 3) Candidates who pass the initial screening are selected for pre-service training. CHWs then become government CHWs.

Selection criteria

Optimizing CHW performance starts with recruiting fit-for-purpose candidates that meet criteria backed by evidence. Two research reports from Kenya (*The Perfect CHW* and Uganda (*Community Health Worker Attrition in Uganda*) revealed the most important criteria for selecting effective CHW. (See Table 1). These recommendations highlight basic literacy and numeracy skills and strong community ties as some of the most important criteria for a good CHW. This corroborates WHO guidelines, which similarly recommend a minimum education level, and acceptance in the community based on a track record of integrity.

Table 1: Recommended Criteria for CHW Selection

| Criteria | Importance |
|--|--|
| Social ties in the community (e.g. resident for at least 2-5 years) | Community acceptability builds goodwill and relationships necessary for offering health education and services |
| Age group 30-55 years | Candidates below 30 years are likely to drop out due to migration, or new and more profitable opportunities |
| Local language fluency | Ease of communication with community members |
| Completion of primary school with basic numeracy and literacy in English | Enables absorption of detailed medical information More effective learning of smartphone functionality and digital health apps |
| Gender (Male vs Female) | Women tend to be primary health care givers, spending more time with children and, in the socio-cultural context, women feel more comfortable discussing health issues with women. (More than 90 percent of Living Goods-supported CHWs in Uganda are women as are more than 70 percent in Kenya.) |

Figure 3: The process of selecting CHWs from the community





CASE STUDY

EVOLVING CHW SELECTION CRITERIA IN LIVING GOODS KENYA AND UGANDA

Situation

The CHW selection process is a critical activity for Living Goods (in partnership with local governments) as it determines the ability of each CHW to learn health skills, retain knowledge, and apply those skills and knowledge in the effective provisioning of health services. Although Living Goods initially recruited based on assumptions about desirable criteria for selecting successful CHWs, the desire for continuous improvement of CHW performance and increasing cases of attrition encouraged Living Goods to review this approach to refine the selection criteria that would improve the efficacy of CHW and mitigate attrition.

Key task

Living Goods conducted an analytical study² of 710 CHWs in Kenya (Kiambu and Kisii Counties), identifying their demographics and general characteristics with a focus on performance based on gender, age of cohorts, and interview score. CHW selection research is a key WHO recommendation for building a strong evidence base for appropriate selection criteria.

Actions taken

- Data of CHWs who had graduated by December 2016 were reviewed
- Identified demographic and general characteristics
- Assessed health data spanning 12 months.

Results

The results conclusively revealed the importance of gender and age as key criteria determining CHW performance. (See table 2)

Table 2: Comparison of CHW performance against selected criteria

| Gender related | Age |
|---|---|
| There was a higher proportion of active female CHWs compared to male CHWs | CHWs above 60 years registered significantly more pregnancies per month |
| Pregnancy registrations per CHW have been higher for women than men | 30-39-year-old CHWs had higher u5 assessments per month. |
| Female CHWs assessed more u5s; | |
| Post Natal Care (PNC) follow-up was higher among female than male CHWs. | |

² CHW profile, analytical research based on monthly performance data and CHW recruitment data, Kenya, Dec. 2017

Additionally, on age considerations, technical leads in Kiambu and Kisii Counties in Kenya highlight their experiences in recruiting younger CHWs in 2015. In Thika, an urban town in Kiambu County, a selection of CHWs from the community resulted in a cohort largely below 25 years. The team observed that although this cohort was very adept in learning how to use the smartphone to offer health services, rates of attrition were high. Younger CHWs often left to pursue higher education, better-paying opportunities, and migrated for marriage.

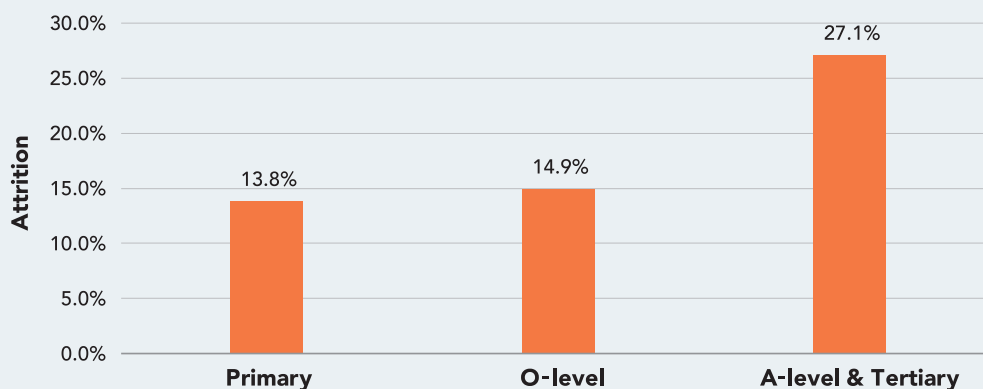
In Uganda, a study on attrition³ based on 1,170 CHWs, program data from 2016 - 2018 corroborated the findings around age considerations in Kenya, noting that CHWs younger than 35 years were three times more likely to drop out of the CHW program compared to other age ranges.

“ These younger CHW were very active in their communities, and would offer very good services to clients when they wanted. However, they were also restless, argumentative, and did not like being closely supervised. They were always looking for other jobs where they could earn more money, and many left the town to upgrade their skills. ”

- Key informant, Kenya

Age aside, CHWs in Uganda who received more than five years of post-primary education (A-level) were twice more likely to drop out compared to those with lower education levels. (See figure 4)

Figure 4: CHW attrition vs highest level of education⁴



³ Community Health Worker Attrition in Uganda: A Study of Living Goods. 2018.

⁴ SmartHealth App data collected between 2016 to 2018.



Principles for effective CHW selection



Partner with government in the selection process, which builds government ownership of CHW performance, including their integration into the formal health systems. Government involvement is considered advantageous because it ensures the right resources are availed, validates the CHWs to community members, and also provides a strong support system for capacity building, compensation, and career progress.



Engage communities in all key CHW selection activities to build rapport with the community and better understand their health needs. For example, engaging the community representatives during mapping and referral activities builds community confidence in the selected CHWs.



Carefully map locations for CHW selection. This includes understanding factors such as population, density, groupings, and epidemiology to ensure that the right resources are allocated to appropriately chart the CHW workload and to allocate the right resources to support CHWs in improving their community's health. A good mapping process ensures that the selected geographical area of implementation has enough villages and households for CHWs to support and meet their performance targets. CHWs will also be motivated to visit more households when villages are close to each other due to lower transportation costs. It is therefore important for the recruiting team to balance distance and number of households available.



Use digital data collection tools and evidence-based criteria during all key activities to ensure good CHW outcomes based on the insights provided by quality data. For example, Living Goods uses the Training Recruitment Expansion and Mapping (TREMap) application during location mapping (area screening form), recruitment (to capture CHW biographical data and interview scores), and to develop a scoring tool shared with the recruitment team to guide the final selection of CHWs for training. Digital tools quicken the recruitment process as data can be reviewed simultaneously by multiple teams, to provide insights on recruitment decisions and standardize scoring. For Living Goods, using a tool like TREMap also supports efficient backfilling when CHWs leave, since the tool stores a waiting list of potential CHW candidates and can also be used for other functions like online in-service training.



2

Equip CHW Pre-Service Training

Definition: Pre-service training

Pre-service training is the first training in health service delivery provided to the selected CHWs. Pre-service training requirements differ by country and by health services provided. CHWs supported by Living Goods undergo three weeks of pre-service training.

The importance of pre-service training

WHO guidance recommends CHW training on expected preventative, promotive, diagnostic, treatment, and care services delivered through a mix of theory and practical sessions. WHO also recommends emphasizing the role of the CHW and their linkage to the formal health system to ensure government ownership, sustainability of interventions, and a strong support structure for CHWs.



Provide knowledge and skills

- Beyond training, certify CHWs.
- Build rapport with supervisors from the start.
- Use dynamic training methods.

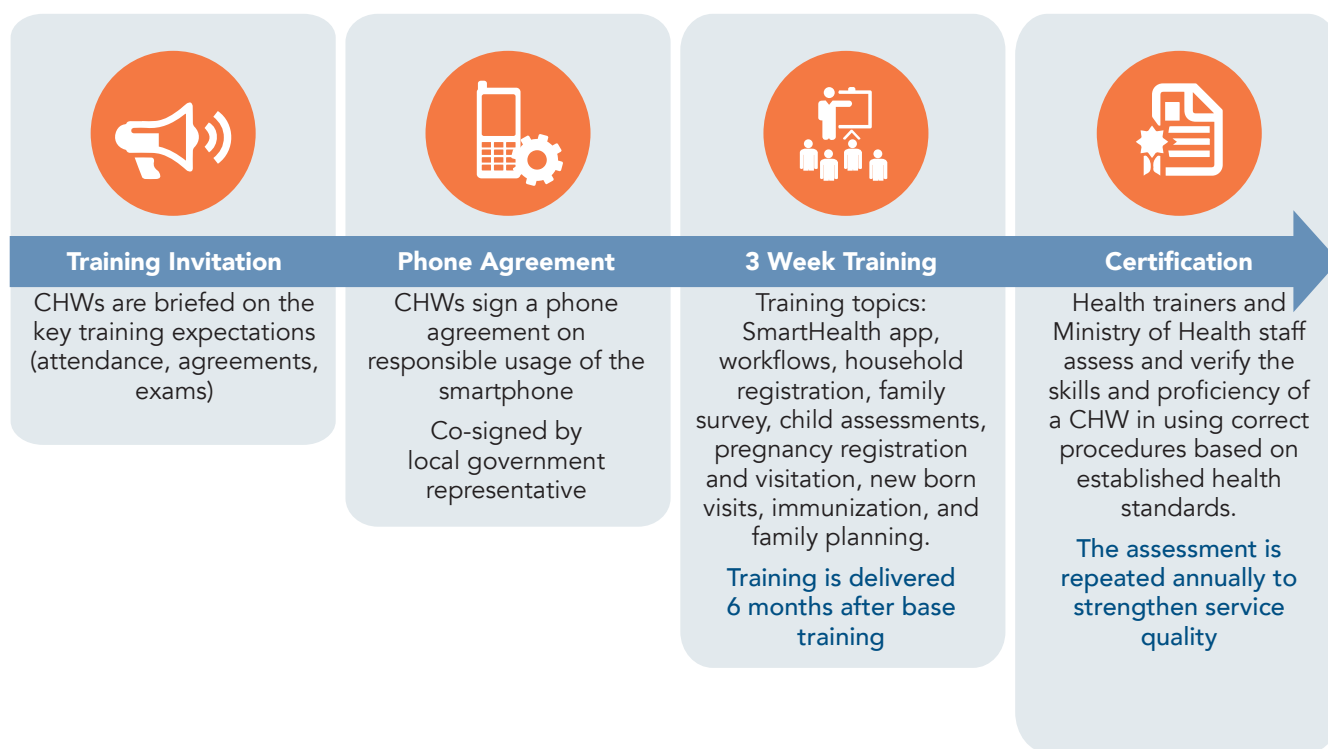
Adequately trained CHWs will acquire competencies to become frontline health workers who effectively deliver health services in their communities through accurate diagnoses and on-site treatment using high-quality medicines. They are also able to refer acute cases to health facilities and conduct timely referrals to ensure a quality continuum of care for their clients.

How pre-service training is conducted

Curriculum content

The pre-service training topics consider the expected CHW roles and responsibilities with a strong focus on using mHealth applications on a basic smartphone. The three-week training by Living Goods uses the Ministry of Health-approved integrated community case management (ICCM) model of childhood illness curriculum and is complemented by Living Goods' content on maternal, newborn care, family planning, immunization, and community nutrition. The CHW curriculum also includes training on drug and equipment storage and

Figure 5: Delivering pre-service training



Pre-service training overview



stocking, personal health safety when handling hazardous materials, and communication and counselling skills.

The use of smartphone-enabled health applications is integrated throughout every training session demonstrating how the Living Goods SmartHealth app can be used for assessments, diagnosis, treatment and follow-ups, and data collection.

A CHW is expected to attend every session including a pre- and post-test, in-class simulation, and a clinical practicum in order to graduate and receive certification. Candidates not completing the training or performing poorly have to retake the practical exam and can potentially be dropped.

Training objective

The training, a combination of theory and practice is based on Ministry of Health guidelines and prepares CHWs to become effective community health workers that are able to conduct:

- Health education and promotion
- Assessments
- Treatments
- Referrals
- Timely follow-ups of clients treated or referred for services at health facilities.

Key training approaches

Classroom based learning:

During class sessions, a number of adult learning methodologies are used to deliver content as outlined in the government-approved CHW ICCM, and Reproductive, Maternal, Newborn and Child Health (RMNCH) training curricula. Storytelling, practical demonstrations, group work, role play, videos, informational slides and workbooks have proven to be the most effective methodologies for delivering health content. The learning sessions are largely conducted in

the local languages, although the SmartHealth interface is in English for both Kenya and Uganda because English provides a known and complete medical lexicon for instruction during CHW on-boarding and operation. Using one common language also reduces the turnaround time needed to deliver and implement changes.

Clinical practicum

The clinical practicum is a practical, day-long session conducted at a health facility within the CHW community. CHWs are briefed on the clinical practicum certification checklist, grading techniques, and key practices that will be observed by the facilitator. CHWs are given instant feedback on their client diagnosis and counselling skills during the practicum.

Simulations

This involves CHWs creating different scenarios for household registration, family planning registration, and pregnancy registration including follow-up before and after delivery. Simulation instills confidence in the CHWs before going to the field.

Household registration

Once CHWs have been trained and passed the certification, they have to go back to their community and register all the households. The purposes of the household registration by CHWs are to:

- census their entire village and record all family members targeted by the program
- introduce themselves as a CHW and pitch the services they can now offer to households.

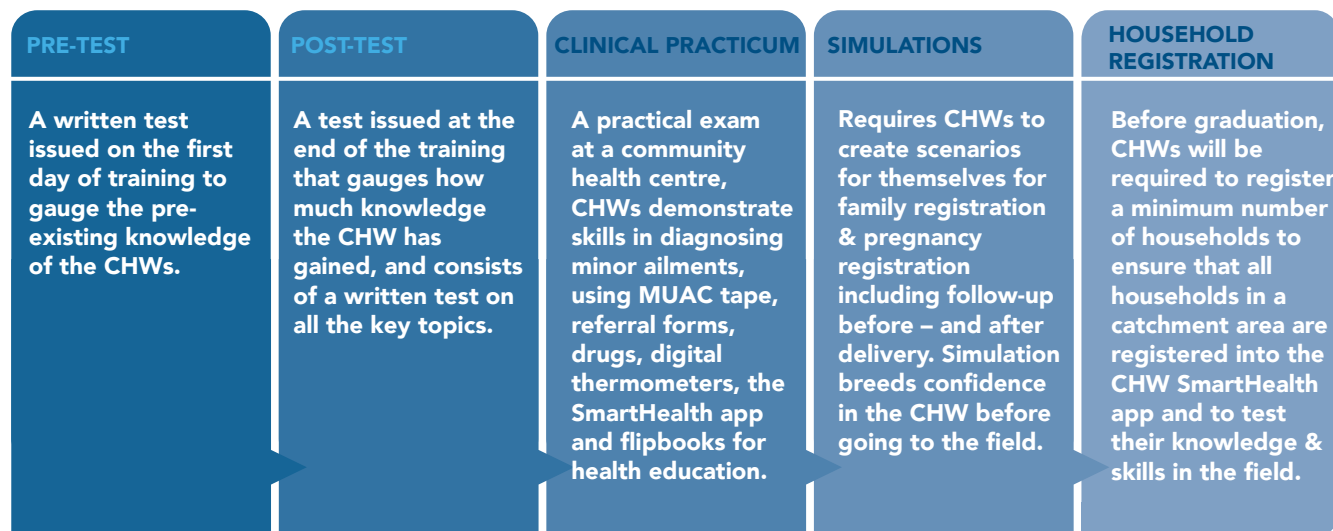
Graduation

Graduation is conducted to celebrate successful training and certification of CHW. It is an opportunity to formalize their start of work in the

community, bringing together the CHWs, their families, local leaders, Ministry of Health officials, and Living Goods staff. During this ceremony,

CHWs will receive their certification as well as a start-up kit with equipment required to work in communities.

Figure 6: The process of certification



Principles for a successful pre-service training

Living Goods considers pre-service training successful when the targeted number of CHWs have been trained and pass with a minimum 85% score and are fully certified to attend graduation and report for duty. Important modalities for pre-service training include:



Collaboration: The involvement of both government and Living Goods in developing training content and jointly delivering it, as well as the certification process, ensures that CHW health learning is aligned to national community health priorities and the achievement of high impact indicators fostering co-ownership of the results. This level of government involvement is motivating for the CHWs and validates their role in the community as credible health service providers.



Certification: Certification processes enables the trainers to assess CHW knowledge acquisition, identify skills gaps, and address them iteratively so that CHWs are fully prepared and equipped to deliver credible health services to communities. The trainer can know which topics require prioritization and which CHWs require extra instructional support.



CHW supervisor interaction: It is also important to ensure that the CHW supervisors interact closely with the CHWs during the training sessions to build rapport critical to the supervisory and follow-up process.



Training evaluations: These should be completed by the CHWs and are important as they provide useful feedback on the quality of the trainers, information provided, and the value of the different content delivery methods to guide future trainings and determine whether the training objectives were met.



3

Equip CHW Contracting

Definition: Community health worker job description and tasks

CHWs work at the confluence of community and formal health care systems and although they may not necessarily be part of formal health systems, it is critical to validate their roles by providing clear job descriptions and tasks. In this contract, specific details about the key tasks of a CHW are provided, ensuring that CHWs understand the demands of the work and can allocate the necessary time for fieldwork, including being fully invested in the pre-service and in-service trainings.

In most countries, the primary roles and responsibilities of a CHW rotate around health promotion, diagnosis, treatment of infant pneumonia, diarrhoea, malnutrition, and malaria, referrals to health facilities, and timely follow-up for postnatal care for mothers and infants.



A real job with a real contract

- Provide job description.
- Define clear duties and policies to ensure accountabilities.

Importance of job descriptions and tasks

Clear job descriptions provide a framework for ensuring CHW compliance with the organization's mission and national standards, and form the basis of monitoring CHW performance. In addition, job descriptions and tasks are key references during the process of exiting a CHW with multiple infractions and ongoing underperformance.

Providing clear job descriptions aligns with WHO recommendations that CHWs should be provided with a written agreement that clearly specifies their role and responsibilities, working conditions, and remuneration.

Process of contracting and exiting CHWs

Following certification and graduation, an agreement is signed between Living Goods and the CHW. The agreement states how Living Goods will support the CHW and how s/he is expected to deliver the work during this engagement. These agreements are co-signed/

guaranteed by a local government leader in the community where the CHW operates. This ensures accountability for performance and confirms the CHW's acceptance and good standing in the community. *(See Annex 1 for a detailed CHW agreement).*

When a CHW underperforms following continuous training, coaching and mentorship, the CHW will be exited through a collaborative process between the supervisor and the local government authorities who will initiate a formal termination and receive back all CHW equipment. The dismissal will be registered and communicated internally to inform the technology support team to delete the CHW data from the SmartHealth system. The dismissal may also be communicated to the subnational health office where applicable.

A survey is conducted for all CHWs that exit to ensure the organization understands the reasons for attrition and captures relevant data to inform the process of managing attrition. There are several reasons for attrition, including CHW choice or circumstances, which should be tracked to continue to reduce attrition and improve CHW support and quality.



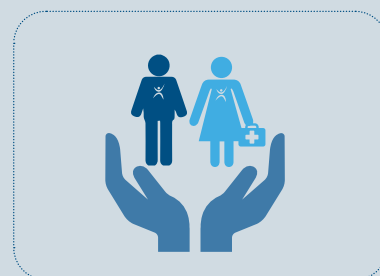
4

Equip CHW In-Service Training

Definition: In-service training

Living Goods conducts in service training for CHWs to support knowledge retention and improve service delivery and performance. The training topics are based on performance gaps observed by the CHW supervisors during fieldwork and data analytics provided by the dashboard. This is also a great opportunity for rewarding and recognizing performance.

During in service training, CHWs have an opportunity to refresh their health knowledge, learn about any changes in Ministry of Health protocols, receive updates on the SmartHealth app, and practice how to use it. It is also during in-service training that CHW performance is reviewed and high performing or most improved CHWs are recognised and rewarded.



Support continuously

- Close knowledge and skills gaps on a regular basis based on needs.
- Recognize and reward CHWs based on performance.

Importance of in-service training

Apart from knowledge transfer, in-service trainings are also used as an opportunity to re-stock the CHW medical supplies kit bag, review the digital application, troubleshoot phone problems, obtain replacements and motivate CHWs to deliver high quality service in their communities. CHWs also get together to share experiences and testimonials of how they solve problems in the community.

This approach of continuous training is championed by global organizations implementing high-impact national CHW programs recommending *“frequent and ongoing in-service training, including modular delivery, in addition to pre-service training and deployment of predominantly practice-based learning techniques.”*¹²

Delivery of in-service training

Supervisors plan and deliver the monthly in-service training, which is a half-day session following a set agenda which includes the following:

- A health refresher training addressing key knowledge gaps and/or updated content.
- Technology guidelines to support CHWs to better use their diagnostic app.
- A review of the CHWs, performance based on set targets, explaining the basis of key performance indicators (KPIs), acknowledging what is working well, what is not working, and emphasising areas that require stronger focus.
- Recognition of strong performers as well as most improved performers, especially because public recognition can be extremely motivating.
- After the training, CHWs have the opportunity to restock with essential medicines.

In-service training is a significant cost and the peer supervision approach as described in section 4 enables optimization of the in-service delivery as well.

¹² Practitioner Expertise to Optimize Community Health Systems, Harnessing Operational Insights: Hope Through Health, Last Mile Health, Living Goods, Muso, Partners In Health, and Possible



Principles for successful in-service training



Needs-based: In service trainings are successful because they are customized to the identified knowledge and practice needs/gaps. This ensures specific skills gaps are being addressed to improve the effectiveness of CHW.



Use data: Sharing CHWs performance (dashboard) is critical so that CHWs better understand their own performance against set targets.



Leverage: Use the in-service training to bolster CHWs, recognize high performers, and reward them with a gift or certificate. This will also motivate other CHWs to work harder to be recognized in subsequent months.



Regular feedback: Many problems affect CHW performance. Provide a platform for CHWs to give feedback, share testimonials of how they solved a problem in the field or a success they encountered. Discuss problems in the community and invite other CHW to share their experiences in managing that problem.



Adequate technical support: Solving technology-related problems including troubleshooting phone problems, updating the software, and continuous mentorship on using specific app features ensures that CHWs are empowered to continue to work, reach their targets, and receive their monthly incentives.



Frequency: Higher frequency of in-service trainings also fosters success given that CHWs are regularly in the field and constantly meet new challenges that need to be addressed promptly through the trainings. If the trainings are too far apart, CHW performance can begin to deteriorate. Monthly in-service trainings are effective as they provide sufficient time to practice new skills but also do not allow too much lag before gaps are addressed.



Short and standardized sessions: While it may seem basic, it is important to follow the training content guide provided by the training experts. Since the monthly sessions are only half a day long, overruns in time will lead to incomplete or rushed training sessions that will not benefit CHWs.



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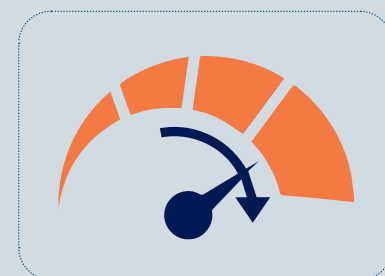
Supervise CHW Supportive Supervision

Definition of a CHW Supervisor

A CHW supervisor is a member of the community health management team who plays a key role in supporting CHWs to deliver high quality health care to their communities. The supervisor provides on-job training, coaching, mentorship, and technical guidance, and monitors CHW performance closely. Supportive supervision is conducted in person or remotely.

Importance of a CHW Supervisor

Supportive supervision is essential to motivate and improve knowledge of CHWs to consistently deliver high quality health care to their communities. WHO guidelines recommend an appropriate supervisor-CHW ratio stating that: *“Supervision that focuses on supportive approaches, quality assurance and problem solving may be most effective at improving CHW performance (as opposed to more bureaucratic and punitive approaches)”*.



Drive performance and motivation

- Use data.
- Optimize digital tools to drive more effective supervision.
- Develop coaching skills in supervisors.

Supervisor roles:

- Provides in-field support to CHWs to ensure delivery of quality services for diagnosis and treatment, referrals and follow ups and provision of medical supplies.
- Motivates CHWs to achieve health targets by regularly reviewing key performance indicators (KPIs) of the supervised CHWs, recognizing strong performers, coaching of poor performers and providing recommendations on rewards, performance improvement, and ensure that some CHWs exit when necessary.
- Guides monthly in-service trainings and re-certification of all CHWs on key components of the curriculum.
- Develop monthly performance improvement plans based on quality control results as well as KPIs. This is a collaborative effort between the CHW, the supervisor, and the quality improvement team.
- Works with the Ministry of Health and the District/County Government including health facilities to collect and record health data, plan health service delivery targets, and benefit

from technical assistance (about, for example, training of CHWs).

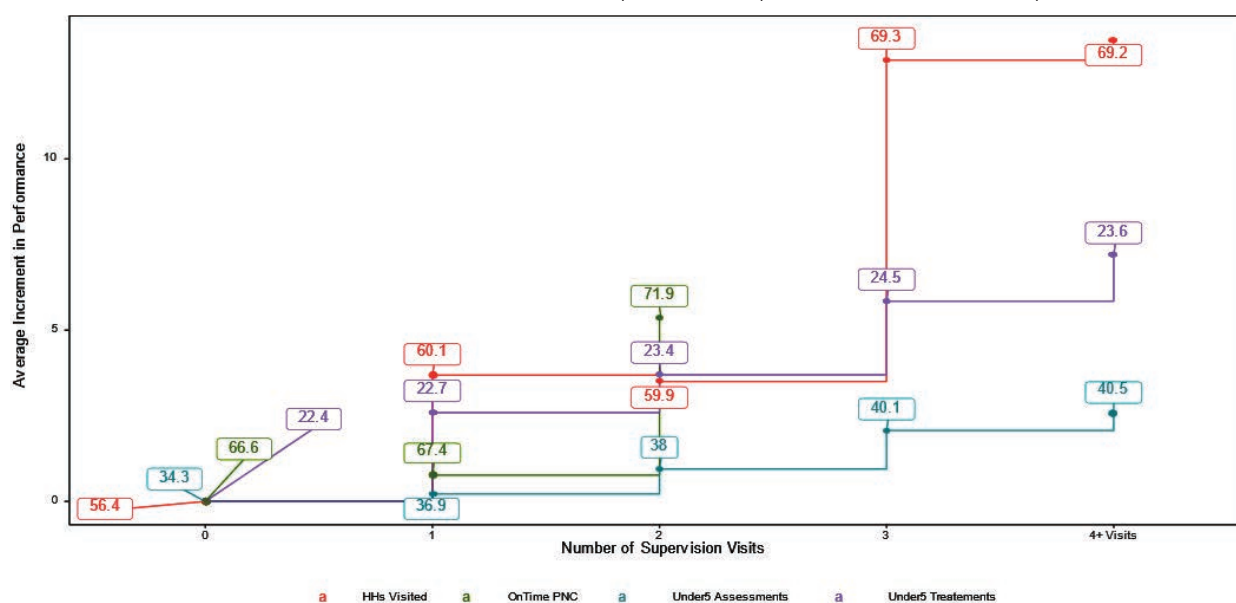
How does supervision work?

To execute their role, supervisors supported by Living Goods use data and performance management techniques to maximize their efficiency and drive greater impact. In particular:

- Supervisors use **dashboard** data on a daily basis to review CHW progress against targets, assess CHW performance and challenges, and prioritise their tasks accordingly. Monitoring the usage of the dashboard itself by the supervisor is particularly important in the early stage of adoption to measure behaviour change. ([Refer to the dashboard section](#))
- CHWs are **categorized** into low, medium, and high performers based on their performance against key KPIs and targets. In Kenya and Uganda, the number of u5 assessments and the number of pregnancies registered drive

Figure 7: The number of optimal visits for performance⁵

No. of optional visits for performance: The first visit significantly drives performance especially for HHs cover and u5 treatments. The second visit drives more of the performance in PNC, and the third visit enables significant improvement in the amount of HHs visited. Beyond the third visit, we see minimal changes across the KPIs performance apart from where 2 visits are optimal.



⁵ Data collected through the SmartHealth App in Uganda between April 2019 and March 2020.

this categorization. This helps the supervisor focus their time more effectively. For instance, a high performer will require less supervisory attention than a middle performer.

- Supervisors use a **supervisor app** to guide them in their work planning and supportive supervision. The application helps them prioritize critical tasks and guides them through a supportive supervision visit with a customized checklist. ([Refer to the app section](#))
- The **frequency** of visits, whether in person or remote, matters. A study conducted in Uganda in 2020 showed that 2 touch points per month is the right level of support to maximize CHW output.
- Finally, and very importantly, visits or calls cannot be effective without **strong coaching skills**. Giving access to coaching training and/or mentorship can enable supervisors to develop their own coaching skills and drive greater impact through CHWs.

Supervision approaches at Living Goods

Living Goods uses both in-person supervision and remote supervision to optimize CHW efficiency. CHWs are supervised closely through

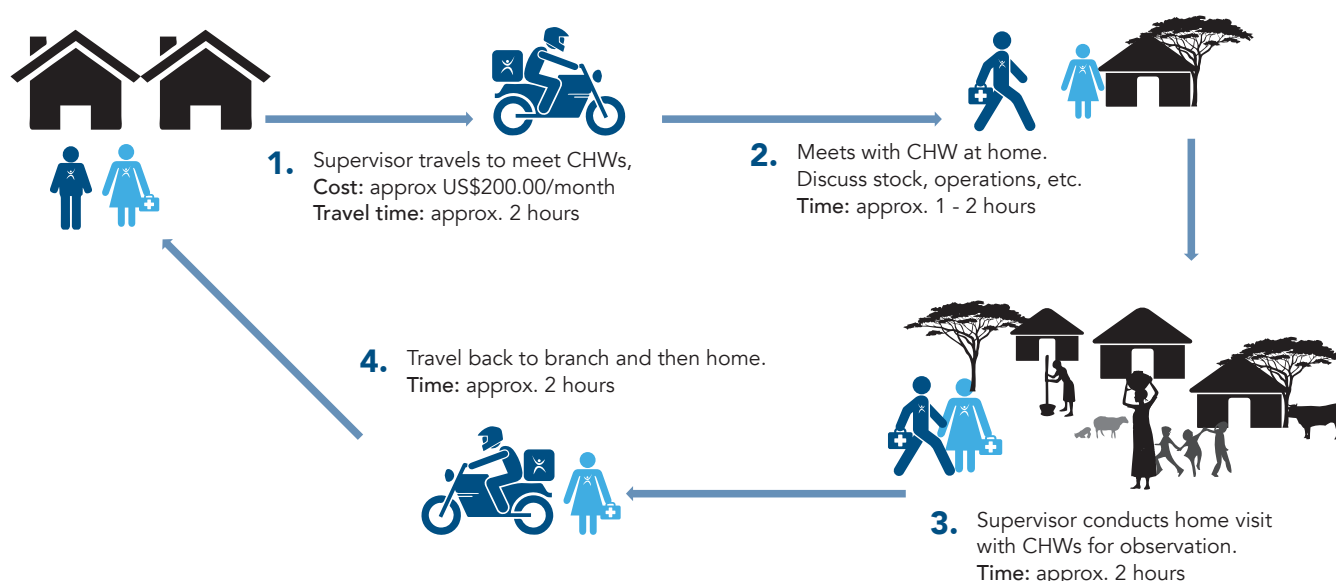
task-based daily checklists, with performance viewed on the SmartHealth dashboard. Daily, documented supervision is at the heart of optimizing CHW performance. Performance data in 2019 from Uganda indicates a positive correlation between routine and frequency of supervision and CHW performance generally; this is true regardless of the form of supervision.

i. In-person supervision

Under the in-person supervision approach, the supervisor visits the CHW in the community, provides technical guidance and checks for adherence to protocol during the provision of community health services to patients, reviews the stock of essential medicines, work activities, the quality of care delivered, and monitors their progress based on their daily task list and monthly targets. The supervisor provides feedback at the end of the visit to support the CHW to improve.

The in-person, supervision approach of Living Goods uses a ratio of 1 supervisor to 30 CHWs. The supervisor carries out field visits with each of the CHWs, coaching, mentoring, and reviewing their performance. (See figure 8)

Figure 8: Schematic of the in-person supervision approach



ii. Remote supervision approach

This approach allows for continuity of service delivery and support supervision in situations where physical supervision is not possible (remote, hard-to-access locations) or is high risk (as

during the Covid-19 pandemic). The pandemic inadvertently triggered the development of more comprehensive protocols and tools under this approach to enable supervisor supervision to CHWs remotely via mobile phones. Guidelines aid the supervisors to check on stock levels, performance trends, mentor and coach CHWs.

iii. Peer supervision approach

In this approach, CHWs in close geographic proximity group themselves into sets of 10 CHWs and choose a supervisor amongst themselves – a peer supervisor. The peer is then able to monitor, mentor and coach other CHWs, without any geographic barrier. To ensure quality control, this peer supervisor, is, in turn, supervised by the main supervisor who checks in on several peer groups weekly. (See figure 9)

The advantage of the peer supervision approach is that it optimizes the main supervisor's time, reduces the number of visits to the communities and therefore, the cost of operations. CHWs have expressed preference for the peer supervision approach due to the group incentives and the value of group dynamics where common problems can be understood and solved more practically by peers.

The total cost to maintain the peer supervision model for 1 year was \$176 per CHW versus \$273 among CHWs under the high touch in-person supervision model. Peer supervision thus resulted in an overall saving of 36% of direct program costs.

The peer supervision approach (figure 9) is particularly scalable because it can be applied in countries where there is a two-tiered CHW system with Community Health Extension Workers (CHEWs) and CHWs – like Ethiopia and Kenya. It is already institutionalized in some countries like Sierra Leone. In this instance the CHEWs are comparable to the peer supervisor and the CHWs operate like the peer group member.

Figure 9: Schematic of the peer supervision approach

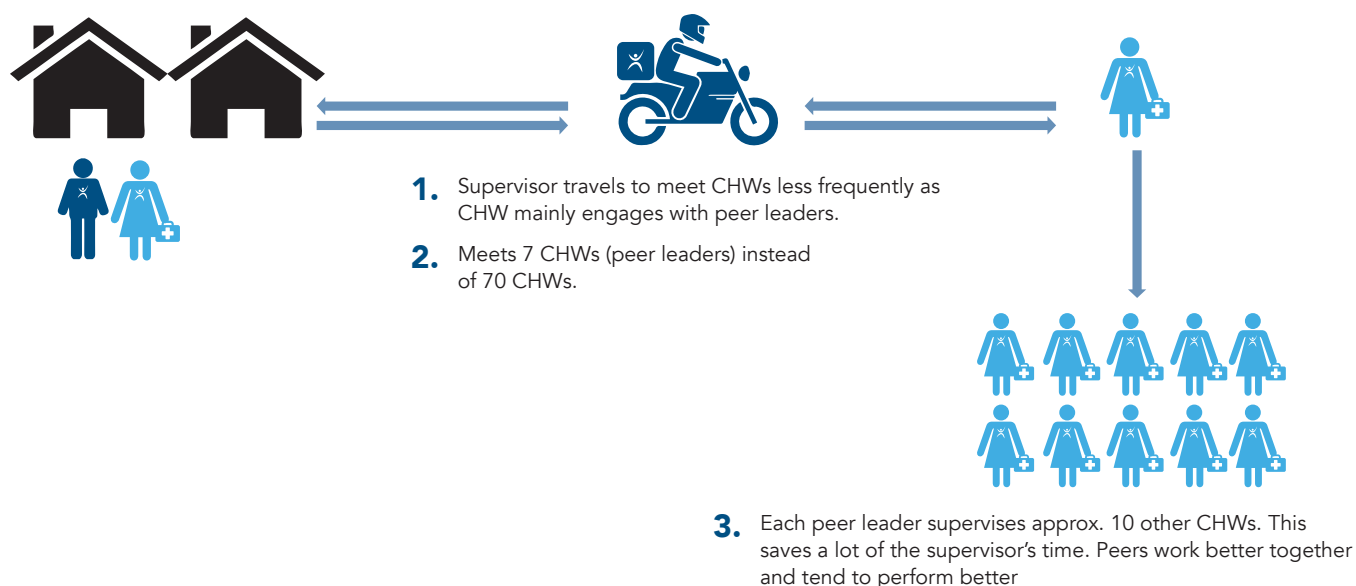


Figure 10: Comparison of CHWs hitting KPI targets for in-person vs. peer supervision models⁶

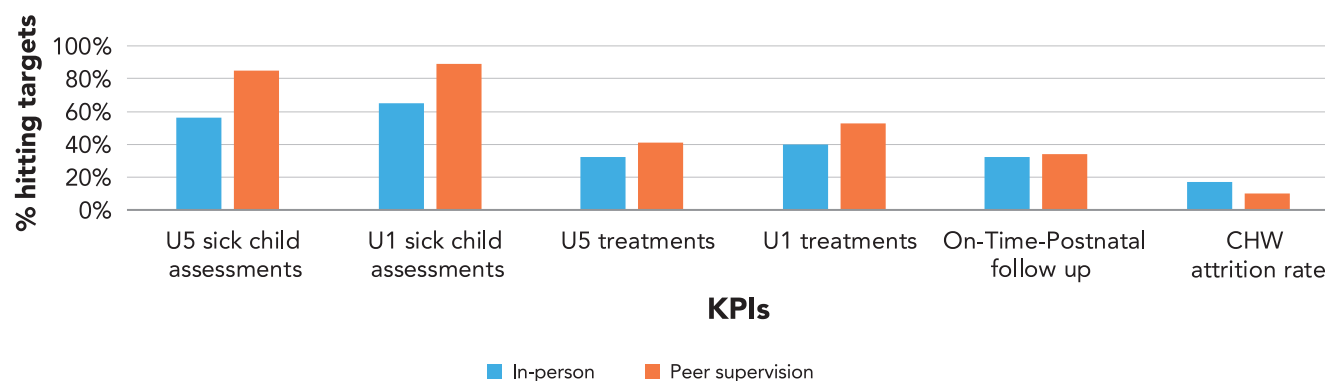


Table 3: A comparison of the different supervision models at Living Goods

| Supervision approaches | Strengths | Weaknesses |
|------------------------------|---|--|
| In-person supervision | <ul style="list-style-type: none"> Protocol adherence (drug storage, dispensation, etc.) can be checked, and technical guidance provided based on in-field work Live app coaching, basic phone maintenance and data synching can be conducted simultaneously Community members and local leaders can provide direct in-person feedback to supervisors Coaching and mentorship is more personal Physical verification is possible First-hand experience of conditions in the community | <ul style="list-style-type: none"> Time consuming Labour intensive Expensive Limited supervisions/day can be made Difficult to scale nationally since it is labour-intensive |
| Remote supervision | <ul style="list-style-type: none"> Governments can adopt at scale due to cost and ease of adoption Safest mode of supervision, especially in the face of the Covid-19 pandemic Enables wide reach & frequency of engagement with CHWs It's cheaper than in person supervision by about 50% Time-efficient Easily scalable | <ul style="list-style-type: none"> It is impersonal Physical verification, protocol adherence, and technical guidance of in-field work is not possible Live app coaching, basic phone maintenance, and data synching cannot be conducted First-hand in-person feedback from patients, clients, and community leaders isn't possible Heavily depends on availability of phone network The quality of engagement may be compromised due to the remote engagement compared to a face-to-face engagement |

⁶ Data collected through the SmartHealth App in Uganda between January to December 2019

| Supervision approaches | Strengths | Weaknesses |
|-------------------------|--|--|
| Peer supervision | <ul style="list-style-type: none"> • Peer supervisors provide support at any time to the CHWs as they live in the same villages • CHS time is optimised as most of the in-person supervision is done by the peer supervisor • Group performance incentives and collaboration among CHWs. • Cost of operations is lower | <ul style="list-style-type: none"> • Health professionals aren't supervising daily CHWs in-field, other CHWs are. • A lot of caution and precision in instruction, orientation, and rollout required • Instructional/knowledge quality may be compromised • Operationalization of the group incentives scheme can be tedious |

Source: Supervision Concept Note, Living Goods Uganda, August 2020

Based on experience and evidence collected, Living Goods recommends a mixed supervisory process that combines peer supervision, remote and in-person supervision.

Essential qualities of a CHW supervisor

The supervisor is a cheerleader, motivating the CHW, and setting standards that guide improvements in health service delivery in a sustainable way. A supervisor will be most successful when they have the following qualifications and skills:

- Proven success as a CHW or health professional with a clinical health degree
- Minimum 2 years' experience in health/ community related work
- Strong leadership qualities and effective interpersonal skills including coaching/ mentoring skills
- Good analytical skills to understand and interpret data
- Excellent written and verbal communications skills, both in the national and local languages

- Ability and willingness to work extensively in communities
- General computing proficiency to be able to develop digital documents.

Supervisor contracting

The supervisor is provided with an agreement that includes a job description explaining how they will perform their roles and responsibilities.

The supervisor is eligible for monthly financial incentives on top of their fixed salary based on supervised CHWs achieving health impact targets. This incentive structure is periodically reviewed to align with the program KPIs and to account for unique circumstances such as maternity leave, stock outs, or app malfunctions. In addition to the monthly incentives, community health supervisors receive a fast-start bonus for supporting community health workers who achieve targets during the first three months following pre-service training, a period that Living Goods has found critical to set CHWs up for success and set them on a path toward successful long-term performance.



CASE STUDY

OPTIMIZING SUPERVISION: EVALUATION OF A PEER SUPERVISION PILOT PROJECT AMONG COMMUNITY HEALTH WORKERS IN RURAL UGANDA

Situation

The standard in-person supervision approach taken by Living Goods requires CHWs to be supervised by a full-time supervisor who coaches, mentors, and reviews performance of the CHWs. Although this approach has proven to be effective in delivering results, it is also expensive to implement and to scale up nationally. Evidence indicated that alternative approaches might be more efficient, cost-effective, and viable substitutes than traditional in-person supervision.

Key Task

Living Goods sought to assess other supervision methods including peer supervision and remote supervision for cost-efficiency and effectiveness based on a comparison of CHW performance for the period January 2019 to December 2019.

Actions

To assess the feasibility of peer supervision, Living Goods conducted an experiment in 2019 using a peer supervision approach among 211 CHWs in Mayuge district. Internal organization records from January to December 2019 were retrospectively reviewed. Focus group discussions and in-depth interviews were conducted with 29 CHWs while quantitative data was summarized to generate averages and other key evidence.

Findings

- The experiment revealed that on all KPIs, the percentage of CHWs hitting targets was higher among CHWs under peer supervision compared to those under the standard model of in-person supervision.
- Stock on high-impact items among CHWs under the peer supervision model was significantly higher at 92% compared with 63% among CHWs under the standard in-person supervision model.
- There was also a significant difference in attrition with 10% among CHWs under the peer supervision model compared to 17% among non-peer supervision approaches.
- In monetary terms, the total cost to maintain the peer supervision model for 1 year was \$176 per CHW vs. \$273 among CHWs under the standard supervision model. Peer supervision thus resulted in an overall saving of 36% of direct operations costs.

The strengths of peer supervision included: improved CHW monitoring, improved teamwork, optimization of supervisor time, and increased CHW motivation, as well as reduced cost of supervision and refresher trainings. The researchers concluded that peer supervision is a feasible and more affordable approach of supervising CHWs. As one CHW said during a focus group discussion conducted to assess attitudes towards peer supervision:

“ This way of working is good and makes me happy because we are able to meet every week which was impossible in the other system. The peer supervisor is very near all the time and always encourages us to work. She is always moving among us and we go to the community with her. ”

– CHW, Mayuge district, Uganda



6

Supervise

CHW Attrition and Replacement

Definition: CHW attrition

Attrition refers to the loss of trained CHWs from community health service provision, and it remains one of the key challenges of global health service provision, attributable to several factors. Different reasons lead to attrition – for example, prolonged inactivity, resignation, relocation, or termination.

The importance of attrition

Attrition is particularly concerning due to the disruptions in the provision of care to communities, accruing costs of recruitment, retraining, and overburdening of other staff as replacements are being sourced. However a certain degree of attrition should be considered healthy as an indicator that performance is being managed adequately, including the exit of nonperforming CHWs.



Manage performance

- Review individual performance on a regular basis.
- Manage exit and replacement of CHWs and supervisors.

The community also plays a role in CHW attrition. Living Goods supervisors have observed that CHWs are motivated by the respect they gain in their communities, even more so when they visit households accompanied by supervisors. This tallies with WHO findings that when community members have significant involvement in CHW selection and monitoring, this can improve CHW motivation and performance while a lack of community support can increase CHW attrition.



“People in the community now bring children to our homes for treatment, and some still call us when their children are sick. I shared the Ministry of Health helpline and three of the mothers I was giving antenatal care to called the number and were evacuated by ambulances to go to the hospital for delivery. It makes me proud that I have been able to help my community in such ways.”

– Cissy Nabasumba, CHW, Uganda



CASE STUDY

KEY DRIVERS OF ATTRITION AMONG LIVING GOODS CHWs IN UGANDA

Situation

CHW attrition remains a global concern for community health service programs as it disrupts health services – an invaluable community resource – widening the health equity gap. The World Health Organization highlights the major causes of attrition: better job opportunities, low involvement in data collection, burnout due to imbalanced workloads, and poor remuneration and low incentives.

Task

Due to its focus on performance management, Living Goods sought to determine the main determinants of attrition of CHWs supported by Living Goods in Uganda.

Action

A 2019 research study⁷ was conducted to document health worker attrition in Uganda for the period 2016-2018 using logistic regression to analyse data for 1,170 CHWs.

Key findings

Among the key findings, it was observed that 153 per 1,000 CHWs ceased to be active within 12 months of graduation. (See figure 11)

⁷ Community Health Worker Attrition in Uganda: A Case Study of Living Goods Uganda, 2019, data collected through the SmartHealth App between 2016 and 2018

The most common drivers of attrition in Uganda included:

- Selection of CHWs younger than 35 years (figure 12) who were more likely to migrate for marriage, further studies, or seek other employment opportunities
- CHWs with higher levels of secondary education (figure 13) were more likely to look for career advancement and better paying opportunities due to higher education levels, an observation corroborated by WHO guidelines
- Poor performance of CHWs in the first 2 months served as an indicator of near-future exit, which could indicate poor knowledge uptake, inadequate training, low motivation, and inadequate expectations
- CHWs in urban areas were more likely to exit than CHWs in peri-urban areas due to the abundance of job opportunities in urban areas.

Figure 11: Attrition at 6, 12, 18 & 24 months in Uganda⁸

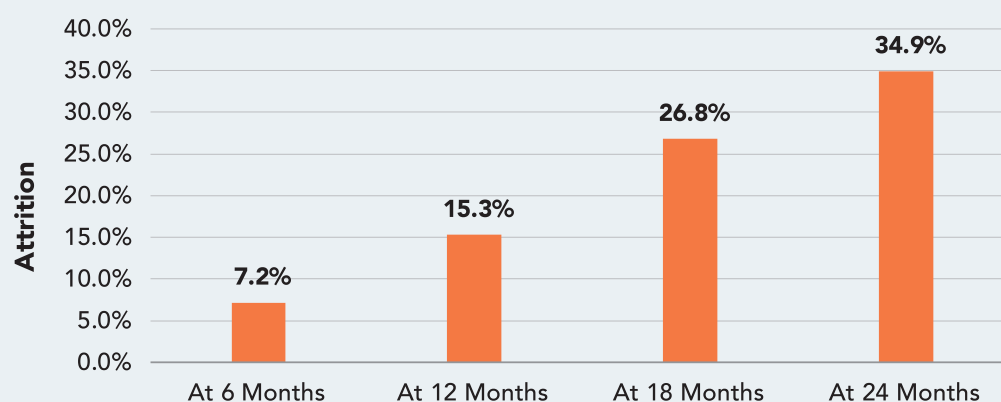
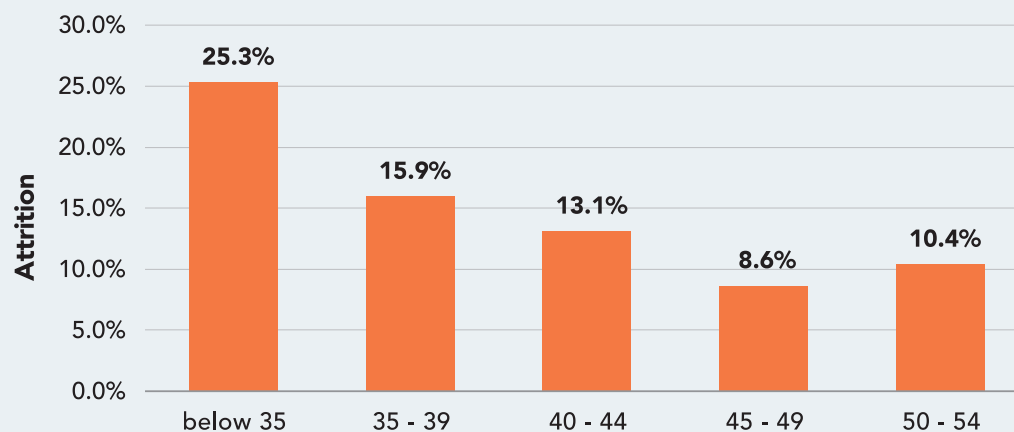
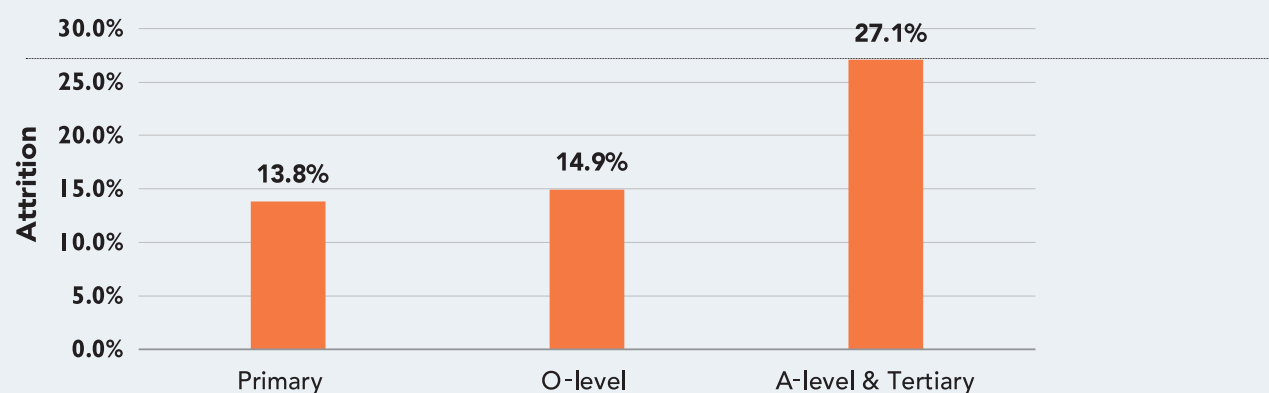


Figure 12: Attrition at 12 months vs. Age⁹



^{8,9} Data collected through the SmartHealth App between 2016 and 2018

Figure 13: Attrition vs. highest level of education¹⁰



More recent data in Uganda's Q1 2020 report provides specific details around attrition being driven by several factors at different levels:

- Poor expansion process management that results in low-quality mapping and insufficient households for CHWs to meet their targets and inadequate referral processes leading to recruitment of poor candidates for CHW roles.
- Poor attitudes of trainers during training. Inadequate support after initial training including supportive supervision and technology support to fix mobile phone challenges

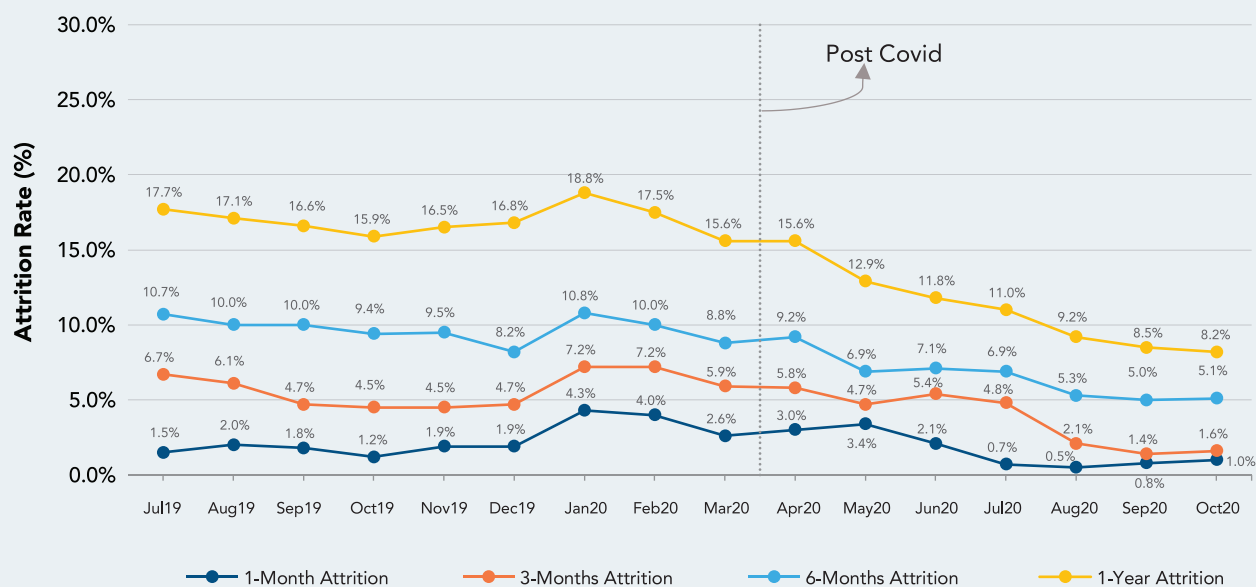
Based on this evidence, Living Goods developed new strategies to mitigate attrition and or eliminate circumstances likely to enable attrition. (See Table 4)

Table 4: Living Goods Uganda strategies for managing CHW attrition

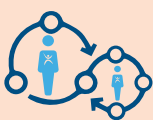
| Challenge | Tested solutions for process improvement |
|---|---|
| Expansion-related Non-data driven selection of expansion locations | <ul style="list-style-type: none"> • Systematic selection of areas to be mapped based on the prevailing disease burden/opportunity for impact • DHT and local leader engagement plan • Verification of village mapping data • Working with other community resource persons to triangulate data • Data integrity improvement in the TREMap application to eliminate duplication and automate analysis |
| Recruitment and training Unreliable recruitment data about villages and candidate referrals | <ul style="list-style-type: none"> • Adopting adult learning practices • Information sharing • Working closely with expansion team to enforce compliance • Supervisor involvement in recruitment processes and the training to ensure CHWs build rapport with supervisors who will support them during fieldwork • Reviewing the training to make it modular |
| Post-training and motivation of CHWs | <ul style="list-style-type: none"> • Implement integrated supervision (regular support supervision of CHWs to address challenges of health service delivery, optimizing performance, zoning and attaching CHWs to specific supervisors before graduation) • Improving and revising compensation and incentive structures for CHWs • Implement a fast-start bonus for supervisors who support CHWs to achieve targets during the first three months following pre-service training • Timely phone reconciliations and replacements to address technology challenges. |

¹⁰ Data collected through the SmartHealth App between 2016 and 2018

Figure 14: Attrition rates, CHW, Uganda¹¹



Key principles for managing attrition



CHW program leads should calculate and report CHW attrition rates and reasons for attrition.

If and when yearly attrition rates are high (over 10%), it is particularly important to understand the types of attrition that occur: attrition can be government-driven (exits), CHW-driven (resignations), or activity-based (when CHWs stop working with neither a formal exit nor a formal resignation). This can guide the development of effective strategies to address the problem. By maintaining databases of historical data around attrition, trends can be detected quickly and causative factors can be addressed to deter attrition.



Select well and set CHWs up for success. Using criteria that use evidence to select best-suited CHWs can mitigate attrition. Effective supportive supervision during the first three months is essential to drive performance and mitigate attrition. When supervision kicks in early, low performers can be mentored and coached to improve their performance before they become demotivated, resign, or are exited.



Planning for attrition enables CHW program managers and implementers to cater for costs of replacement of CHWs

who drop out to avoid disrupting services to clients. This further illustrates the importance of determining attrition rates and predicting what resources will need to be budgeted to replace exited CHWs in a timely manner and ensure all communities have access to an effective CHW.



Supervise

Key Performance Indicators

Definition: Key Performance Indicators and target setting

Key Performance Indicators (KPIs) measure progress towards achieving the health outcomes of interest and help programs monitor quality and continually improve performance. Living Goods sets KPIs that are directly linked to the key impact areas driving the health outcomes of interest including maternal and u5 child mortality. KPIs are prioritized to drive and strengthen program quality and learning and focus on additional impact indicators and important program implementation quality indicators (e.g., DESC).

For each KPI, targets are set taking into consideration a number of factors and are usually revised on a yearly basis.

Living Goods KPI categories include:

- Impact metrics: iCCM, Maternal/Newborn, family planning (FP), immunizations (IZ) (e.g., number of u5/u1 treatments & referrals; percentage of facility delivery, percentage of newborns visited in 48 hours)



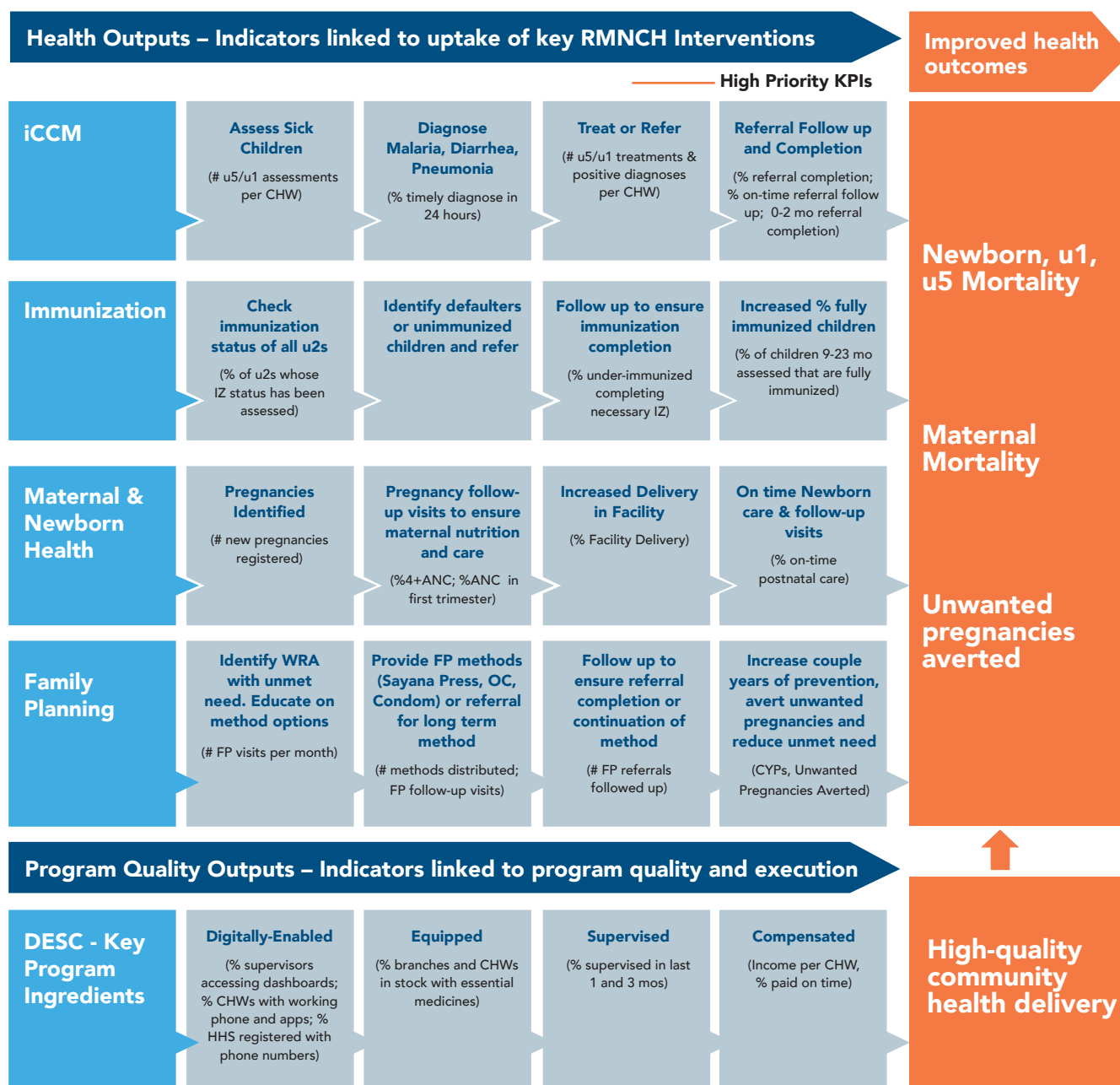
Constantly monitor

- Set KPIs linked to outcomes and based on analytics and reliable national and subnational statistics.
- Set targets at all levels.

- Program implementation quality metrics: Supervision, in-stock, compensation, digital tool use, coverage, and data quality
- Scale metrics: Number of CHWs, population served
- Cost-effectiveness: e.g., cost per capita.



Figure 15: How Living Goods determines its KPIs



For each KPI, targets are set taking into consideration a number of factors. They are reviewed on an annual basis. (See Annex 3)

Why are KPIs and target setting important?

KPIs and targets help teams at all levels to focus on achieving results in critical areas that will drive the Theory of Change (TOC) outcome. Targets set a bar for what is expected, and support CHWs, supervisors, and programme managers to monitor performance against targets. This helps them to understand where to focus to improve performance and deepen impact.

The process of target setting

Once the KPIs have been determined, targets can be set. Target setting is a process that involves determining the number of health-impact activities that CHW will be required to engage in during a month. For each KPI, the organization will determine targets for CHWs. The targets selected are those which CHWs can directly affect, and they are carefully calculated based on an estimated market size calculation, prevailing short-term health scenarios, and historical data. The target levels are set to be ambitious but fair, considering all available evidence.

CHW targets directly link to supervisor targets and upwards to country/program targets supporting the achievement of organization-wide targets and the overall achievement of universal health coverage.

Living Goods has observed that involving the CHWs and their supervisors when developing the targets builds ownership of the target and motivation to achieve it, as opposed to receiving instructions out of the blue to achieve certain targets. This is in line with WHO guidelines that note that: *“Interviews with international experts and stakeholders concluded that retention and attrition of CHWs could potentially improve if they more meaningfully engaged with the data they collect. The researchers suggest that this could involve CHWs collecting and analysing data and applying it to their work environment.”*



Targets act as reminders to let us know whether we are doing something of impact in our communities, it brings satisfaction to hit your target because you may feel you are doing your work but when you are not hitting the target it pushes you to go further into the field to find out why. Targets help us do our work effectively on the ground.

– Ritah Nakakande, CHW,
Wakiso district, Uganda

How target setting is done at Living Goods

Target setting is based on a triangulation of available external and internal data and analysis and considers variations in the diverse geographic areas of operation.

Living Goods reviews a number of factors to determine targets for CHW and supervisors:

- Historical trends of performance against targets
- Disease burden and other data from external resources including Demographic and Health Surveys and Health Management Information Systems (HMIS, DHIS), National Bureau for Statistics

Market size is also considered as a determinant of the opportunity for impact for a particular KPI. Key assumptions used for estimates include households per CHW, household size, prevalence of childhood illnesses, market size and market share estimates and historical performance.



Targets are operationalized with supervisors and program managers via dashboards that support performance management by providing a snapshot of current success, historical trends, which improves data-driven decision making. [See more information in section 8: Digital Health.](#)

Review of targets

Targets are generally reviewed and revised as needed on an annual basis based on changes in burden of disease, newly available data, or lower or higher than expected performance in the year, and planned growth. For example, the target for pregnancies per CHW has been revised downward as Living Goods has added family planning services and as fertility has come down in the areas where it is working, thereby reflecting a more realistic estimate of expected pregnancies in a CHW catchment area.

The Lives Saved Tool (LiST), a computer-based model that estimates the lives saved impact of scaling up key interventions to improve maternal, newborn, and child health, is a useful resource that can be used to ground the target setting process. Using LiST, Living Goods has been able to estimate the potential impact from increasing the coverage of particular evidence-based RMNCH interventions to understand the relative impact of a higher or lower target in different health service areas, and how many estimated lives saved could be expected from different approaches.

The tool can be found at
<https://www.livessavedtool.org/>



8

Digitize

Definition: Digital health at Living Goods

Digital health is defined by WHO as the “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistances and other wireless devices.”

Taking advantage of the widespread use of mobile phones in Africa, Living Goods tailors digital health solutions that can introduce new efficiencies in health systems. Currently, Living Goods empowers community health workers to assess, diagnose and provide accurate care and prompt follow-ups by using a smartphone application (SmartHealth) that details every patient contact and enables real-time performance management of community health workers.

The application uses a basic clinical decision support system to ensure consistent and accurate diagnoses and smart workflows for pregnancy care, childhood diseases, nutrition, family planning, and immunization tracking. The app also allows CHWs to collect data that is compatible and integrated with government District Health Information Systems for reporting, analysis, and dissemination of data for many national health programs that support decision-making for better and more targeted service delivery.



A digital ecosystem

- Design with the user at the centre.
- Ensure systematic interoperability.
- Train users on a regular basis.

CHWs and their supervisors are supported to work better using a range of phone-based digital tools which include the SmartHealth app, Training Recruitment Expansion and Mapping (TReMap) application, SMS service, analytics tools, Learning Management System (LMS), and dashboards.

Why is digital health important?

At Living Goods, we use mobile technology to deliver higher program performance and drive health impact at scale. A well-executed mHealth workflow creates an enabling environment for CHWs as stated by WHO: *“Evidence from several mixed methods studies showed that mHealth was well supported and effectively used by CHWs. Phone-based systems improved communication, enhanced supply chain management, and enabled sharing of medicines between CHWs. Digitalization was also*

found to contribute to more timely and complete reports and to aid supervision of CHWs.”

Digitalization of CHW systems is therefore important in the following ways:

- Data visibility for informed programming and policy design
- Transparency on program delivery and performance management
- Enhanced data security and reliability
- Technical advisory to governments
- Digitally enabled performance management leading to timely, high quality service delivery.
- Ensuring households receive consistently high quality care.

How does digital health work at Living Goods?

Figure 16: How digital health works at Living Goods



The various digital tools used by managers, supervisors and CHWs at Living Goods support performance management in the following ways:

CHW app

- *To record client data:* Living Goods requires CHWs to collect client household data (figure 17) and individual details of all household members assessed, treated, or referred.
- *To offer diagnostic support and education guidance:* CHWs are not trained or authorized to treat all illnesses. Even for illnesses that they are trained to assess or treat, like pneumonia, malaria, and malnutrition, the SmartHealth app supports

this treatment by providing phone-based guidance to ensure high-quality diagnosis and treatment in the home or referrals when required as well as key household education messages.

- *To manage complex caseloads by focusing on high priority and impact visits.* The technology prioritizes based on algorithm tasks on high risks factors and or under performance.
- *To monitor their own performance:* CHWs also have visibility into their performance with a target tab in a given month that motivates them to work harder to visit households, assess, treat, refer, and follow up, where necessary.

Figure 17: CHW records client data

The image shows a smartphone screen with the 'New Family' form in the SmartHealth app. The form includes the following fields and options:

- Names ***: A text input field with a placeholder 'Newborn Name'.
- Method to select date of birth ***: Two radio button options: 'With calendar (preferred)' and 'With current age' (which is selected).
- Age ***: A text input field with a placeholder 'Age in years' and the value '3'.
- Months ***: A text input field with a placeholder 'And how many months?' and the value '2'.

Figure 18: SmartHealth supports CHWs to correctly diagnose illnesses

The image shows two smartphone screens from the SmartHealth app's 'Assess Patient' section, connected by an orange arrow indicating a flow. The first screen asks about a cough, and the second screen shows the resulting patient summary and treatment recommendations.

Screen 1: Assess Patient - Cough

- Question: Does *Angelita Akakumbi* have a cough? *
- Options: ☒ Yes, ☐ No
- Question: How long has this cough lasted? *
- Options: ☐ One day or less, ☐ 2 days, ☐ 3 days, ☒ 4 days - 1 week, ☐ 1-2 weeks, ☐ 2 weeks or more
- Question: Is there chest indrawing? *
- Options: ☐ Yes, ☒ No

Screen 2: Assess Patient - Patient Summary

- Header: Be sure you Submit to complete this action.
- Patient Name: *Angelita Akakumbi*
- Age: 2 years and 0 months old
- Section: **Signs & Symptoms**
- List:
 - » Diarrhoea for 2 weeks or more with blood
 - » Cough for 4 days - 1 week
- Action: **Refer to a health facility** (highlighted in red)
- Text: Refer to the health facility for blood in stool
- Section: **Diagnosis & Treatment**
- Diagnosis: Cough
- Treatment: Treat with Cough Syrup

Supervisor app

- To optimize supervisor's workplan by focusing on high-priority and impact-supportive supervision visits and touchpoints.
- To guide supervisors through their visits, acting as a checklist
- To monitor CHW performance over time and record all supportive visits whether over the phone or in person.

Dashboards

Dashboards support supervisors, subnational and national teams to monitor KPIs for specific health workers, for groups of CHWs, compare historical performance, and spot trends, as well as review current month progress. This evidence drives more systematic and logical decisions to focus and plan around improving

performance. Dashboards eliminate labour-intensive, costly, and inaccurate paper-based data entry while exponentially increasing the scope of data available to improve performance. This enables supervisors to quickly identify potential service anomalies, spot disease outbreaks, recognize high-performing CHWs who can mentor other CHWs, and prioritize which CHWs need the most support. Different views are available and KPIs may vary per user (while all addressing the overall program KPIs).

The supervisor dashboard provides a summary of CHWs performance based on data collected and KPIs, which supports the identification of key areas that need improvement. Thus, the supervisor can offer targeted support to the CHWs. The dashboard enables the supervisor to monitor indicators for groups of CHWs and locations, and compare performance across different months.

Figure 19: SmartHealth supports CHWs to assess their performance



Figure 20: Supervisor app showing supervisor priority task list on the left and CHW visit on the right

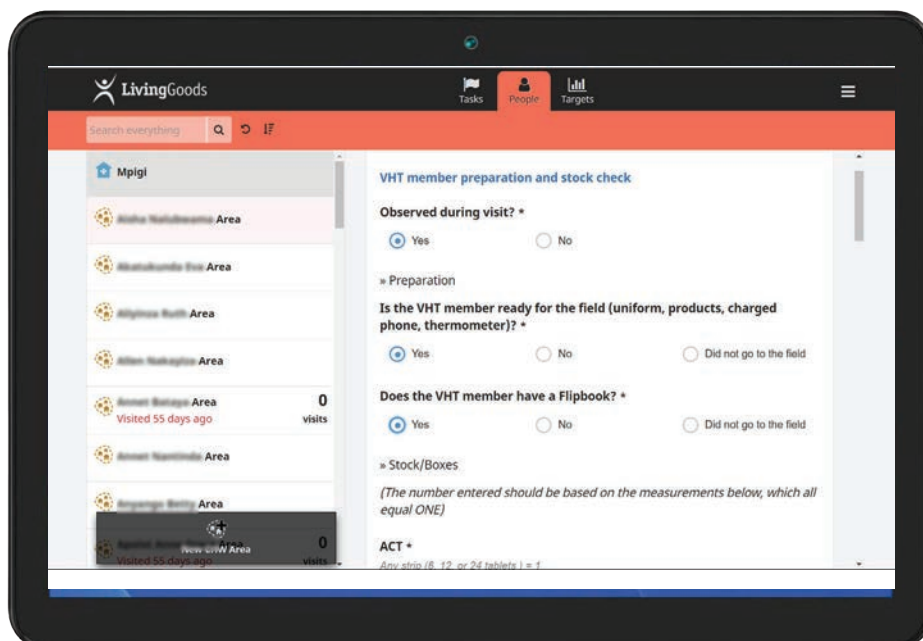


Figure 21: Dashboard capturing data by CHW as well as aggregated data per location

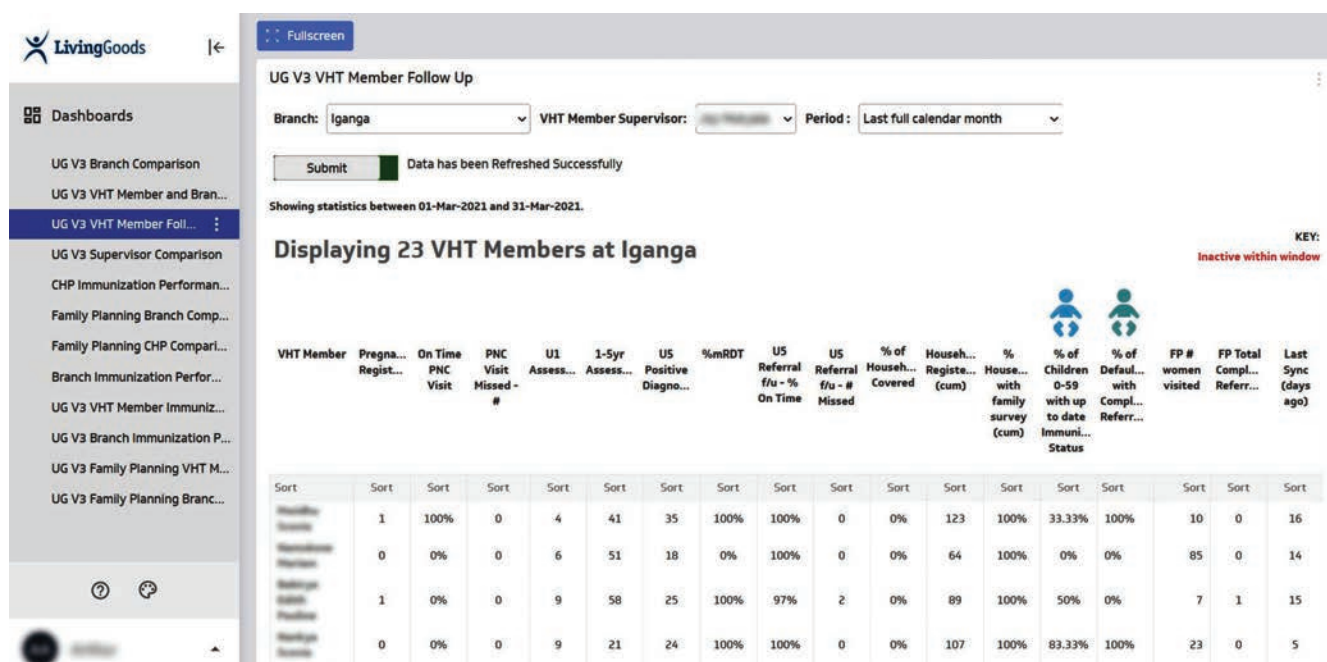
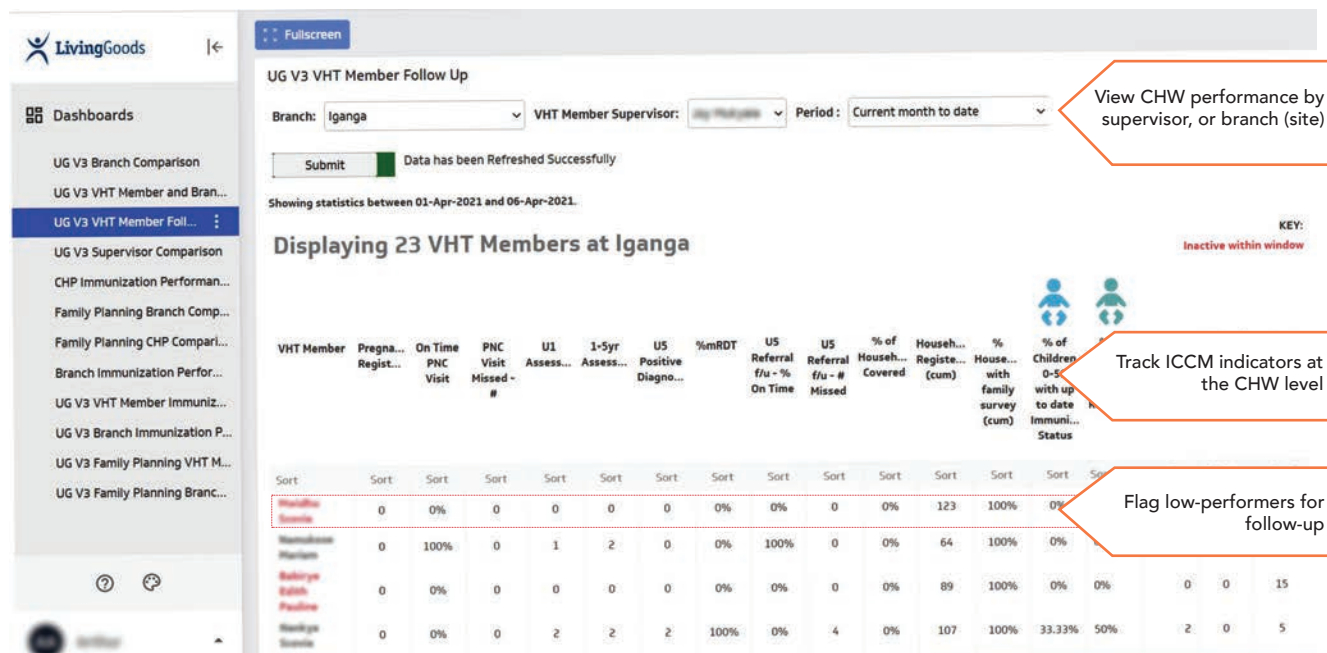


Figure 22: Dashboard displaying CHW detailed performance





Effective use of dashboards

Dashboards are designed to be performance management tools driving impact, rather than reporting tools, **therefore it is important to be selective when choosing key performance indicators that will be reflected on the dashboard.** Select the relevant KPIs for each target group.



Design matters. A user-friendly dashboard with great data visualisation will ease the reading and understanding and decision-making process by the user.



Conduct comprehensive dashboard user training complemented by refresher trainings to build knowledge uptake and retention for optimal usage.



Reliable internet connectivity is critical as the dashboard relies on availability of real-time data being uploaded and synced to organizational servers to support reporting and decision-making.



The successful use of dashboards requires strong collaboration between supervisors and technology teams to ensure quick technical troubleshooting, refinement of key features and improvements that can more accurately capture key metrics.

SMS usage at Living Goods

Living Goods uses SMS in different ways:

- As a behavior change tool targeting the households served, providing automated messaging as soon as activities like pregnancy registration or treatment of a sick child are indicated in the SmartHealth app or for reminder messages based on

the immunization schedule or for health education messages.

- For informational updates to inform CHWs and supervisors and to strengthen their effectiveness, including knowledge reminders, information about an outbreak, or government policy updates.



MIGRATING TO mHEALTH

Situation

Under the paper-based model, CHW programmes at Living Goods managed three registers: the family register, pregnancy register, and treatment register. Each CHW was issued with a copy off these booklets with about 500 leaflets each that would be carried around during field visits. In addition to the three booklets, each CHW also carried paper referral forms that they used to refer clients to health facilities.

The challenges of the paper-based system were tremendous: difficulties in linking information from the different registers, data quality, timeline to get reports (reporting from data collection to reports was taking nearly two months), limitations in tracking historical data, inability to track performance of CHWs over time and, consequently, inability to effectively measure organizational performance around KPIs. Maintaining, storing, searching, and sharing legacy information using the paper-based system across the different locations was time-consuming and the information was always in jeopardy of being lost due to the risk of fires, theft, and natural disasters.

Migrating from a paper-based approach was a strategic process initiated by Living Goods back in 2014 to overcome the challenges of a paper-based system, enabling CHWs to be more effective and empowering supervisors to provide data-driven supervision to optimise CHW time.

Task

It was important that the digitalisation process:

- Supports a standardized quality of care
- Equips CHWs with training and diagnostic tools
- Optimizes CHW and supervisor time
- Improves supervision by ensuring supervisors have access to access to near real-time data and performance dashboards
- Decreases the cost of delivery of community health, while also supporting government and partners to affordably scale up health service delivery using data-driven approaches.

Action taken

Living Goods' transition to digital was progressive, starting with the use of basic SMS on feature phones, to the development of the first version of the SmartHealth application which consisted of several Android applications. The applications were later consolidated into one Android application that integrated all the data and ultimately included several significant improvements that led to the current version of the application in which all information is stored in the cloud.

1. **Tool development:** To design the first version of the digital tools and its analytics, Living Goods partnered with Medic Mobile. Together and for all subsequent developments, a user-centric design approach was adopted to develop user-friendly applications and dashboards.

User-acceptance tests were conducted at every stage of the development process.

2. **Equipment:**

- Every CHW receives a smartphone on which the SmartHealth application is installed; it is the primary data entry point for community health data. On average, phones have been changed every 24 months.
- Supervisors: Every supervisor is equipped with a tablet and tablets tend to be changed every 36 months.

3. **Training:**

- CHWs were trained on how to use the digital app. This training was later integrated into the pre-service sessions. CHWs also received regular refresher trainings on how to use the application and enter data.
- Supervisors were trained on analytics, how to read the dashboard, and how to use the data to guide your work planning and focus your supervision efforts.
- Supervisors were also trained on basic troubleshooting of devices like the inability of CHWs to connect to the internet, or the inability of CHWs to sync data. This was done to reduce the number of relatively simple issues reported to technical personnel.

4. **Dedicated human resources:**

- Living Goods also recruited a Director of Technology to oversee the technology development process
- Technology field support officers were recruited at the subnational level to support operationalization and provide mobile phone support to CHWs while in the field. On average, the ratio has been 1 officer for 400 CHWs.
- Over time, Living Goods also decided to bring additional technology capabilities in-house and recruited software developers to develop and improve features on the application.

5. **Infrastructure:** A cloud-based system has been used to store the data and this is adapted to countries specific regulations.

Key results

- Delivery of timely, high-quality care by standardizing household registrations, assessments, diagnoses, and treatment protocols across a growing network of CHWs.
- Improved performance of CHWs due to effective supervision enhanced by access to real-time data, performance dashboards, and checklists on the SmartHealth platform. Digital tools – such as prioritized daily task lists – help

“Before, CHWs would have to always refer to the paper treatment guides, but now the phone guides them through the whole procedure. I used to get a lot of calls from CHWs wanting reassurance they were doing the right thing, but that no longer happens.”

– CHW supervisor, Uganda

CHWs optimize how they spend their time. Supervisors also have daily task lists and can easily track the work and status of individual CHWs as needed.

- Efficient reporting and accountability due to near real-time data collection and reporting. One supervisor noted that with the paper-based system, supervising 44 CHWs, reviewing all their monthly reports took up to 3 days and required constantly calling to verify details; however, with digitalization, *“Now, all their data is registered live and goes straight to the console. Now, reporting takes me two to three minutes instead of two to three days.”*
- More and more governments are now looking at digitalizing their Community Health System. Among them, the Kenya and Burkina Faso Ministries of Health have asked Living Goods to be the lead partner in the implementation of an electronic Community Health System.



CASE STUDY

TESTING A DIGITALLY ENABLED FAMILY PLANNING STRATEGY IN UGANDA

Situation

In 2017, Living Goods and the Government of Uganda piloted a comprehensive community-based family planning (FP) program to drive uptake of short-term family planning methods.

Task

CHW were trained to counsel patients about family planning and refer those in need of long term and permanent methods to service delivery points.

Actions taken

CHWs were equipped with a smartphone and the Living Goods SmartHealth app with carefully designed workflows that standardized client counselling, assessment, and administration protocols for FP services. Although the SmartHealth App workflow proficiency was a challenge for new users following initial FP training, this was addressed through supportive supervision in the first three months of FP service delivery. Further, CHWs received task reminders to ensure that they were able to deliver the correct services on time.

Key results

| CHW Activity | Result |
|--|--|
| CHW visits | Adoption of family planning method by 50% |
| Number of women served with a family planning method per CHW per month | Increased from 2.4 in May 2017 to 6.7 by June 2018 |
| Number of women initiated on family planning per CHW | Increased from less than 0.9 per month to 1.2 |
| CHW offering counselling | Half of the women who had not used family planning before took up a method |
| CHW conducting a follow-up visit | 60% of clients refilled their methods |

Thanks to the FP workflow in the application, CHWs were able to accurately educate clients, determine their eligibility for family planning, recommend an appropriate method and provide follow up services.

Additionally, CHW supervisors were able to see near real-time performance data for every community health worker. For instance, they were able to see CHWs conducting fewer visits than their peers and could then target their supervision to understand the challenges faced by these under-performing CHWs.

This enabled supervisors to provide customized in-service training based on the identified challenges and knowledge gaps. All the data generated through these mobile health tools was shared with the government and used to inform decision-making for CHW programmes at every level. The programme was scaled up in 2018 among 2,500 CHWs in 18 districts and it is now adopted by other partners such as BRAC Uganda and Malaria Consortium Uganda.

One of the key success factors cited was the task-based job aids on the smartphone. The SmartHealth app was able to generate task reminders for CHWs to follow up and counsel clients who take up family planning in case they experience any side effects. Reminders were also generated for clients due for refills, follow-up for counselling and for referral for long term and permanent family planning methods.

Evaluators of the pilot observed that: *“Leveraging existing digital health investments and integrating family planning workflows for existing networks of CHWs increased access to family planning services and help addressed major barriers to reproductive health services — including fear, social opposition and misinformation about side-effects. Such integration can also increase agency and equity and bolster sustainable growth. Provision of digital tools, training, supervision, commodities and compensation strengthens capacity and motivates CHWs to provide voluntary family planning services.”*



CASE STUDY

EVIDENCE GENERATED BY THE USE OF TWO-WAY SMS FOR COVID-19 SURVEILLANCE

Situation

Living Goods has explored the use of two-way SMS for disease surveillance. Specifically, during the Covid-19 pandemic, two-way SMS was used to enable community members to report suspected cases of Covid-19 for follow up by health workers. (See figure 21)

Task

Living Goods explored the use of two-way SMS through the Client Initiated Health Assessment (CIHA) tool. CIHA is an SMS-based self-assessment tool that allows households to screen themselves for Covid-19, iCCM, ANC and PNC. This is available in both Kenya (Busia, Thika, and soon Kisii) and Uganda in Masajja.

Action taken

With the case of Covid-19 assessments, household members are asked a series of health related questions such as “Do you have a fever/coughing/headache?” Based on the clients’ responses, the platform is then able to make a prediction of their likelihood of having Covid-19. If they are suspected of having Covid-19, they are then directed to reach out to the government emergency unit, while a follow up request is submitted to the CHW. The CHW observing no-touch/low-touch protocols will then follow up with the client.

In the case of the non Covid-19 related workflows, clients are given the option to either visit a health facility or have a CHW visit them immediately.

The process of two-way SMS starts with the identification of a use case or need for which the messages need to be sent out, with a clear target designed to measurably address that need. The phone messaging committee generates content that will be used in the campaign based on the identified target group. Most messages are sent out at about 6 pm since the target audience is mostly rural and spends most of the day charging their phones or in the gardens. For messages sent out with an aim of driving improvement in performance, the indicators are monitored over time for improvements.

Key results

The value of two-way SMS is as a communication platform, it enabled the organization to continue to reach households during the Covid-19 pandemic, enabling instant sensitization and information sharing to large pools of individuals within the community. The results show that two-way SMS can be very engaging as the clients are able to give their feedback.

For those who were able to use the platform, and they got a basic assessment of their health and were given an option for a CHW visit or a visit to their nearest health facility. The CHWs were also flagged about households with people that were suspected to be ill and the nature of the suspected illness based on the systems’ prediction. This helps support the work of CHWs by ensuring that they focus on more targeted cases creating a pull rather than a push effect. A demonstration is available at this link: <https://livinggoods.app.box.com/s/eupk9dapumiqzw1qg5kiqsb53grwlz6t>

The key challenge with the use of two-way SMS is information overload, as several organizations now uses SMS to communicate multiple messages to communities which can create confusion.

Figure 23: Screenshot of Living Goods use of 2-way SMS for Covid-19 assessment

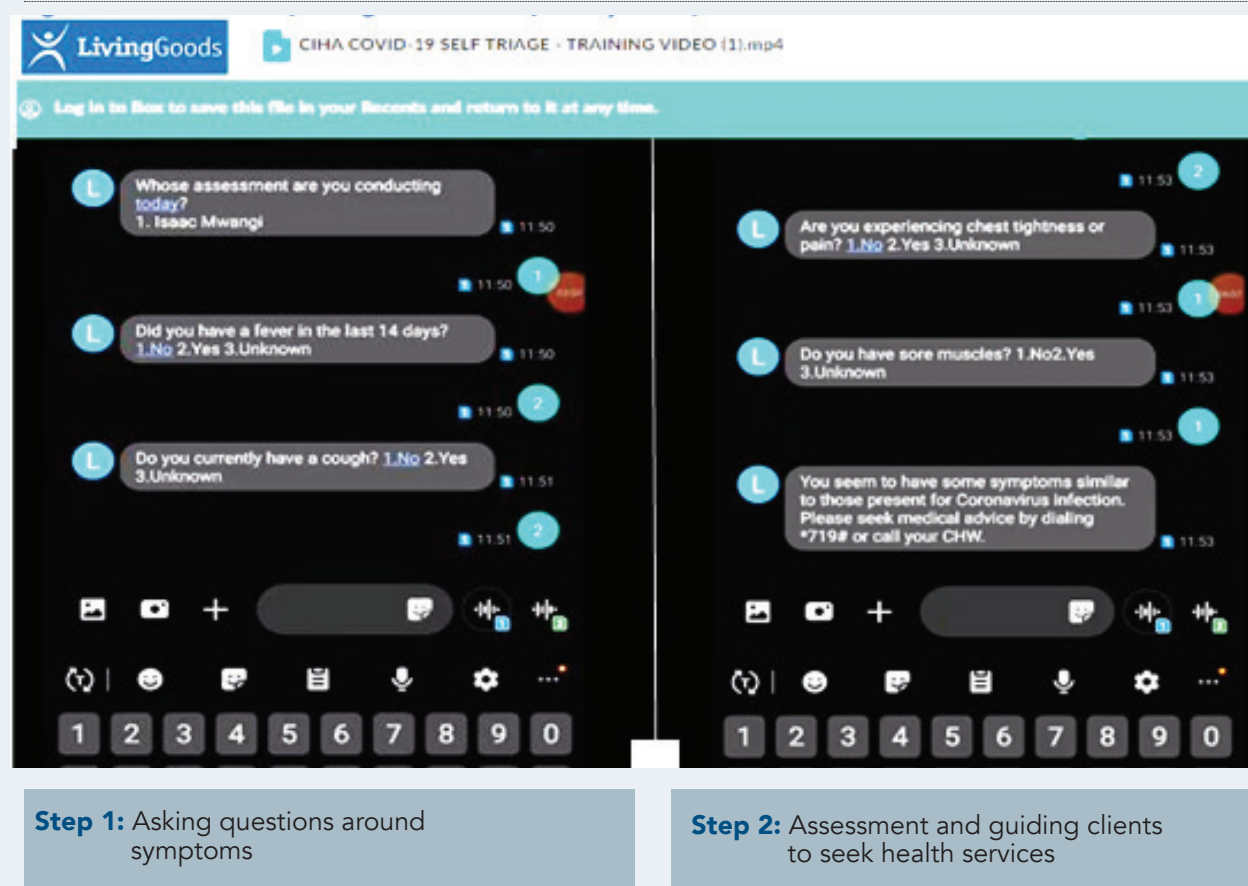


Figure 24: Proportion of assessments with condition¹³

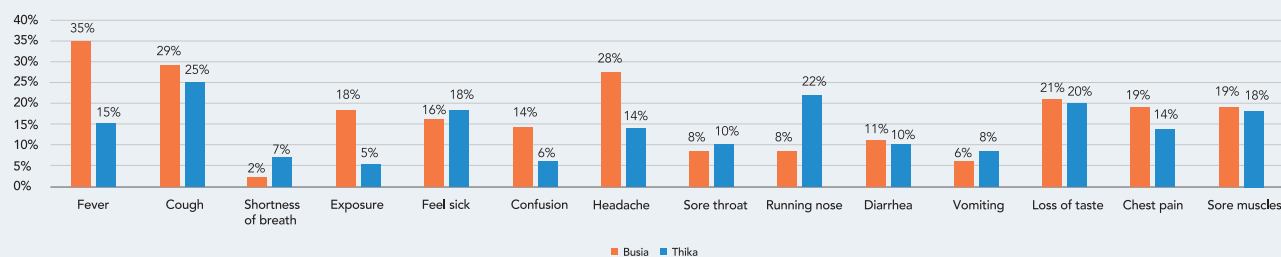
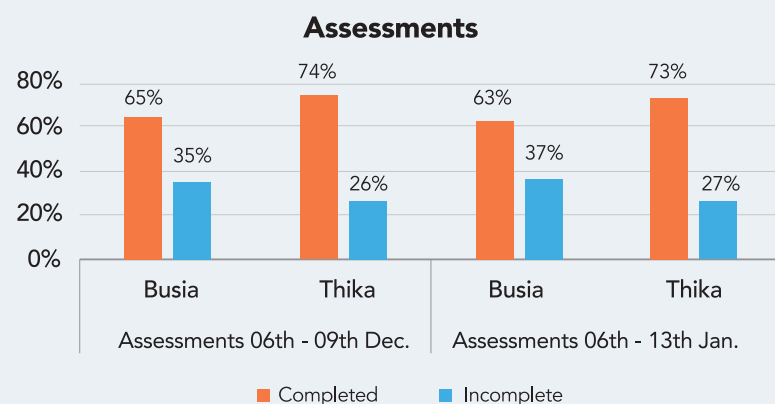


Figure 24 shows that in Busia, most self-assessments done displayed symptoms of fever, cough, and headache; in Thika, on the other hand, the primary symptoms were most frequently cough, followed by a running nose and loss of taste.

¹³ Data collected through the SmartHealth App in Kenya between December 2020 and January 2021

Figure 25: Completion rate¹⁴



From figure 25, on average, 68% of households which initiate an assessment completed the same. Based on the data, there is a higher completion rate in urban areas as opposed to peri-urban/rural locations by 10%.

Recommendations

- Conduct market intelligence surveys to determine factors affecting text opening rates.
- Develop a KPI to assess the percentage of clients that actually read the sent messages.
- SMS should be complemented by other communication methods to improve its effectiveness and reinforce key messages
- A text alias representing the short code (using, for example, "Living Goods" with the short code 2121) reduces doubts among recipients about the authenticity of the sender.

¹⁴ Data collected through the SmartHealth App in Kenya in December 2020 and January 2021



Key principles for effective digital health



Put the user at the centre: Designing digital solutions that are user friendly, simple, and adapted to the context is critical for solutions that will be adopted and drive impact. This is something to consider during the initial design as well as in any subsequent iterations.



Training, mentorship, and coaching of all users to understand how the technology helps them work more efficiently. If users do not understand the value of the technology, they will underutilize it (or use it poorly), which also affects other users.



Plan for scale: It is important to have a clear roadmap for scale by budgeting for all the required resources – human, financial, and everything need to maintain a digital solution in terms of both hardware and software. Developing workable technology systems is arduous, challenging, and often costly. Senior management teams must decide how many users are expected to be supported at end line, while also leaving room for 'extreme success' in which there are significantly more users than expected. End line connotes a period in which data will have been collected to ascertain whether the technology is successful or not and needs to be scaled up widely or dropped. Planning for scale allows for correct budgeting of both hardware and software requirements based on anticipated needs.



Cloud storage provides key benefits: Storing data on the internet (the cloud) allows quick, global access to real-time data for decision-making and strategizing. In low resource locations, cloud storage is particularly important for the following reasons:

- i. Power is not readily available in rural and remote areas where community health services are particularly needed; therefore, it is cheaper to maintain virtual servers rather than physical servers that require full-time power
- ii. Physical servers require maintenance fees which increases digitization costs



Interoperability of the digital platform with other systems is important since community health is supported by government and other partners who also use digital technologies. Interoperability is particularly important for integrating systems, data sharing, and joint monitoring of performance.



Regulatory standards may prohibit the use of certain technologies, software and hardware; performing due diligence beforehand and consulting important stakeholders will ensure that digital applications are applicable and acceptable for use.



Quality control should be embedded for every digital activity on the platform to ensure that the technology supports performance management in community health.



Compensate

Definition: Compensation frameworks

Although CHWs are not always part of the formal health system, they are motivated by reward for their work through a range of payment mechanisms and compensation strategies based on their performance, roles and responsibilities, hours worked, and other job demands. These rewards are both monetary and non-monetary. These incentives impact sustainability and effectiveness of community health interventions.

Why is CHW compensation important?

Compensation, to motivate CHW performance, is globally accepted as a trigger for quality health service delivery. WHO recommends a *financial package commensurate with the role, capacity, level of effort and hours of work of CHWs in addition to allowances that cover expenses incurred in delivering services*. This should not, however, diminish the importance of



Compensate

- Provide a mix of non-monetary and monetary rewards.
- Ensure compensation and accountability are tied and evaluate how.
- Operationalize payment effectively.

non-monetary incentives such as a conducive work environment, tools to aid effective work, respect, recognition, and opportunities for career growth. As a cautionary note, WHO reviews also note that performance-based financial incentives can distract CHW from health service delivery, and may result in misreporting or over-reporting when data collection is linked to rewards.

Planners also need to be especially careful not to create compensation packages that foster perverse incentives. In examining several quantitative studies, WHO observed that, while financial incentives can improve CHW performance, there was *“a concern related to neglecting tasks that are not incentivised.”* Unintended negative consequences could result, as in Living Goods’ example, when assessments done were included for incentives which resulted in a dramatic rise in assessments with no corresponding rise in treatments. CHWs may neglect quality processes/protocol (which are not incentivized) in preference for delivering outputs that have an incentive attached to them.

Rewards framework at Living Goods

CHWs are incentivized with both non-monetary and monetary incentives to ensure every mother and child has access to basic healthcare in their communities. The incentives package is evolving and Living Goods is still experimenting in this field.

Non-monetary incentives

CHWs supported by Living Goods are outfitted with a package of tools and resources that, while not specifically designed as incentives, also provide a non-monetary incentive to them. These include a smartphone, a uniform, a medicine box, and a backpack to be able to move around easily in the community. In pandemic times, they

are also equipped with the relevant personal protective equipment (PPE).

CHWs interviewed during fieldwork state that the biggest motivator for them is recognition by their community. Thanks to their role and the empowerment provided to them by their smartphone and other resources, community members often address CHWs phone as ‘doctor’. This gives CHWs status and credibility. Beyond that, Living Goods recognizes and celebrates CHWs during in-service meetings and annual review meetings where performance is routinely discussed, and high performers are acknowledged and assigned to coach and supervise peer CHWs. In-person supervisory guidance during CHW home visits and support to plan community events are examples of other motivating factors for CHW.

Monetary incentives

Historically, Living Goods supported CHWs have received monetary incentives based on activities and/or achievement of targets driving critical KPIs of our TOC. The incentive scheme as well as the maximum amount earned have evolved. They have been reviewed on a yearly basis based on KPIs and target review, number of activities required and/or government progress towards paying CHWs and the amount institutionalized. For instance, when the FP services were added to the CHW basket of services, the amount they could earn increased by 20%.

Having a performance-based incentive scheme helped CHWs to focus on key areas requiring attention and/or improvement and motivated them to deliver more in addition to enhancing accountability. This also opened the door to results based financing (RBF): Living Goods received 2 RBF grants in 2018 and 2020. Incentives, however, need to be managed carefully: it is important to consider the potential for perverse incentives and some key principles need to be respected as described as follows.

Lessons learned around incentives:

- Incentive schemes have to be simple and easy to understand. For instance, using percentages with CHWs has been proven to be ineffective. In the past, Living Goods referred to the percentage of on-time ANC visits; this could easily be understood by program leads but was often misunderstood by the CHWs and had to be translated into a specific number. It is also important to select incentivised KPIs and ensure there are not too many so that the CHW can easily track them.
- Visualisation of the CHW performance against the target and how much incentives they can earn is important. The target tab in the SmartHealth application has been helpful by supporting visualisation.
- On-time payment: ensuring the CHWs

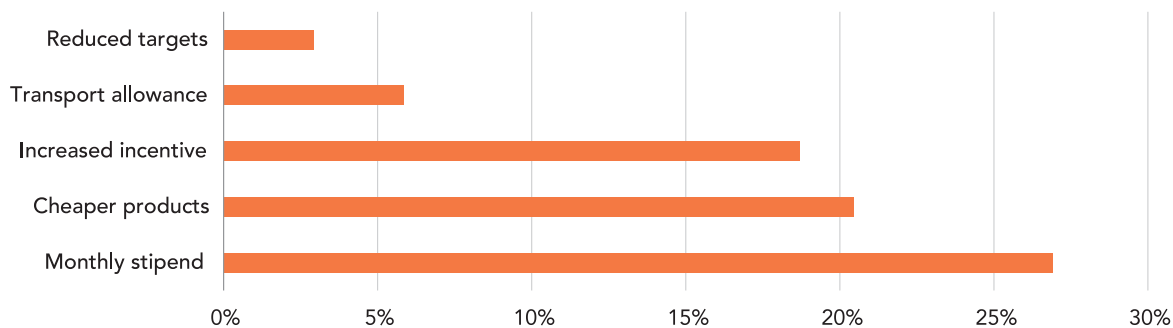
receive their incentives in a timely and accurate manner is critical. If not done well, it can actually demotivate CHWs. Living Goods is paying all CHW incentives through mobile money which results in more timely payments and lessens the risk of fraud.

Lessons learned on correlation between compensation and attrition

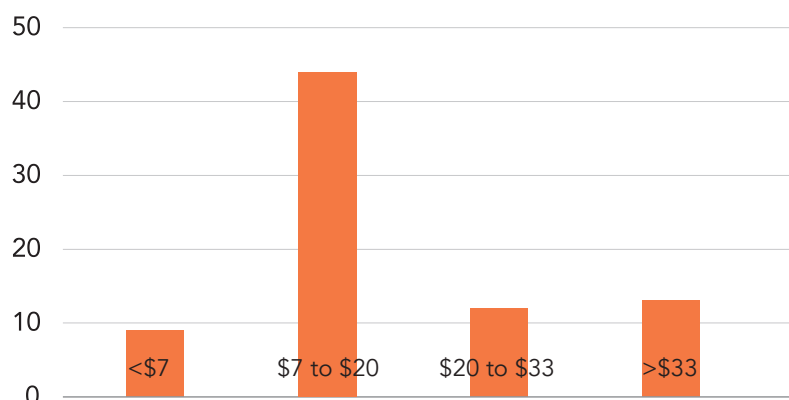
A Living Goods research project on incentives¹⁵ revealed that earnings and attrition are closely associated, with large attrition reductions associated with marginal income increases. An exit survey further supports the role incentives play in CHW motivation. Around 70% of CHWs listed an ideal earnings amount that is equivalent or less than the the maximum 2019 incentive rate. (See figure 24)

Figure 26: CHW feedback on payment mechanisms¹⁶

What is the biggest change LG could have made to convince you to keep working?



How much CHWs would have wished to earn



^{15, 16} Living Goods Incentives Analysis, Optimal Price vs. Maximized Impact, December 2020.



CASE STUDY

IMPACT OF INCREASING COMMUNITY HEALTH WORKERS' INCENTIVES ON SERVICE DELIVERY IN KENYA AND UGANDA

Situation

Community Health Workers need compensation to do their work and incentives can have major implications on CHWs, motivation and performance. Evidence shows that poor incentive structures are a common problem in CHW programmes and contribute to demotivation and turnover. However, there is no clear evidence on what an optimal incentive structure looks like. In this study, Living Goods aimed to assess the association between the change in incentive structure and CHW activities in Uganda and Kenya.

Between January 2018 and June 2020, the CHWs' incentive structure changed three times in Uganda and two times in Kenya (Table 5).

Table 5: CHWs incentive structure 2018-2020

| Country | Interventions (structures) | Period of structure | Maximum incentive | Additional earnings |
|---------|----------------------------|---------------------|-------------------|---|
| Uganda | 1 | Jan-18 to May-18 | \$3 | CHWs earned a margin from sale of commodities |
| | 2 | Jun-18 to Jan-19 | \$16 | CHWs earned a margin from sale of commodities |
| | 3 | Feb-19 to Dec-19 | \$20 | CHWs earned a margin from sale of commodities. KPI targets were revised. |
| | 4* | Jan-20 to Mar-20 | \$23 | CHWs earned a margin from sale of commodities |
| | 5* | Apr-20 to Jun-20 | | CHWs earned a margin from sale of commodities, but there were restricted movements. As a result, the \$23 incentives included a stipend to compensate the reduction in sales. Free medicines were also distributed, and no-touch protocol guidelines were also in place. |
| Kenya | 1 | Jan-18 to Feb-19 | \$8.9 | CHWs earned a margin from sale of commodities |
| | 2 | Mar-19 to Feb-20 | \$21.1 | CHWs earned a margin from sale of commodities. KPI targets were revised. |
| | 3 | Mar-20 to Jun-20 | \$27 | CHWs earned a margin from sale of commodities, but there were restricted movements. As a result, in May and June an extra \$3 was added to offset the decline in anticipated sales. "Free medicines were also distributed, and no-touch protocol guidelines were also in place. |

Action

The researchers conducted an interrupted time series (ITS) analysis to examine the immediate and long-term impact of the change in incentives structure on CHWs' number of household visits, u5 assessments and treatments, and pregnancy registration. Using Living Goods' routine administrative data on CHW activities, the researchers assessed the impact of the change in incentive structure at three timepoints for Uganda (May 2018, January 2019, and January 2020) and at two timepoints in Kenya.

Key findings

- In Uganda increasing maximum potential incentives from \$2 to \$3 did not affect household visits significantly, but larger increases (\$5-\$16) at higher rates did. In Kenya, the change in the incentive structure from \$8.9 to \$21 in February of 2019 had an immediate and long-term significant increase in the number of household visits.
- There was no change in trend for iCCM assessments and treatments except when the structure changed from \$21.1 to \$27 in February of 2020.
- Free medicine distribution from April 2020 combined with an incentive increase \$16-\$23 did not significantly improve income growth, suggesting an optimum incentive structure beyond which there are no additional benefits; performance peaks at \$16 with flat or diminishing returns at \$23.
- Outputs stagnate at \$23 for household visits, iCCM, assessments and treatments; based on the impact achieved with different incentive structures, the researchers propose \$16-\$23 as the optimal threshold at Living Goods.
- There is strong evidence that a change in the financial incentives structure from \$5-\$16 has the strongest positive impact.

Covid-19 incentives overview

As the effects of Covid-19 began to significantly limit CHW activities, Living Goods sought to ensure CHWs remain motivated amidst operational and economic constraints. From April 2020, all active CHWs received a monthly stipend of \$10 or UGX 38,000 for registering at least 1 activity of any kind during the month, and a weekly activity-based incentive of \$2.50 or UGX 9,500 for additional activities of any kind registered during the week.

- The average incentive per CHW has grown by ~93% from \$9.0 or UGX 33,300 in March to \$17.4 or UGX 64,380 in June.
- Incentives as a proportion of CHW income grew from 72% in March to 88% June as a result of free medicine distribution and reduced sales activity for non-essential products.
- Total income increased by 58% from \$12.5 or UGX 46,250 to \$19.7 or UGX 72,890 in the same period. In addition, up to 4,158 CHWs have been compensated in June as opposed to 3,955 in March.



Principles for developing compensation frameworks

Based on historical evidence and ongoing research at Living Goods, compensation mechanisms should factor in local fair market labour standards, the time commitment required for community health work, other sources of CHW income, and community health system's ability to drive performance. We offer this general guidance around best practices in developing CHW compensation frameworks.



Higher compensation and incentives increase health outcomes; however, there is a threshold in how much impact compensation alone can drive. For example, when we increased incentives in Uganda in January 2019, we saw it drive long-term impact, increasing the number of iCCM treatments and households visited by CHWs. However, when we changed the incentive structure again in 2020 from \$16 to \$23 a month, it did not yield further improvement in health outcomes.



A combination of stipend and activity-based incentives work best for increasing CHW motivation around RMNCH work. For example, in Uganda, annual attrition in 2020 dropped from 15.6% to 8.2%; this suggests that a good reward framework improves retention among CHWs.



Simple incentive structures drive better performance, as it enables CHWs to easily interpret how their work translates into compensation than more complex structures with multiple metrics. For instance during COVID 19 crisis, Living Goods moved its multi matrix performance based incentives for CHWs to a very simple plan using an aggregate of life saving activities. This change drove improved performance during COVID 19 rather than the total amount.

For a definitive understanding of the optimum financial incentive structure, we recommend considering employing a [step wedged design cluster randomized study](#).



10

Program Fidelity

Quality Assurance



What is Quality Improvement (QI)?

The Continuous Quality Improvement (CQI) approach seeks to spur quality improvement at Living Goods by emphasizing the following:

- **Client focus:** Services should be designed to meet the needs and the expectations of the clients/community. Feedback from the client informs QI efforts
- **Focus on systems and processes:** Providers must understand the service system and its key service processes to improve them.
- **CHW recertification**
- **Testing changes and emphasizing the use of data:** Changes are tested to determine whether they yield the required improvement. Data are used to analyse processes, identify problems, and to determine whether the changes have resulted in improvement.
- **Teamwork:** Improvement is achieved through the team approach to problem solving and quality improvement

Quality at the center

- Engage with communities.
- Collaborate across teams and implement improvement plans.
- Recertify CHWs.

Why is Quality Improvement important?

Quality improvement enables the organization to consistently deliver at very high standards due to the multiple categories of indicators that are constantly monitored. Problems in service delivery can also be quickly detected and analysed before they escalate and become embedded in systems and processes. In this way, quality improvement processes support CHW achievement of targets.

How is Quality Improvement implemented at Living Goods?

CHW recertification

CHW undergo an annual recertification process in which they are retested on ICCM knowledge, pregnancy support, and newborn care. The recertification process enables Living Goods to assess the competence of the health worker using case studies and questions. The recertification process involves a written test, an oral exam, and an observation checklist. A minimum pass level

of 80% is required for recertification; CHWs who do not pass will be given additional coaching and support before retesting. These tests are administered by CHW supervisors.

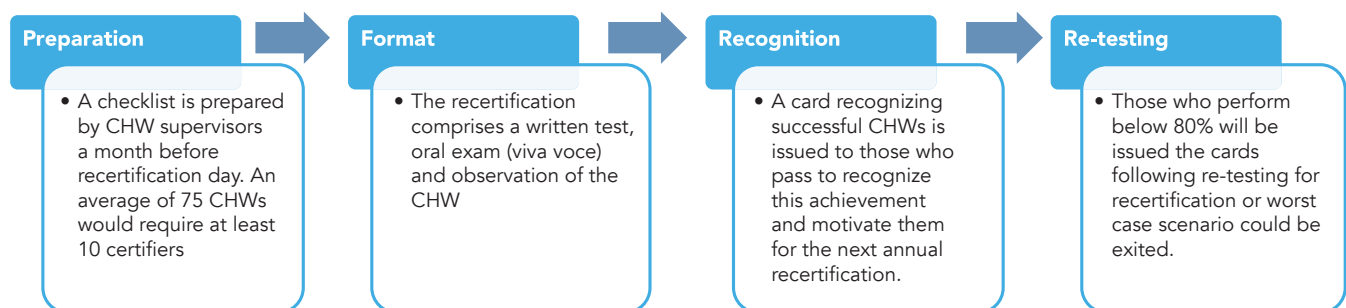
Continuous Quality Improvement (CQI) approach

Quality assurance also requires regular interface with the clients, clear definition and identification of performance standards and gaps, and timely collection of data, feedback, and utilization of data in QI. Living Goods has recently refined the quality assurance process to increase the frequency of quality checks made and provide timely and actionable feedback to the teams. For example, data verification calls are made to sampled clients in every location every quarter.¹⁷

Stratified sampling is used to select the respondents from three strata:

- Clients/caregivers of children under 5 years who have been assessed, treated, or referred
- Pregnant women registered in the communities
- Caregivers of newborns followed up.

Figure 27: The re-certification process at Living Goods



¹⁷ The Living Goods Continuous Quality Improvement Approach

Table 6: Summary of Quality Parameters and Questions

| Quality Parameter | Key Questions* | Other Questions* |
|--|--|---|
| Interaction with a CHW | Verify if a CHW visited a client or client visited a CHW in the reported period (either in-person or phone call) | |
| Validity of service delivery | Verify if the service reported was received by the client | |
| Unverified data | Client is unable to confirm a visit or reported service | |
| Verification of the treatment | Verify whether the reported treatment actually took place. | If not verified, is the client within the CHW catchment area? |
| Net Promoter Score | Client loyalty and satisfaction | |
| Clients registered with a phone number | | |
| Verification of pregnancies followed up | As above | Was the client actually pregnant? |
| Verification of newborns visited | As above | Does the caregiver have a newborn at all? |
| mRDT tests done (clients who receive ACTs) | Did the client have fever? Was mRDT done before ACTs were offered? | Was the client even informed about the mRDT test? |
| Does the client exist? | Does the client reported exist? | Is the client in the CHPs catchment area? |
| Clients without phone numbers | What proportion of the clients had phone numbers recorded? | |
| General satisfaction with the service | Was the client satisfied with the service? | Net Promoter Score questions |

*The responses to these are disaggregated by supervisor.

Quality improvement in practice

Kenya and Uganda use a harmonized approach for quality improvements regarding the process, parameters, and implementation of different protocols. Annual quality indicators are developed around iCCM, family planning, and immunization and are communicated to all teams:

- Knowledge of CHW or Living Goods. (How are we visible in the communities where we serve? If not, how did the client actually receive the service?)

- Indicators on interaction (CHW visits or the client visits the CHW); interactions via phone call
- Indicators on validity (receipt of service)
- Indicators on phone numbers recorded (Living Goods reliance on getting feedback from clients through phone calls or text; CHW need to have client numbers recorded)

- Indicators on Covid-19 compliance to determine whether the CHWs are adhering to the low/no-touch protocol and health information given during interaction with the client.

QI improvement plans will then focus on the gaps identified in those different parameters. The QC 360 process is key as QA teams can share unverified data with supervisors which is then verified in the field. From the data validation conducted at field level by the supervisors, the teams analyze the findings and confirm the cases as verified/unverified data and report back findings.

This also allows supervisors to take ownership of the QI process. Living Goods reduced the level of unverified data every single month in 2019, eventually reaching only 8% data in December 2020 that was unverified, compared to 26% in Q4 2018. In practice, the quality assurance team supports

supervisors to develop quality improvement plans during quarterly dissemination meetings. This plan is based on the quality gaps identified in that quarter by the supervisors and they develop strategies to address those gaps. The QA team makes two follow ups with the supervisors to check on the progress of implementation of the Quality Improvement Plan.

The QA team then shares different types of reports with the supervisors so that they can coach these CHWs to improve their performance. On a quarterly basis or depending on the survey, lists of CHWs recording inaccurate data are shared so that these CHWs can be coached or warned.

Maintaining high data quality is important as we look to scale innovative financing mechanisms. Our results-based financing model sets data quality standards, within which Living Goods qualifies for payment by the donor(s).



Principles for quality assurance processes



Collaborate and improve continuously: Quality assurance and improvements as an on-going process is grounded in a strong evidence base to optimize performance around detected gaps. Success hinges on team effort that involves all key actors, right from the CHW, monthly stakeholder dissemination meetings, strategic planning and implementation that enables required improvements.



Prepare the community: As quality assessment calls are conducted, there has been registered improvement in information provision by the clients. This has been mainly built by capturing precise and clear information about the LG CHW model in the communities served, the purpose of the call, and addressing their immediate concerns or information gaps, coupled with interacting using the area local language. This has resulted in affirming the reassurance and confidence of clients providing the requested information to the right people as well as having the sense that they are part of the improvement process.



Make it a culture: Senior management buy-in has also been noted as an important factor as it creates organization-wide ownership of the culture of continuous improvement. CHWs are now aware that being supported by Living Goods requires regular improvements and this is building a whole workforce that is constantly innovating for greater impact.



11

Program Fidelity

Impact Evaluation

Impact Optimization Plans at Living Goods

Living Goods invests in external evaluations to robustly evaluate impact and drive continuous improvement and learning. Data is used at both micro and macro levels, to manage targets and performance, to identify gaps in service quality, and to optimize how CHWs and their supervisors go about their work.

In 2018 a Randomized Controlled Trial (RCT) was initiated in partnership with CIFF and BRAC in Uganda following a previous RCT that had indicated that Living Goods CHW contributed to reducing u5 mortality by 27 percent in their catchment areas. The objective of this evaluation (ending in 2020) is to assess the impact of our community health program on child mortality when operating at large scale.



All about precision and fast learning

- Use data to inform action plan
- Learn fast, fail fast
- Scale success only.

The RCT sites double as experimental sites for Living Goods' impact optimization plan (IOP) to facilitate learning and course correction f.

The value of the IOP is that it allows Living Goods to quickly test new performance management approaches, fail or succeed equally fast, and be able to discard what does not work while

adapting what works. Further, the success of the IOP is based on close, rigorous monitoring and effective operationalization to ensure KPIs are being achieved.



CASE STUDY

DEVELOPING IMPACT OPTIMIZATION PLANS AT LIVING GOODS

Situation

The impact optimization plans aim to accelerate efforts towards effectively reaching, treating and/or referring the majority of sick children and ensuring that all pregnant women and newborn babies are systematically supported, resulting in a reduction of neonatal and under five mortality.

For the first impact optimization plan (IOP), 2018 data showed that disease assessments and treatments were below target. This plan was therefore designed to focus on increasing disease assessments and treatments by understanding what incentive point would motivate CHWs to visit households, assess clients and provide treatment.

Actions taken

The organization opted to start incentivizing assessments to motivate higher targets achievement among CHWs and maximize the treatment 'market share'. However, it was observed that when assessments were incentivized, there was a sharp rise in cases assessed with no corresponding rise in treatments, creating a situation of perverse incentives.

The second IOP (launched in June 2019) was designed to accelerate efforts towards effectively reaching, treating and referring sick children and ensuring that all pregnant women, newborn babies, and children under one year of age were systematically supported, resulting in the reduction of neonatal and under five mortality. Specifically, it focused on:

1. *Smart planning and effective implementation or 'back to basics'*
2. *Fast tracked IOP experiments in RCT sites*
 - *High-risk coverage incentive*
 - *Incentives for new customers*
 - *Free medicines for the most in need*
3. *Roll out of family planning*

This second optimization plan focused on going ‘back to basics’ emphasizing improvements in the quality of CHW supervision, efficient supervision, strict implementation of quality agreements, and development of behaviour change campaigns. Supervision content and processes were reviewed, and revised guidelines launched to ensure that CHWs were effectively supported using data and agreed on work plans.

Living Goods also redefined assessments to focus on sick child assessments only. Many CHWs had misunderstood the assessment definition to include even healthy children. According to the data quality audit in May, 2019 up to 47% of the children assessed were healthy. This clarification was crucial in enabling the CHWs to target and find sick children. Quality agreements were strictly enforced to ensure high authenticity of data and thus focus on finding the target households. IOP2, which focused on the basics, yielded good results for every indicator.

Key results

1. The IOP version 2 coupled with the rollout of FP registered unprecedented performance improvements in nearly all KPIs across the Living Goods Uganda network.¹⁸
 - HHs visited rising up to 65.1 from 58.5 per CHW
 - u5 Assessments improving to 37 from 31.7 per CHW
 - u5 Treatments improving from 16.0 to 18.8 per CHW
 - FP related visits improving 21.9 from 17.7 per CHW with 91% FP related visits.
2. On fast-tracked IOP experiments: Results indicated that free treatments to the most in need delivered significantly more treatments, costs remained manageable given the limited number of households per village (approximately 5) selected but execution was difficult and may not be scalable. Other experiments had limited impact.
3. Family planning: A surprise trend was observed: Where family planning was introduced, unique HH visits and assessments increased by 13%. It is a driver for performance contrary to the initial assumptions around family planning.

Key learning from the IOP development process

Going back to basics in IOP version 2 cost less than the actions taken in IOP1. When you have procedures that have been proven to work, no matter how simple they are, it is important to **implement them consistently and proficiently**. The results will be seen with proper implementation.

When teams realize the systems are not rigorous, quality will be compromised and this in turn will trickle down and affect all other dependent processes. Enforce quality controls rigorously and ensure that tested tools are used effectively all the time. Efficient monitoring is key to yielding quality results as it permeates throughout the network.

¹⁸ Data collected through the SmartHealth App in Uganda, January and March 2020

CHW Agreement Form, Kenya

Community Health Volunteer Agreement with Living Goods

The mission of Living Goods is to improve health in communities by supporting Community Health Volunteers (CHVs) in providing important health information, services, and products. All the actions of CHVs should support this mission in practice and spirit.

1. How Living Goods Supports CHVs

Living Goods supports Community Health Volunteers (CHVs) with:

- **Free training** on essential healthcare for mothers and children, and running a successful Living Goods business.
- **A CHV's business-in-a-bag:** Uniform, medicine kit, sign, thermometer, and educational materials. The business-in-a-bag remains the property of Living Goods and may be used by the CHV as long as she remains a CHV.
- **A smartphone** with mHealth tools to support reporting of CHV's health activities.
- **A start-up loan** for the purchase of initial stock to be repaid over 3 months.
- **Adequate stock** of products at Living Goods branches.
- **Ongoing training** through regular meetings with Living Goods staff.

2. CHV Investment in the Living Goods Business

In order to operate a Living Goods business, the CHV must make the following investments:

- Attend 13 days of **training**
- Attend 1 day clinic observation
- Pass the test at the end of the training
- Visit at least 10 homes per day, 5 days per week, 2 hours a day

3. CHV Health and Business Rules

To operate a Living Goods business, the CHV must follow the Health and Business Rules:

1. Put the health of clients first.
2. Follow the instructions for health education and health products at all times.
3. Only treat the conditions allowed as per the trainings.
4. Never prescribe a drug that is not needed or sell an expired product.
5. Refer clients to a health facility immediately if there is a danger sign, not sure what to do or patient has been sick for over 2 weeks. Maintain in stock at all times at least 1 dose of every key treatment for malaria and diarrhoea.

6. Keep medicines securely stored separately from all other items.
7. Only sell health products acquired from Living Goods.
8. Never allow others – including family members – to sell medicines acquired from Living Goods.
9. Keep an accurate record of your health activities.
10. Wear the CHV uniform, be clean and presentable when conducting business.
11. Participate in ongoing training to improve abilities to serve the community.
12. Not miss an appointed meeting with Branch staff.
13. Only use the Living Goods brand to sell products acquired from Living Goods.
14. Limit activities to the area allocated.

If the CHV violates any of the rules, the Living Goods kit will be taken away and she will no longer be considered a Living Goods CHV.

4. **Other**

Copyright: All Photos, Audio and Video recordings of CHVs produced while working with Living Goods will be used for; Presentations, Marketing and Public Relations (both Print and Electronic Media) and will remain the property of Living Goods.

Living Goods reserves the right to remove permission to use its name and repossess the CHV kit, if the CHV:

- Violates any of the “health and business rules” above.
- Fails to perform - that is fails to consistently to restock products or diagnose and treat customers correctly.
- Knowingly lies to or tries to deceive Living Goods.
- Is convicted of crime.
- Moves primary residence out of the designated sales area.
- Is found under the influence of alcohol or drugs while conducting business.

5. **Employment**

The CHV is operating her own business, and is not an employee of Living Goods.

I confirm that I have read this Agreement and agree to the terms.

The CHV:

Name.....

Signature.....

Date.....

Branch.....

For Living Goods:

Name.....

Signature.....

Date.....

CHW Phone Agreement Form



Living Goods Mobile Phone Agreement

This Mobile Phone Agreement is between the CHV noted below and Living Goods.

CHV:..... Branch:.....
Phone Serial #:.....
Mobile #:.....

Living Goods provides Android mobile telephones (a “Mobile”) for use of its Community Health Volunteers (CHVs) to assist in the performance of their businesses and improve communications.

1. Ownership

This phone, a TECNO L8 Plus, **remains the property of Living Goods**. The purchase price of the phone is Kshs. 11,200.00.

The SIM Card **remains the property of the CHV**.

2. CHV Responsibility

The CHV will be responsible for the safekeeping, proper use, and eventual return to Living Goods of the phone. The CHV is required to take good care of the mobile phone and take all care to ensure that the device is not damaged, lost or stolen. CHVs are required to keep mobile telephones clean and in serviceable condition to the best of their ability, and report all irregularities immediately to the Branch staff. CHVs are required to keep their phones charged and turned on.

CHVs must use the keypad lock and use a PIN code to lock the telephone, so that if the telephone is subsequently stolen or lost, a PIN code must be used to unlock it.

The mobile telephone is registered with the above noted serial number and SIM so that it cannot operate with any other SIM.

3. Refundable Deposit

CHVs must pay a refundable deposit of Kshs. 1,300 to use the phone. CHVs will receive the Kshs. 1,300 back when they return the phone in good condition. An initial deposit of Kshs. 1,300 must be made to obtain the mobile.

4. Loss or Damage of Phone

In case of theft or loss, CHV must:

- Contact the Police within 24 hours of discovery of the occurrence and report the incident. Ensure that you receive an incident reference number from the police.

- b. Report the theft/loss to the Branch staff within 24 hours of discovery of the occurrence, with the date of the theft or when the phone was lost, the Police station to which it was reported and the incident number.
- c. A block will be placed on the phone to ensure that it cannot be used.
- d. You will be entitled to one replacement handset and SIM card. Another Refundable Deposit of Kshs. 3,500 will be required for the replacement. You will lose your initial Kshs. 1,300 deposit in case of loss of mobile.

5. Repair

Mobile phones in need of repair should be returned to the Branch, which will send them to headquarters for repair or replacement. Phones come with a one year warranty, and Living Goods will work with the manufacturer to get the phone repaired. Please note that manufacturers' warranties do not cover damage caused by misuse or neglect.

Should your phone need repair for no fault of yours, Living Goods will provide a replacement phone under this Agreement. Should your phone need repair due to misuse, CHV must pay for cost of repair, up to a maximum cost of Kshs. 3,500.

6. Data and Airtime

Living Goods will send an 80 to 100 MB data bundle each month to the phone which must be used exclusively to transmit data for the Living Goods health applications.

Purchase of any airtime is the responsibility of the CHV.

7. Loss of Phone Privileges

Living Goods reserves the right to get the phone or pass the costs on to the CHV if:

- A specific event in a policy is contravened with financial cost to Living Goods (e.g., knowing a mobile phone has been stolen and failing to report it, using data bundle for personal calls or gaming) or
- if a repeat event occurs (e.g., loss or damage a second time to mobile phone), or
- A CHV fails to use the phone for health reporting.

These violations could also lead to termination of the CHV.

8. Support

Should there be any queries on the use of the mobile, please contact IT support at 0726 297 470 or your Branch Staff.

9. End of Relationship

The CHV agrees that upon termination of the relationship with Living Goods, should she not return the mobile phone, or should the mobile phone be returned in an unsatisfactory condition, the cost of replacement will be deducted from any final monies owing, or the CHV will otherwise reimburse Living Goods.

10. Legal Venue

This Agreement shall be governed by the laws of the Republic of Kenya.

I confirm that I have read this Agreement and agree to the terms.

The CHV:

Signature.....

Date.....

For Living Goods:

Signature

Date.....

Guaranteed by (Area chief or Current CHV):

Name

Mobile #:.....

Signature

Field Supervision Guidelines for Community Health Supervisors

Introduction:

Purpose: The CHS supervision preparation guide is intended to enhance effective supervision planning and monitoring of CHW daily activities in providing Community Health care to their clients.

Key Definitions

Supervisor: The supervisor refers to the designated staff who has the duty of supporting CHWs planning for good territory coverage, coaching and mentoring CHW to offer community health services, restocking CHWs, compliance monitoring, android management, credit recovery among others.

CHW: A CHW refers to the Living goods trained, certified and equipped community Health care promoter / or community Health worker to offer ICCM but also other services as per the LG Programme growth in service delivery.

Tools: Tools shall refer to all tangible items that a supervisor and a CHW should be in possession with as they plan for the supervision such as work plans for both CHW and CHS, well charged Android phones, essential medicines, and any other key supplies a CHW may be in need of.

Monthly Preparation for the visit

1. Monthly work planning:

For effective supervision, all supervision visits must be well planned before the 30th of the ending months. This is to allow for effective preparation to ensure 100% CHW supervision within the months, including communication with the CHW on the date, Time, purpose of the visit.

All work plans and follow ups shall be guided by the updated calculators to cover for the backlogs in key identified key performance Indicators.

2. Weekly Work planning and preparing for the field visit

All weekly field visit shall be guided by the monthly work plan, app follow up reminders whenever possible and the weekly dashboard unless in cases of any emerging donor/partner visit.

The start:

- **Branch team reviews the weekly report** every Monday morning to understand areas of high and low performance and develop action plans. This should lead to clearly defined targets for the week including backlog for:
 - Pregnancy registration
 - PNC
 - u1 sick child Assessments
 - u5 sick child Assessments

- Positive diagnostics, Treatments and referral
- **Each supervisor should review the “CHW follow up”** dashboard to identify low performing CHWs and schedule to visit at least 2 CHWs per day over the coming 5 days.
- Prior to visiting the 2 selected CHWs for the day, further **assess their performance against key indicators using the “CHW and branch performance”** dashboard. Prepare the weeks/months target for each CHW, including backlog.
- **Notify CHWs of the visit schedule** and ask if they are in need of any supplies especially of essential medicines.
- **Pack an essential medicine bag** with key essentials with the aim of restocking the CHW in case her/his stock levels are low.

3. Conducting the visit

- **Meet the CHW at his/her residence** or ask the CHW to come with her medicines bag and conduct a medicines audit to ensure they are adequately stocked with essential medicines as defined below:

| Essential Medicine | Required weekly stock level |
|--------------------|-----------------------------|
| ACT | 6 doses |
| mRDT | 6 tests |
| Co-pack | 2 doses |
| Amox | 1 dose |

- **Review performance with the CHW**, recognizing areas of high performance and highlighting areas for improvement.
- **Commend effort for good performance and progress so far** but also discuss reasons for poor performance and suggest corrective action.
- **Check her/his work plan** and agree on daily targets for the week/month including backlog, and a monitoring schedule.
- **Highlight the incentives plan** if targets are achieved.
- **Emphasize household coverage** (share coverage statistics)
 - How many households are registered by the CHW?
 - Are all registered households eligible for health activity (presence of u5 children, expectant mothers, newborns, women of reproductive age- for FP)?
 - How many HH have been visited to date?
 - What's the plan to visit the rest?
- **Emphasize data quality.**
 - Explain why submitting correct data is important.
 - Refer to the quality agreement to highlight penalties for submitting incorrect data.

- **Conduct a field visit** with the CHW to at least 3 of the less frequently visited households
- **Courtesy call with the local leader** (Chairperson LC1, VHT coordinator if near, or sub-county health assistants...) to solicit support and affirm the CHWs work and role in their community and Living Goods' commitment.

Post-visit follow up

- **Review the CHW's performance** every 2 days using the dashboard and follow up to know if additional help is required.
- **If poor performance persists**, escalate to CHM/RM/LC for support.

ANNEX 3

Living Goods 2020 KPI Definitions and Rationale

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|---|--|
| Health Impact Indicators | | |
| Pregnancies registered/ CHW/month (E) | Num: # of new pregnancies registered in the month Den: # active CHWs in month | <ul style="list-style-type: none"> Indicator representing all the support and multiple interventions CHW provide to pregnant woman |
| u5 sick child iCCM assessments/CHW/month (E) | Num: # of u5 iCCM sick child assessments registered through mobile system in month Den: # active CHWs in month | <ul style="list-style-type: none"> Primary iCCM metric Identifying and properly assessing sick children is the primary activity we want to motivate among CHWs regardless of treatment or referral outcome. |
| u5 iCCM treatments and positive diagnoses/CHW (E) | Num: # of registered u5 positive diagnoses for malaria, diarrhoea and pneumonia in month Den: # active CHWs in month | <ul style="list-style-type: none"> Primary iCCM metric Identifying and promptly treating u5s is a key driver of preventing u5 mortality <i>Note: Includes treatments made by the CHW and positive diagnoses that are referred for care elsewhere, considering some patients with a positive diagnosis may choose to seek treatment from a source other than the CHW</i> |
| u1 sick child iCCM assessments/CHW (E) | Num: # of u1 sick child assessments registered through mobile system in month Den: # active CHWs in month | <ul style="list-style-type: none"> Same as above for u5 assessments As u5 mortality rate declines, majority of mortality in first year. Hence, we want to focus CHWs and staff to focus on u1s. |
| u1 iCCM treatments and positive diagnoses/CHW (E) | Num: # of registered u1 positive diagnoses for malaria, diarrhoea and pneumonia Den: # active CHWs in month | <ul style="list-style-type: none"> Same as above for u1 treatments As u5 mortality rate declines, majority of mortality in first year. Hence, we want to focus CHWs and staff on u1s. <i>Note: Includes treatments made by the CHW and positive diagnoses that are referred for care elsewhere, considering some patients with a positive diagnosis may choose to seek treatment from a source other than the CHW</i> |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|---|---|
| % referrals confirmed at facility (E) | <p>Num: # referrals followed up where client confirms being seen or treated at a facility.</p> <p>Den: # Referrals followed up by CHW</p> | <ul style="list-style-type: none"> We seek to focus CHWs and staff on ensuring that the most at risk cases get needed care CHWs instructed to follow up with any referral within 24 hours to ensure they go for care. Includes referrals to public, private or faith-based facilities. |
| On Time Postnatal Care Visit: % postnatal care visit within 48 hours of birth. (E) | <p>Num: # newborns visited within 48 hours of birth as reported through mobile system (reported CHW data during newborn visit)</p> <p>Den: total confirmed live births + expected deliveries without a visit (calculated from EDD)</p> | <ul style="list-style-type: none"> Over 40% of child deaths occur during the first month (newborn period). Newborn care shown to be a key driver of RCT results Aligned with published evidence of impact of newborn care home visit |
| Facility Delivery: % deliveries in facility (E) | <p>Num: Self-reported facility delivery during PNC visit by CHW</p> <p>Den: Women in catchment area with completed PNC Visit</p> | <ul style="list-style-type: none"> Facility delivery is key driver of maternal and neonatal mortality prevention We now collect this data through Smart Health app and perform well relative to national average, thus should report externally |
| Immunization: % of defaulters with a completed referral (E) | <p>Num: # of children 0-23 months old that initially missed necessary immunizations and are confirmed to have completed the immunization referral and obtained the necessary immunizations.</p> <p>Den: Estimated # of children 0-23 months old that missed necessary immunizations in catchment areas. (Reported through CHW HH visits in app)</p> | <ul style="list-style-type: none"> Immunization is new impact area of focus. Important driver of u5 child survival and one of the most cost-effective health investments. CHW will have most impact with defaulters as this is key driver for % fully immunized children. |
| Treatment to Positive Diagnosis ratio: % of u5 positive diagnoses that are treated (I) | <p>Num: Total u5 treatments in period</p> <p>Den: Total u5 positive diagnoses in period</p> | <ul style="list-style-type: none"> Allows LG to monitor that most positive diagnoses are being treated by CHW and if not, understand why and how to overcome those barriers. |
| Positive Diagnoses to Assessment Ratio: % of u5 assessments that are positive diagnoses (I) | <p>Num: Total u5 children diagnosed with an iCCM condition in period</p> <p>Den: Total u5 children assessed in period</p> | <ul style="list-style-type: none"> CHW iCCM incentives are driven by assessments, and thus this allows us to monitor Historically ratio is ~60% in Uganda, and less than 50% in Kenya. |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|--|--|
| Speed of iCCM Diagnosis: % of iCCM positive diagnoses within 24 hours (I) | <p>Num: No of u5 iCCM positive diagnoses in 24 hours of symptom onset</p> <p>Den: Total no of u5 iCCM positive diagnoses in period</p> | <ul style="list-style-type: none"> • CHIC priority indicator • Increasing iCCM diagnosis speed deepens impact. • We will also look at this by disease and also 72 and 48 hours. |
| Coverage of ANC: % of women with 4+ ANC (I) | <p>Num: No of pregnant women who have delivered in period with at least 4 registered facility ANC visits.</p> <p>Den: Total no of pregnant women that have delivered in the period</p> | <ul style="list-style-type: none"> • Standard metric for gov't and DHS. Good proxy for ensuring women get needed care during pregnancy to drive maternal and neonatal outcomes. |
| Speed of ANC: % of ANC in first trimester (I) | <p>Num: No of pregnant women who have delivered in period with first facility ANC visits before 12 weeks.</p> <p>Den: Total no of pregnant women that have delivered in the period.</p> | <ul style="list-style-type: none"> • Earlier ANC drives better pregnancy outcomes through earlier maternal nutrition and identification of risk factors. • CHIC priority indicator |
| FP: CYPs per FP trained CHW per month (I) | <p>Num: Total CYPs in period, calculated from methods distributed and completed FP referrals using the standard USAID CYP Conversion Factors</p> <p>Den: 1-mo FP-active CHWs</p> | <ul style="list-style-type: none"> • To monitor that we are on track to total planned CYPs. • Not a target used for incentives per USAID compliance |
| FP: # FP visits per CHW per month (I) | <p>Num: Total FP related visits in the month (includes initial visits and follow up visits)</p> <p>Den: 1-mo FP-active CHWs</p> | <ul style="list-style-type: none"> • FP KPI used to track activity level leading to uptake and continuation of FP • USAID compliant for CHW and staff incentives. |
| FP: # FP referrals followed up per CHW per month (I) | <p>Num: Total FP referral follow up visits in a month</p> <p>Den: 1-mo FP-active CHWs</p> | <ul style="list-style-type: none"> • Proxy for uptake of FP methods via referral, especially long acting and permanent methods • USAID compliant for CHW and staff incentives. |
| IZ: % of children 9 – 23 months assessed that are fully immunized (I) | <p>Num: Total number of children 9-23 months assessed in period that are fully immunized</p> <p>Den: Total number of children 9 – 23 months assessed in the period</p> | <ul style="list-style-type: none"> • Tracks full immunization coverage among children assessed which allows us to internally track important IZ outcome indicator. |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|---|---|---|
| Program Implementation Quality Indicators | | |
| % high impact items in stock (branch) (E) Note: This includes all treatments (ACT, ORS, Zinc, Amoxicillin) plus mRDT and Clean Birthing Kits | Num: # SKUs for high impact products in stock over 3 months as measured by branch inventory reports Den: # potential SKUs for high impact products above over 3 months | <ul style="list-style-type: none"> Out of stock rates is one of critical public health challenges and an important enabler of a functioning CH system. Note: this will not be relevant for our TA and government supported areas. |
| % high impact items in stock (CHW) (I) Note: This includes all treatments (ACT, ORS, Zinc, Amoxicillin) plus mRDT and Clean Birthing Kits | Num: # of active CHWs with at least 2 items of each essential items at one CHW visit. This includes ACT, ORS, Zinc, Amoxicillin Den: # CHWs supervised in the period. | <ul style="list-style-type: none"> CHWs being equipped with essential medicines is a key program element and critical to impact. |
| % CHWs who received supportive supervision in last 3 months (I) | Num: of active CHWs, # that have received a supportive supervision visit in last 3 mos as logged by the Supervisor App in Smart Health Den: # 3-month active CHWs | <ul style="list-style-type: none"> Supportive Supervision is a key program element, known to be a critical driver of community health worker motivation and performance. 3-mo ensures all CHWs are actively supervised. |
| % CHWs who received supportive supervision in last 1 month (I) | Num: of active CHWs, # that have received a supportive supervision visit in last 1 mo as logged by the Supervisor App in Smart Health Den: No 1-month active CHWs | <ul style="list-style-type: none"> Supportive Supervision is a key program element, known to be a critical driver of community health worker motivation and performance. 1-mo ensures active supervision for majority CHWs. |
| Compensation: % of 1-mo active CHWs paid incentives in the month (I) | Num: No 1 mo active CHWs with confirmed incentive payment Den: No 1 mo active CHWs | <ul style="list-style-type: none"> Compensation is critical program element. Ensures CHWs are paid in the month. |
| Compensation: % of CHWs earning target CHW income level in month (I) | Num: No of CHWs earning at least \$20 USD in the month (includes incentives, stipend, and margin) Den: No of 1-mo active CHWs | <ul style="list-style-type: none"> Compensation is critical program element. Ensures CHWs are earning enough to motivate. Target income amount will vary between countries and programs within a country. |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|---|--|
| Digitally Empowered: % of supervisors accessing dashboards in the last 1 week (I) | <p>Num: No of supervisors that have accessed the dashboard in a week, averaged over the period</p> <p>Den: Total no of active supervisors, averaged over the period</p> | <ul style="list-style-type: none"> Use of digital tools critical program element for supervisors. Ensures supervisors using data for decision making. |
| 3-mo coverage: % unique HH visits in the last 3 months per CHW (I) | <p>Num: No of households registered to have been visited in previous 3 mos through a health activity in app or through home visit app</p> <p>Den: Estimated number of households in CHW catchment area</p> | <ul style="list-style-type: none"> Important to ensure CHWs covering a reasonable portion of territory on a regular basis Note: HHs registered by the CHWs can be used as the denominator when there is confidence in that the CHW has all HHs in her territory covered. If there is a question on this, then estimated figures are used |
| 1-mo coverage: % unique HH visits per month per CHW (I) | <p>Num: No of households registered to have been visited in previous 1 mo through a health activity in app or through home visit app.</p> <p>Den: Estimated number of households in CHW catchment area</p> | <ul style="list-style-type: none"> Gives a sense of activity level of CHW over the month. Note: HHs registered by the CHWs can be used as the denominator when there is confidence in that the CHW has all HHs in her territory covered. If there is a question on this, then estimated figures are used |
| Data Quality: % unverified data (I) | <p>Num: Number of clients who do not confirm receipt of a service (assessment, treatment, referred, pregnancy registration or followed up, newborn follow up)</p> <p>Den: Total number of clients interviewed</p> | <ul style="list-style-type: none"> Data quality verification is important, especially with RBF |
| Impact Indicators – TOTALS | | |
| # Active CHWs (3-mos active) (E) | Recorded health activities in the last 90 days | Tracks progress against growth targets |
| # Active CHWs (1-mo active) (I) | Recorded health activity in the last 30 days | Ensures coverage and activity level among CHWs |
| Population Served (E) | Number of 3-mo active CHWs multiplied by estimated population served per CHW (800 for Direct Ops, BRAC & 500 for TA and gov't supported areas) | Important scale and reach indicator |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|---|---|
| Active FP-Trained CHWs (I) | Number of 3- month FP-active CHWs. | Tracks progress on scaling FP program and allows calculation of other FP related indicators. |
| Total Pregnancies Registered (E) | Total pregnancies registered in period | Tracks total pregnancies reached in period |
| Total Under 1 Assessments (E) | Num: Total iCCM u1 assessments registered in the period among all CHWs | Tracks total iCCM reach in period |
| Total Under 1 Treatments & Positive Diagnoses (E) | Num: Total iCCM u1 positive diagnoses and treatments registered in the period among all CHWs | Tracks total iCCM reach in period |
| Total Under 5 Assessments (E) | Num: Total iCCM u5 assessments registered in the period among all CHWs | Tracks total iCCM reach in period |
| Total Under 5 Treatments & Positive Diagnoses (E) | Num: Total iCCM u5 treatments & positive diagnoses registered in the period among all CHWs | Tracks total iCCM reach in period |
| Total Unwanted Pregnancies Averted (E) | <p>Pregnancies averted is estimated from CYPs which is calculated from FP methods distributed and referrals for methods confirmed using USAID CYP Conversion Factors.</p> <p>We use MSI's Impact 2 Model to estimate the averted pregnancies from total FP methods taken up</p> | Averting unwanted pregnancies is one of primary impacts of FP, and a more tangible indicator for non-FP focused stakeholders than couple years of protection or number of methods distributed |
| Total Couple Years of Protection (CYP) (I) | Estimated from FP methods distributed and referrals for methods confirmed using USAID CYP Conversion Factors . | Couple Years of Protection is a standardized FP indicator used across FP programs |
| Cost-Effectiveness Indicators | | |
| CHW Income / month / CHW (USD) (E) | <p>Num: CHW Margin per month plus CHW financial incentives per month</p> <p>Den: # 1-month active CHWs</p> | CHW Compensation is a critical program element and a key driver of CHW motivation and performance |

| 2020 KPI External (E); Internal (I) | Definition | Rationale |
|--|---|--|
| Cost/Capita Direct Operations (E) | <p>Num: total costs in period net of earned revenue, taken as full year run-rate</p> <p>Den: Estimated population covered by CHWs</p> | Best current proxy for cost effectiveness that can be monitored on ongoing basis. Makes value for money case with governments, funders and other important stakeholders. |

ANNEX 4

CHW Classification and Exit Procedure

| CHW Status and Definition | Active | Inactive: | Dropped: | Left LG: |
|---------------------------|--|--|--|---|
| | CHW is actively engaged in LG work: Attends in-service training, facilitates community events, does home visits, attends to clients and does sales of products within any of the last three months | CHW has not done any home visit or attended to clients (pregnancy registration, U5 assessments and newborn visits) within the last 3 months but has sold products and/or attended an LG activity like in-service trainings and a community event | CHW has not done any home visits, has not attended to any client and has not bought or sold any products or even attended an LG activity like in-service training or community event for the last 3 months or more. Such a CHW is considered to have left though has not returned LG property | The person dropped and returned LG property and is thus no longer considered a CHW |
| Recommended Actions | Continue to provide necessary support to increase productivity. Recognize and reward outstanding performance and length of service. | CHS should contact the CHW on month 2 of inactivity to understand reasons why no home visits have been conducted. The branch should also notify the LC of inconsistent performance of the CHW. | CHS should contact the CHW on month 3 to understand the reasons for dropping assigned roles and responsibilities. Such a CHW is considered to have left though has not returned LG property. <ul style="list-style-type: none"> • If there's willingness to return to service, provide the necessary support to ensure the CHW resumes work (pregnancy registrations, assessments and newborn visits) • If the exit decision is confirmed, communicate and engage the LC in terminating the CHW agreement as guided in the "PROCESS TO TERMINATE A CHW AGREEMENT AND RESPONSIBILITIES", complete the EXIT FORM and fill the CHW EXIT LOG (see all in Annex A). | <ul style="list-style-type: none"> • Record CHW status and document actions taken/proposed for inactive and dropped CHWs. • All items recovered from exited CHWs should be handed over to the RFM, who will return them to the head office (RFM should sign exit log for items collected from the branch) |

PROCESS TO TERMINATE A CHW AGREEMENT AND RESPONSIBILITIES

- 1. Regional Field Manager and Community Health Manager to meet with Local Chairperson**
 - Explain the rules of Living Goods and the CHW agreement
 - Identify the areas of non-compliance of the CHW and any intervention given to help support the CHW improve performance.
- 2. Regional Field Manager and Community Health Manager meet with CHW**
 - Inform the CHW of your decision to terminate their CHW agreement
 - Bring out their CHW agreement and highlight areas of non-compliance
 - RFM and Community Health Manager to fill a complete CHW dismissal form and submit it to DCD with all Living Goods Business in a Bag items and phone
- 3. Register and communicate the dismissal internally**
 - Register the dismissal in the dismissal log which is sent to the DCD, Direct Operations
 - Inform analytics and IT to update systems, CC RFM and DCD, Direct Operation in all communications regarding dismissals
 - Send phone and business-in-a-bag materials to HQ
- 4. Communicate with the District**
 - In the event of a replacement class within the district, inform the District Health Officer of Living Goods intention upfront.



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