Uganda’s community health worker (CHW) program is facing a high level of attrition, similar to global trends among many other CHW programs (1,2).

In under-resourced health systems, CHWs play a critical role addressing significant health inequities by facilitating health care access within local, often rural, communities. CHWs provide support for public health campaigns, provide community health education and promotion, and initiate patient referrals to health care facilities, among other activities.

Uganda’s CHWs, who comprise Village Health Teams (VHTs), provide maternal and newborn care and services in addition to general health education. VHTs also organize their communities for greater health service utilization (1). From 2001 to 2016, Uganda’s CHW program trained over 179,000 VHTs throughout the country’s 112 districts (2). Nongovernmental organizations (NGOs) deploy their own CHWs known locally as community health promoters (CHPs).

Heavy workloads, a lack of transportation, poor supervisory and logistical support, along with inadequate compensation and incentive structures inhibit motivation and contribute to high attrition among Uganda’s VHTs (1,2). Given the critical role of CHWs in health promotion and service provision within communities, it is crucial to identify ways to enhance their support, including improving their working conditions with appropriate and realistic incentive packages (3).

This brief summarizes quantitative and qualitative findings from the Frontline Health project’s discrete choice experiment (DCE) study in Uganda, implemented with collaborators from Johns Hopkins Bloomberg School of Public Health and Pathfinder International, and supported by Uganda’s Ministry of Health.

**KEY FINDINGS**

1. Uganda’s CHWs prefer both monetary and non-monetary incentives to motivate them in their work.

2. Transportation was the most important factor for CHWs, followed by official identification, refresher trainings, and salary.

3. CHWs are willing to accept lower pay in exchange for other considerations: Governments and program managers should consider aspects other than remuneration when developing incentive packages.
RESULTS

CHWs received varied health training and provided a range of health services

Qualitatively, CHWs described receiving training, including refresher trainings, on a range of topics, including family planning, antenatal care, and HIV care and prevention.

“We go for home visits, we talk to them about antenatal [care], we also visit young babies age 0-5 years and we take them for immunization.”—CHW, Wakiso

In Phase 2 the mean age of CHWs interviewed was 44.5 years of age (±10.5 years). Fifty-nine percent of CHWs were female, and about 70% had at least a secondary education or higher. About 86% of CHWs reported walking to work, with the remaining 14% using some combination of bicycles, motorcycles, vehicles, and public transportation. About 95% reported financial compensation for their work, with an average of USH 118,243 ($30) provided per health event in which they participate (data not shown).

Monetary compensation alone does not improve CHW motivation

The results of this DCE (see Box 1) indicate that although CHWs would prefer jobs with higher salaries, they also desire jobs with reliable transportation, consistent training opportunities, official identification, reliable provision of job tools, less intense workloads, and recognition for their work. These survey results reveal that CHWs are willing to accept lower pay in exchange for consistent training and official identification.

Transportation: Reliable, affordable means of transportation are critical for CHWs to work efficiently, ease their commutes, and provide better access to the communities they serve. Currently, CHWs receive occasional transportation refunds for their travel needs, but amounts provided are, at times, negligible. CHWs often have to personally provide for their transportation to job sites, which can unduly burden them financially. In the DCE, bicycles were CHWs’ preferred transportation option, followed by motorcycles.

“It will be better if we are given bicycles because there is a lot of work we do in the villages. […] It becomes hard to walk on foot and be effective.”—CHW, Mayuge

Some CHWs lack adequate transportation or means to attend job and skill trainings, when given the opportunity.

Refresher Trainings: CHWs prefer quarterly refresher trainings, both for the learning opportunities as well as the additional compensation that can accrue.

Without adequate compensation, CHWs may be unable to participate in trainings.

“We need a refresher training on how to treat diarrhea, pneumonia, and anemia and how to take care of pregnant mothers when they deliver, how to sensitize them, they should keep training us.” —CHW, Lira

Currently, CHWs are not trained consistently. Trainings can support career advancement and provide CHWs’ work with meaning and value.

Official Identification: CHWs preferred having methods of identification compared to none at all, with a strong preference for identification cards. Identification is important for CHWs as it helps them in building stronger connections with their communities and health facilities. Identification can also help them assert their credibility:

“One of the problems I face while I am walking in the villages is I have no identification to show them that [I] am a [CHW], and we all look alike, [it] becomes a challenge because even when you tell them something, they look at you the way they want.”—CHW, Mayuge

### TABLE 1. METHODOLOGY FOR PHASE 1 AND 2

<table>
<thead>
<tr>
<th>Phase</th>
<th>Where</th>
<th>What</th>
<th>Who</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Lira, Mayuge, and Wakiso Districts</td>
<td>Focus group discussions (FGDs) and in-depth interviews (IDIs)</td>
<td>CHWs, CHW supervisors, national-level stakeholders</td>
<td>To better understand job attributes (see Table 2) that were meaningful to CHWs, and practical from a policy-maker perspective</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Lira, Mayuge, Wakiso, Ntungamo, Kabale, Arua, Kabarole, Nakapiripirit Districts</td>
<td>DCE (discrete choice experiment)</td>
<td>CHWs (n=399)</td>
<td>To experimentally test the job attributes identified in Phase 1 using a DCE*, and identify which attributes CHWs prefer. This is done by presenting CHWs with two hypothetical job scenarios with differing combinations of attributes and levels from Table 2.</td>
</tr>
</tbody>
</table>

* A DCE is a quantitative technique which involves asking individuals to state their preferences in hypothetical scenarios. This can help researchers determine the preferred choices of respondents and their willingness for concessions. DCEs are based on Random Utility Theory, which estimates the benefit (i.e. utility) that an individual derives from Attribute A compared to Attribute B when given repeated choices (5). The influence of each attribute on the choice can be estimated mathematically to better understand preferred attributes.

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“One of the problems I face while I am walking in the villages is I have no identification to show them that [I] am a [CHW], and we all look alike, [it] becomes a challenge because even when you tell them something, they look at you the way they want.”—CHW, Mayuge
**Availability of Tools:** CHWs would prefer mobile phones over paper-based job aids because mobile phones can support a wide range of activities, acting both as digital job aids and devices for collecting and storing data, in addition to improving CHWs’ communication with their affiliated communities and work supervisors.

"Mine was mentioning smartphone because [...] [it] can make our work easy and collect data easily. You know the world is advancing now, you cannot do anything with paper, you can send everything through a phone."
—CHW, Lira

**Workload:** CHWs manage both high workloads and inadequate compensation for their work. CHWs would prefer lighter workloads, such as four hours a day, two days a week. Heavy workloads can depress CHW motivation and result in lower job satisfaction, which is then exacerbated by their lack of monetary compensation and other incentives.

"Our workload is not equivalent to the compensation, and yet we still do this work because we are volunteers."
—CHW, Wakiso

**Recognition:** CHWs preferred opportunities for career progression and priority healthcare for them and their immediate family as means of recognition for their work. Recognition is critical for CHWs as it indicates external value and appreciation for their work. In addition to career progression and healthcare, CHWs also deeply appreciate and value their relationships with the community and healthcare facilities. The community themselves often refer to CHWs as ‘musawo’ – or doctor – which highlights the ownership and respect the community feels for them.

**BOX 1. PHASE 2 DCE RESULTS**

CHWs preferred higher monthly salaries, though salary was not the most important attribute. They preferred reliable transportation, such as a bicycle (CI:1.06-2.67), motorcycle (CI:1.27-2.34), or transport allowance (CI:0.65-2.10). CHWs preferred formal identification including identity badges (CI:0.72-2.49), branded uniforms (CI:0.45-1.63), and protective branded gear (CI:0.32-1.21) compared to no identification. They also preferred more regular refresher trainings, the use of mobile phones as job aids, and lesser workloads. The relative importance estimates suggest that transport was the most important attribute, followed by identification, refresher trainings, salary, workload, recognition, and availability of tools. CHWs were willing to accept a decrease in salary of USH 31,240 ($8.50) for identity badges, and a decrease of USH 85,300 ($23) for branded uniforms to no identification.

**TABLE 2. ATTRIBUTES IDENTIFIED DURING PHASE 2**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stipend</td>
<td>50,000 USH ($13)/month</td>
</tr>
<tr>
<td></td>
<td>100,000 USH ($27)/month</td>
</tr>
<tr>
<td></td>
<td>150,000 USH ($41)/month</td>
</tr>
<tr>
<td>Refresher Trainings</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Bi-Annual</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td>Every two years</td>
</tr>
<tr>
<td>Identification</td>
<td>Identity badges</td>
</tr>
<tr>
<td></td>
<td>Branded uniforms (e.g. t-shirts)</td>
</tr>
<tr>
<td></td>
<td>Branded protective gear (e.g. umbrella)</td>
</tr>
<tr>
<td>Availability of tools</td>
<td>Paper job-aids/manuals only</td>
</tr>
<tr>
<td></td>
<td>Work mobile phones with payment plans</td>
</tr>
<tr>
<td>Transportation</td>
<td>Bicycle</td>
</tr>
<tr>
<td></td>
<td>Transportation allowance</td>
</tr>
<tr>
<td></td>
<td>Motorcycle</td>
</tr>
<tr>
<td>Recognition</td>
<td>Membership in VHT club/association</td>
</tr>
<tr>
<td></td>
<td>Low-interest credit for starting business</td>
</tr>
<tr>
<td>Workload</td>
<td>4 hours a day/ 2 days a week</td>
</tr>
<tr>
<td></td>
<td>8 hours a day / 2 days a week</td>
</tr>
<tr>
<td></td>
<td>4 hours a day / 4 days a week</td>
</tr>
</tbody>
</table>

**CONCLUSION AND RECOMMENDATIONS**

**CHWs require both monetary and non-monetary support for optimal performance**

Investing in CHWs is critical, along with understanding their needs in addition to the specific contexts and factors of their work. Improving CHWs’ working conditions can properly motivate them and improve their performance. This study identifies practical potential incentive preferences determined by CHWs themselves that can provide not merely necessary remuneration, but non-monetary support and public recognition than can enhance their work and the results they can achieve for public health and wellness.

CHWs in Uganda are willing to accept lower pay in exchange for reliable transportation to their job sites, consistent training opportunities, official identification, reliable provision of job tools, less intense workloads, and tangible recognition for their work.

Evidence from this study is relevant for key community health stakeholders in Uganda working to strengthen its CHW programs and policies. Key stakeholders in Uganda may consider the importance of supporting CHWs with a reasonable salary or other form of monetary compensation, in addition to exploring expanded non-monetary incentives.

We recommend a carefully considered combination of monetary and non-monetary incentives provided by CHW programs for improving CHW motivation, satisfaction, retention, and ultimately, performance.
BOX 2. STUDY STRENGTHS AND LIMITATIONS

The formative work in Phase 1 provided a stronger understanding of stakeholder perspectives, which helped identify job characteristics that are the most policy-relevant and actionable, while also being meaningful to CHWs. However, as with other DCEs, a key limitation of this study is that the job attributes presented to CHWs are still hypothetical and may not be systematically understood by all the CHWs. Additionally, CHW preferences may be influenced by their organizational affiliations and prior experiences. A potential follow-up for this study is to practically test the results by implementing the preferred job attributes and assessing how it influences the motivation and retention of CHWs.

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