Exploring supervision for volunteer community health workers in Mukono District, Uganda: An exploratory mixed-methods study

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ABSTRACT

Community Health Worker (CHW) supervision is an under-researched area. This mixed-methods study engaged key stakeholders involved in CHW supervision in Mukono District, Uganda including CHWs (n = 14), District Health Office officials (n = 5), NGO programme managers (n = 3) and facility-based health staff (n = 3). Our study aimed to explore how supervision is currently conceptualised and delivered in this setting, the desired qualities of a potential supervisor, as well as the challenges regarding supervision and potential solutions to address these. To understand these concepts, we conducted structured surveys and individual interviews. Survey data were analysed in SPSS using descriptive statistics. Interview transcripts were thematically analysed in NVivo using conventional content analysis. This study revealed current CHW supervision in this context is fragmented. Supervision is perceived both as a means of motivating CHWs and facilitating ongoing training, as well as a way of holding CHWs accountable for their work. Stakeholders identified technical knowledge and expertise, strong interpersonal skills and cultural awareness as desirable qualities for a supervisor. Challenges surrounding supervision included a shortage of funding, a lack of guidelines on supervision, and infrequent supervision. To address these challenges, stakeholders proposed the need for increased funding, creating clearer job descriptions for supervisors, and in-person supervisory meetings.

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Introduction

With a global shortage of healthcare professionals, especially in low- or middle-income countries (LMICs) (Woldie et al., 2018), there is renewed interest in the role of Community Health Workers (CHWs) to strengthen primary health care (PHC) systems (Ballard et al., 2017; Winters et al., 2018).

The term ‘Community Health Worker’ is often used to describe laypersons, working in a health promotion, prevention and/or delivery role (Taylor et al., 2018). Although they have numerous context-specific roles, CHWs generally work in the communities which they live, belong to the formal health system (managed by a government or non-governmental organisation [NGO]), but do not have a paraprofessional degree or tertiary education (Lewin et al., 2005; Olaniran et al., 2017).
In 2018, The World Health Organization (WHO) published a report appraising areas considered central to optimising and strengthening CHW programmes (World Health Organization, 2018). These areas included selection, preservice education, remuneration, community engagement and supervision. The report concluded that despite the importance attached to supervision in the existing literature, this particular domain has been relatively underexplored and classified the existing evidence for supervision as ‘weak’ (World Health Organization, 2018).

One major challenge is that the term ‘supervision’ in the context of healthcare workers is defined and conceptualised differently (Assegaai & Schneider, 2019; Vasan et al., 2017). It often encompasses several facets, including ‘supportive, managerial, and clinical supervision’ (Vasan et al., 2017) all of which have different approaches and aims. Traditionally supervision in healthcare has been viewed as ‘a process that involves monitoring work processes, understanding the causes of problems and providing possible solutions, as well as general management’ (Sennun et al., 2006). This definition focuses on the accountability and monitoring aspects of supervision in order to improve health services and contrasts with the more nurturing and supportive function that it has also been suggested to have. Indeed, more recently emphasis has been placed on supervision that is more supportive in nature (Kok et al., 2018; Marquez & Kean, 2002). For example, specific to CHWs, Ludwick et al. (2018) suggest that supervision should also contribute to increased ‘CHW confidence, cohesion, recognition in the community, and a sense of connectedness to the health system’.

In addition to varying definitions and framing of supervision, several studies have noted challenges with how it is implemented. Not only is there a lack of evidence on what ‘good supervision’ for CHWs entails (Assegaai & Schneider, 2019), but there is also variability in supervisory interactions across different geographical contexts and programmes, resulting in a lack of consistency or development of best practices (Schwarz et al., 2019). As a result, there is a need for studies to explore how supervision for CHWs is positioned, its purpose and ways to support effective delivery (Agarwal et al., 2019; Nkomazana et al., 2016).

This study focuses on exploring the current state of CHW supervision in Uganda, which adopted a CHW model for primary healthcare delivery in 2008. In Uganda CHWs are volunteers referred to as Village Health Teams (VHTs) (O‘Donovan et al., 2018; Sekimpi, 2007) and are selected following a popular vote by local residents (Kimbugwe et al., 2014). Despite some reported success of the CHW strategy in Uganda, such as improving access to primary care services and contributing to a reduction in child and maternal mortality rates (Ekirapa-Kiracho et al., 2016; Mangwi Ayiasi et al., 2016), several challenges have also been documented; one of which is supervision (Chang et al., 2019; Kimbugwe et al., 2014). Despite this, no studies have conducted an in-depth exploration of volunteer CHW supervision in the Ugandan context.

This exploratory study, therefore, aims to address this gap in the literature by documenting the perspectives and experiences of key stakeholders involved in a volunteer CHW programme in Uganda. Specifically, we aim to understand:

(i) How CHW supervision is currently delivered, including frequency, style and mode of delivery, duration and perceived supervisor.
(ii) How the current purpose of supervision is conceptualised.
(iii) Desired supervisor qualities which might help to inform future supervisor selection.
(iv) The current challenges surrounding supervision and ways which these could be addressed.

Materials and methods

Study design

This study used an exploratory mixed-methods research design, combining a quantitative survey with semi-structured interviews. A study protocol was not published.
**Study setting**

This study took place in Mukono District, Uganda, between September and December 2018. Mukono District is located in central Uganda and has a population of approximately 600,000 people, the majority of which are subsistence farmers (Uganda Bureau of Statistics, 2017). The district is comprised of several administrative units, broken down into sub-counties \( (n = 13) \), parishes \( (n = 72) \) and villages \( (n = 782) \). The work was conducted in Mukono District for access reasons, given that the authors have lived and/or worked in the district for several years and are familiar with the key stakeholders involved in community health delivery in the region.

The specific location for this study was Seeta Nazigo Parish, Nakisunga sub-county, Mukono District. Nakisunga has one government-only funded Health Centre III (HCIII), located in a rural area of Seeta Nazigo Parish. The HCIII employs a facility manager, three nurses, two lab technicians, two midwives, a data assistant and a clinical officer. These staff are supported by volunteer CHWs who work in the surrounding community.

Because of Uganda’s decentralisation laws, the interpretation, prioritisation and implementation of health policy is largely enacted at a district level (Jeppsson, 2004). In this context the Mukono District Health Office (DHO) oversees the work of CHWs attached to the HCIII. The DHO is assisted by several international non-governmental organisations (NGOs) who help to facilitate day-to-day support and training of CHWs. The NGO supporting the largest number of CHWs in the district is a US-Ugandan NGO (anonymised and referred to as NGO A), which supports an estimated 1250 CHWs. They work directly with the Mukono DHO to support and train CHWs who have roles in health education, promotion and carrying out household visits. The main focus of the CHWs work is addressing common childhood and maternal challenges, such as malaria and pneumonia, however more recently they have been tasked with managing other conditions, such as ear disease and hypertension. The NGO does not receive any government funding, but rather raises funds philanthropically. For more information on NGO A, please refer to Figure 1 in the Supplemental Online Material.

**Participants**

To identify key stakeholders involved in CHW supervision in the study region, the research team held meetings with an advisory board consisting of local leaders, community health officials from the Ministry of Health and academic researchers investigating community health in Uganda. Following this consultation process, we recruited stakeholders from local government, NGO programmes supporting CHWs, facility-based health staff and volunteer CHWs within Seeta Nazigo Parish.

We were especially interested in the opinions and experiences of the CHWs since it has previously been suggested that ‘insufficient space is given to CHW voices’ in research concerning their deployment and experiences (Ludwick et al., 2018). We also hypothesised involving a variety of different stakeholders might elicit a more heterogeneous range of opinions regarding the purpose and current delivery of supervision.

Although we broadly used non-probability sampling, the specific recruitment and sampling strategy varied depending on the cadre of stakeholder. For example, DHO officials and NGO programme managers were recruited using a mixture of convenience and snowball sampling, whereas CHWs and facility-based health staff were selected purposively.

All participants were invited to take part through an oral invitation and were provided with an information sheet describing the purpose and aims of the study. Participation was voluntary and written informed consent was obtained from all participants before enrolment. The study involved CHWs \( (n = 14) \), Mukono District Officials \( (n = 5) \), NGO programme managers \( (n = 3) \) and facility-based health staff \( (n = 3) \).
**Data collection tools, processes and management**

**Structured surveys**

In order to fulfil the first research aim of understanding the current delivery of supervision in this context, we used an adapted version of a survey designed by Madeed et al. (2017). The original version of this survey had been used previously to evaluate a supportive supervision intervention for health workers in Mozambique.

The adapted survey was divided into two sections and completed by the CHW stakeholders only:

- Section A contained questions regarding CHW demographics, the number of years served as a CHW and the number of households served.
- Section B contained questions concerning practical aspects of how the CHWs perceived the current delivery of supervision (i.e. the frequency, style and duration of supervision).

For the full survey, please refer to Figure 2 in the Supplemental Online Material.

**Individual interviews**

Data regarding key stakeholders’ perceptions of supervision and its challenges were collected through semi-structured individual interviews with all key-stakeholders. Individual interviews were chosen since we hypothesised that CHWs would be more likely to provide honest opinions in a one-on-one situation, versus in a group setting where their supervisors might be present.

Semi-structured interview guides were developed by the research team and piloted before use (see Figure 3 – Online Supplemental Material). Interviews with District Officials and NGO programme managers were conducted by the principal investigator (PI) in English, whereas interviews with the CHWs and facility-based health workers were carried out in the local language (Luganda) by one of two locally hired and trained research assistants (RAs). The individuals conducting the interviews were independent researchers at the time of the study and not employed by the NGO responsible for supporting the CHWs. Interviews were recorded using a digital audio recorder and immediately transcribed into English. Transcripts were then checked for accuracy and clarity by the PI and the RA to ensure no meanings had been lost during the translation process. Where necessary participants were contacted to clarify any points of ambiguity.

**Data analysis**

Survey data were transferred by the RA from the paper copy of the survey to a Microsoft Excel spreadsheet and then imported into SPSS (IBM Corp, 2016) in order to calculate descriptive statistics (mean; standard deviation [S.D.], and range).

Interview transcripts were formatted for consistency using Microsoft Word and imported into NVivo Version 12 for Macintosh (QSR International Pty Ltd, 2018). The interviews were first read in full by two members of the research team. The first read-through aimed at ensuring the accuracy of the typed transcript. The same two researchers then re-read the transcripts a second time, following Braun and Clarkes six-step framework for conducting a thematic analysis (Braun & Clarke, 2006). Following this process, initial codes were generated by referring back to the research questions. An open-coding framework was used, meaning the codes were developed and modified throughout the process of reading the transcripts. Once each researcher compiled an initial set of codes, these were discussed and a preliminary unified set of codes from the two researchers was determined. Each set of transcripts was read by both researchers and codes were modified, generated or changed throughout this process. After generating the final set of codes, the researchers grouped these into themes. Themes and coding nodes were then reviewed in NVivo to ensure they were coherent, had supporting data, and to see if there were any potential subthemes or missing themes. The final themes were
then refined and defined, which Braun and Clarke refer to as ‘identifying the “essence” of what each theme is about’ (Braun & Clarke, 2006).

**Ethics**

Research Ethics Committee (REC) approval was obtained from the Mengo Hospital Research Ethics Committee (114/07-18) and UNCST (SS 4723). Approval was also granted from The Department of Education Research and Ethics Committee (DREC) at the University of Oxford (ED-CIA-18-218). The research conformed to the principles embodied in the Declaration of Helsinki. All participants signed informed consent forms in English or Luganda, depending on participants’ preference.

**Patient and public involvement**

The public were involved in this research through a consultation process at the beginning of the project. Discussions were held with the Local Village Chairperson (LC1) in the communities where the study took place, helping to inform which stakeholders were invited to take part in the interviews. Staff at NGO A were involved in advising us regarding the format of participant interviews, including where interviews should be conducted and appropriate forms of reimbursement for participant time. This resulted in us making the decision to reimburse all participants with a small monetary contribution for their time, as well as providing a drink and a small food item for the participants’ comfort.

**Results**

CHWs were largely balanced in terms of sex and most CHWs had served in their role for an average of nine years. However, there was significant variability in the number of households they served (range: 28–120) and the number of home visits they had undertaken in the previous month (range: 0–100). A summary of key CHW information is presented in Table 1.

In the following sections we outline the findings from the structured survey conducted with the CHWs (n = 14) and then present the findings from individual interviews held with all key stakeholders (n = 25).

### A. Survey findings

#### Supervision frequency

The majority of CHWs stated they received supervision every three months (n = 12); however, one stated that they received it monthly (n = 1), and for another only when there was a special community outreach programme which had no pattern as to the frequency of delivery (n = 1).

#### Style and mode of delivery

The style of supervision delivery varied across CHWs. Ten of the 14 stated that they received in-person group supervision, two in-person one-to-one supervision, one through mobile phone

| Sex (M:F) | Age (mean ± S.D; range) | Years of Education (mean ± S.D; range) | Years served as a CHW (mean ± S.D; range) | Number of households served (mean ± S.D; range) | Number of household visits in last month (mean ± S.D; range) |
|-----------|-------------------------|---------------------------------------|------------------------------------------|-----------------------------------------------|-------------------------------------------------------------|
| 8:6       | 44.9 (8.73; 36)         | 10.9 (2.11; 6)                        | 9.1 (2.41; 8)                            | 58.9 (33.1; 92)                               | 13.1 (26.2; 100)                                            |
support only, and one through a mix of one-to-one in-person supervision and additional support via mobile phone.

**Duration of supervision**

Twelve of the 14 CHWs stated that supervision sessions lasted for longer than 60 min, whereas the remaining two stated that they lasted between 15–30 min.

**Perceived supervisor**

Seven of the 14 CHWs considered staff of NGO A to be their supervisor; five stated it was a fellow CHW; two stated it was a member of staff at the health facility, or a mixture of NGO staff and fellow CHWs.

**B. Interview findings**

**The purpose of supervision**

From the stakeholder interviews, three themes arose regarding the perceived purpose of supervision, including (i) Motivational purposes; (ii) Accountability purposes and (iii) Supporting ongoing training and development.

(i) *Motivational purposes of supervision*

All groups of stakeholders suggested that increasing motivation was one purpose behind supervision. CHWs felt appreciated and valued after receiving supervision, which in turn extrinsically encouraged them to continue to carry out work in the community.

This supervision motivates [me] and also encourages [me], therefore I can know that what I do is appreciated. (Male CHW)

It also makes us feel they [the supervisors] value us and love what we do. (Female CHW)

Similarly, DHO officials and NGO supervisors considered supervision to be a way of formally recognising CHWs, which they hoped would motivate them to carry out their healthcare-related roles in the community.

There is motivation. If we know about it they [the CHWs] will say ‘Oh District Officials came here, you are moving with this person!’ They [CHWs] see themselves as the ‘doctor of the village’. They want to see themselves working with some key people who appreciate his or her role in the community … (District Official)

And it even boosts their morale. VHTs [CHWs] think "look these are those people [NGO staff] they know us!" (NGO official)

(ii) *Accountability purposes of supervision*

In contrast to its motivational purposes, supervision was also strongly perceived by the CHWs as a way of holding them accountable for their work-related duties. Whereas the motivational purposes of supervision appeared to inspire CHWs to carry out their duties for positive recognition and a sense of appreciation, the accountability purposes of supervision appeared to result in CHWs carrying out their work to avoid being penalised.

It [supervision] motivates us so that we are not reluctant, because we know we are being monitored all the time. (Female CHW)
Since the work we do is entirely voluntary, we tend to relax. But with supervision, we feel pressured to do whatever we are supposed to do, like making reports and submitting them, knowing if we do not someone is coming to find out why and there may be a penalty. (Female CHW)

(iii) Supporting ongoing training and development

Across all groups of stakeholders it was suggested that supervision has an important role in supporting ongoing training, such as the development of new skills through the provision of constructive feedback in order to improve and strengthen practice. This purpose of supervision was viewed by stakeholders as a means of prioritising continuous learning and professional development.

Again, when I am supervised, I am taught something new that I can pass on to the others. We usually get new information from supervision and share it with others. (Female CHW)

They [CHWs] also learn because they are taught a number of things during supervision. Because of that they are able to influence positive change in their particular villages. (Health Facility Worker)

You are going to this person, appreciating the good things and correcting what is not going well in a good way. (District Official)

DHO officials also suggested supervision could also be a way to facilitate career development, since supervisors would be more aware of the leadership characteristics of individual CHWs through the process of providing supervisory support.

If I supervise you, I can recommend you for career development as I know your qualities … like who is a leader. (District Official)

The desired qualities of a supervisor

Stakeholders highlighted three qualities that they felt a good supervisor should possess, including: (i) Technical knowledge and expertise; (ii) Interpersonal skills and (iii) Cultural awareness.

(i) Technical Knowledge and expertise

All groups of stakeholders stated that a supervisor should have good technical knowledge of subject matter they are supervising, as well as mastery of technical and clinical skills. This was so that they could guide individual CHWs who needed help in an informed manner.

They should be knowledgeable about what they are going to supervise. (District Official)

… they should be well educated as they can always teach me in case I need to know something. If I am below them then they know more than I know. (Female CHW)

(ii) Interpersonal skills

CHW stakeholders prioritised positive interpersonal skills as qualities that a good supervisor should have. These skills included active listening, trustworthiness, confidentiality, empathy, being non-judgemental and approachable.

A good supervisor should be a good listener. For example, on some occasions, I may explain that I was unable to finish a particular task because of reasons which are beyond my control. Therefore, a good supervisor should be in a position to listen to understand my issue. (Male CHW)

The person should not be tough. They have to be simple, easy to deal with and approachable. (Female CHW)
Stakeholders at all levels highlighted the need for the supervisor to understand the culture they were working in. This ranged from an understanding of the local language, to having an appreciation of community structures. For example, the DHO officials highlighted the difference between traditional governance structures and those implemented during the era of British colonial rule and stressed that many local people had a stronger allegiance to the traditional governance structure. From their perspective it would therefore be important for supervisors to be familiar with this system.

The supervisor should be fluent in English and Luganda because that is the language people in the community understand best. (Health Facility Worker)

Knowing the place where he [the supervisor] is working, knowledge of leadership, the community structures and all this. Because here we have the political structure and the more traditional structure … You’ve heard of the Baganda [the largest tribe in central Uganda]? If you go to a community and they love their Kabaka [King] so much, he’d rather go through the community leadership of the traditional leader. Then they will be very happy to work. Rather than the political structure. (District Official)

Challenges affecting CHW supervision

This section focuses on the perceived challenges affecting CHW supervision in this context, which were: (i) A lack of funding to facilitate supervision; (ii) Issues with the design and structure of supervision and (iii) Tensions between key stakeholders involved in CHW supervision.

(i) A lack of funding to facilitate supervision

At the DHO level a lack of funding was cited as the major barrier to the delivery of CHW supervision. DHO officials stated that the Ministry of Health had failed to allocate sufficient funds to community health programmes, which had resulted in a reduced budget for CHW supervisory activities. In addition, DHO officials also acknowledged that they had failed to reflect supervisory activities in their own budgets.

Even when you look at investment, money allocated to these programmes by the Ministry of Health, is little. They think community care doesn’t matter. It does need prioritisation … and the resulting supervision doesn’t happen or function as it should if it were properly funded! (District Official)

We [The DHO] haven’t prioritised supervision of VHTs [CHWs]. Because funding cannot just come when you’ve not lobbied for it. You need it in your work plan. You show it as an unfunded priority to key stakeholders. (District Official)

The NGO staff responsible for the delivery of supervision also stated that they failed to conduct supervision as regularly as they would like, due to the costs associated with travel to different villages and the remote islands within the district.

Supervision costs a lot of money. Like for us, we go to the islands [Koome Islands – part of the Mukono District]. Goings to the islands means taking a boat which requires a lot of money. (NGO facilitator)

At an individual level, CHWs stated that they would often spend their own money to attend supervision sessions held at the local health centre. The voluntary nature of their role meant that many CHWs elected not to attend supervisory sessions, since they had other needs to address, such as tending to their farms in order to generate income.

We [CHWs] don’t show up sometimes because we aren’t getting paid. We all have jobs and need to make money as we are not rich. (Male CHW)
(ii) Issues with the design and structure of supervision

All stakeholders commented on the challenges regarding supervisory design and structure. DHO officials suggested implementation challenges were rooted in a lack of formal guidelines and training for supervision, as well as more practical aspects such as a lack of health professionals to fill supervisory roles.

The system does not stipulate what exactly a supervisor should look into. And that is an issue to do with guidelines. Trust me there are guidelines missing on supervision. (District Official)

But when you are in a situation where you don’t have a medical worker… who can do the supervision? Because if you are not even having enough [staff] in the facility, then how can you have additional people to do supervision? (District Official)

Health Facility and NGO staff highlighted the high ratios of supervisees to supervisors as a barrier towards the delivery of supervision.

We the current supervisors are few in number compared to the areas we have to supervise which makes our work quite incompetent. We take a long time to go back and supervise those we monitored earlier, because we still have so many other VHTs [CHWs] in other areas to work on… (Health Facility Worker)

Similarly, CHWs highlighted several challenges regarding supervision, such as the long distances needed to travel to receive supervision, poor communication between supervisors and CHWs, infrequent supervision and a lack of individual supervision.

Well it is a long way to the centre. We are not paid and we have to take a boda-boda [local motorcycle] there. That costs money. (Female CHW)

We can’t ask them individual questions if it is a group. (Male CHW)

Suggestions on how to improve supervision

Stakeholders also put forward suggestions as to how supervision could be improved. These included (i) Increased funding; and (ii) Alterations in supervisory design and structure; however, not all of the challenges which were raised by the stakeholders were met with corresponding ideas for how they could be addressed.

(i) Increased funding

Increased funding for supervisory purposes was highlighted as an important factor – especially by CHWs, who suggested that a financial payment for attending supervisory sessions would help to motivate them. This appeared to be particularly important for female CHWs, many of whom had a dual role as mothers and as CHWs.

Another challenge is when we are called for supervision. For example, a breastfeeding mother like me and others that left their homes without lunch are not facilitated in any way. They should motivate us the few VHTs [CHWs] … because the truth is we endure all situations with or without financial facilitation which would help us greatly. (Female CHW)

(ii) Alterations in supervisory design and structure

DHO stakeholders also highlighted the importance of creating designated job descriptions, which should incorporate supervisory responsibilities. Furthermore, they suggested that individuals assigned to a supervisory role should receive specific training and that monitoring should take place to ensure that supervision was occurring.
Then tell the person in their job description that they should do the supervision. Because then when I am evaluating you, I will ask you as supervisor Why did you not meet this output? You were supervising these VHTs [CHWs]. Tell me the positives that came out of the supervision. (District Official)

But we also need to meet up. Understand how the VHT [CHW] can work and speak with the supervisor in charge. Speak with them, check if the issues seen by the VHTs in the community are acted upon. (District Official)

CHWs also suggested logistical improvements, including having supervisory sessions conducted at the village level (rather than at the health centre), remote supervision using mobile phones, increasing the frequency of supervision and having supervisors proactively respond to the concerns and challenges they faced.

They [supervisors] need to come and visit us in our villages. (Female CHW)

Mobile phones also simplify communication. For example, you can briefly call your supervisor and ask them a question. (Male CHW)

Now they [current supervisors] have been supervising us quarterly, but I suggest they do it at least after every two months or whenever we have a problem, instead of just set times. (Male CHW)

**Discussion**

Supervision of CHWs is an under-researched and poorly understood topic (Crigler et al., 2013; O’Donovan et al., 2018). The findings from this exploratory mixed-methods study reveal the fragmented and uncoordinated delivery of volunteer CHW supervision in the context of one area of Mukono District, Uganda.

Even amongst this relatively small group of CHWs, it is clear that the current model of supervision lacks coherence, given there was no unifying consensus amongst the 14 CHWs as to how supervision is currently delivered. Whilst the majority of CHWs in this study agreed that supervision occurred on a quarterly basis, opinions on the style and mode of supervision and the perceived supervisor were more variable. This finding is in keeping with previous studies conducted in other LMICs, which suggest that CHW supervision is often poorly implemented (Assegaai & Schneider, 2019; Hill et al., 2014; James O’Donovan et al., 2020) and thus highlights the need for greater attention to be given to the design and implementation of supervisory programmes.

Another important finding concerned the different ways in which supervision was conceptualised. Whilst all stakeholders perceived supervision as a way to positively motivate CHWs, the CHWs themselves also viewed supervision as a means of monitoring their work in a managerial fashion. It is important, however, that the positive aspects of managerial supervision, which focus on task-performance and accountability, do not stray into control and fault finding, which could hinder the relationship between CHWs and their supervisors. In other settings, such as a study from Benin and Kenya, health workers perceived supervision as a means of control and fault finding (Mathauer & Imhoff, 2006). Although a shift towards supportive supervision has been encouraged in the literature (Avortri et al., 2019), putting this into practice will not be straightforward given the entrenched nature of how supervision is perceived by those on the ground. This could partly be due to the way supervision has been framed historically. For example, Clements et al. (2007) have suggested that traditional supervisory structures in LMIC health systems were originally designed in ‘a hierarchical and often punitive manner aimed at local staff’ and that workers with higher professional positions were placed in charge of those with lower professional standing to oversee them. Marquez and Kean (2002) have developed this argument further, suggesting that the ‘inspection and control’ element of supervision came about in part due to the notion that front-line health workers tended to be ‘unmotivated and lacking incentive for high performance’ (Marquez & Kean, 2002), and thus required tight supervision (Vasan et al., 2017).
Challenging this status quo could therefore prove difficult and requires careful engagement with key stakeholders to understand their viewpoints as to how supportive supervision strategies could be enacted.

Enabling supportive supervisory practices includes giving thought to supervisor selection and training. This is important, given that fault-finding supervisory practices have been found to be one of the main demotivating factors for CHWs across Ethiopia, Kenya, Malawi and Mozambique (Kok et al., 2017). In Ghana, guidelines have recently been developed by government and NGO partners to help train CHW supervisors, representing an opportunity for other countries to follow suit. These guidelines place a strong emphasis on enhancing supervisors communication skills – such as active listening, developing leadership qualities and providing constructive feedback (World Vision International and Ghana Ministry of Health/Ghana Health Service, 2015). These were also features which were suggested to be important by the CHW stakeholders interviewed in our study. Developing the interpersonal skills of a supervisor is worthwhile given that previous studies have demonstrated that enhanced feelings of trust and support between the supervisor and supervisee can result in enhanced levels of CHW performance (Kok et al., 2017). In our study, the cultural background of the supervisor was also highlighted as an important characteristic of a good supervisor, and thus, this should be considered during the selection process.

Importantly, the challenges of supervision extended beyond the conceptual, to the logistical. For example, the issue regarding the sharing of financial data between DHO and NGO stakeholders suggests lines of communication between organisations involved in CHW programming are not always open, nor transparent. Given the increasing role and influence of NGOs in supporting health systems strengthening initiatives in LMICs (Pfeiffer et al., 2008), consideration must be given as to how partnerships can be best approached in a sustainable and responsible manner. One suggestion has been for NGO-government partners to use Memorandums of Understanding to ‘formalise expectations for collaborative relationships as well as respective project roles and responsibilities’ (Hushie, 2016); an approach which could be considered in this setting.

Logistical challenges regarding funding to support supervisory activities also extended to individual CHWs who often struggled to attend centralised supervision sessions due to a lack of financial support. Fair and consistent payment of CHWs is considered important for well-functioning programmes and sustaining CHW motivation (Ormel et al., 2019). For example, a previous study in Uganda has demonstrated that combining supportive supervision with a financial incentive for CHWs helped to improve CHWs impact in their communities (Lazzerini et al., 2019). For example, when CHWs in Arua District received payment, there was an increase in the number of malnourished children admitted to intervention facilities (Lazzerini et al., 2019). Although it was beyond the scope of this study to address potential solutions and strategies for financial costing and planning for supervisory activities, we wish to highlight this as an important area of consideration for government and NGO stakeholders alike, based on the feedback from the stakeholders involved in this study.

CHWs also suggested that a barrier to supervision was in the way it is currently structured and delivered. Instead of a supervision model with one-off meetings occurring in classrooms or at centralised meeting points, CHWs proposed that supervision should occur at the village level. Such an approach could help make the design and delivery of programmes more responsive to the needs of CHWs and would mean that supervisory encounters could focus on real-world cases which the CHWs encounter during their daily practice. Other suggestions included the use of mobile technologies (mHealth) to support remote supervision. Such an approach could help to reframe supervision as an ongoing process, rather than a one-off event. Whilst mHealth approaches should not be regarded as a panacea to addressing the complexities of supervision, nor should they replace high-quality in-person supervision, they could be considered as an adjunct to facilitate in-person supervision in this setting. This is particularly important in LMIC settings especially given the challenge of a low number of supervisors, which is a rate-limiting step for the amount of in-person supervision that can take place. For example, in Kenya Vu Henry et al. (2016) documented how the use of WhatsApp (a mobile instant messaging application) was used to support the supervision of 41
CHWs and helped to facilitate quality assurance, communication and sharing of information, and the creation of a supportive environment.

**Limitations**

It is important to note that the supervisory experiences of CHWs in this study were self-reported and relate only to volunteer CHWs, rather than paid CHWs. Several other NGOs are beginning to support CHWs across the Mukono District and provide financial remuneration to the CHWs they supervise. As a result, the experiences of CHWs who receive financial recompense for their work may be different to the cohort of volunteer CHWs involved in our study. We decided only to recruit volunteer CHWs both for access reasons and because this is the current government model of community health delivery and so our results should be interpreted with this caveat in mind. Future work could therefore explore and compare CHW’s experiences of supervision based on the NGO they are supported by. Similarly, the number of stakeholders interviewed was relatively small and other stakeholders from this region (and indeed other areas within the district) may have had different opinions and experiences. We would therefore recommend interpreting our results with this caveat in mind and suggest the potential for larger-scale work across the district building on these exploratory findings. Empirical studies are also needed to better understand how features of supportive supervision can be put into practice and how they impact on CHW performance and motivation.

Next, given this was an exploratory study we tried not to influence the participant’s responses unduly, since we wanted to understand what supervision meant to each participant. We do however acknowledge that the questions asked about supervision were not specific, which may have led to some ambiguity amongst participants and could partly explain the wide range of responses regarding notions of supervision. The questionnaire may therefore have benefitted from the research team contextualising supervision for the participants and limiting the time frame they were asked to consider. Finally, there were also other stakeholders whom we wished to interview, including government stakeholders at the national level (such as Ministry of Health officials); however, for access reasons, we were unable to fulfil this aim.

**Reflexivity statement**

The PI of this study was a British doctor who has spent several years working in the Mukono District. Therefore, although many of the study participants were familiar with him, it is possible that given his position in relation to the topics that were raised during the interviews (e.g. the impact of colonial policies on the perception of supervision), some participants may have felt uncomfortable voicing their full opinions on such matters. Similarly, certain stakeholders may have felt uncomfortable taking an overly critical stance given their professional position (e.g. the DHO officials may have been reluctant to be overly critical of the Ministry of Health). To minimise this, we explicitly stated at the beginning of the interviews that individual identities would be anonymised prior to publication; an approach which appeared to be well received by the participants.

The interviews were also conducted in the participants’ homes or places of work. The logic behind this was that the participants would feel more comfortable in a familiar environment. During the analysis process, no particular groups voice was privileged over another – a process referred to as ‘fair dealing’ . This meant that during the data analysis process the research team spent several days discussing the coding framework against individual transcripts and ensuring that individual accounts were not over- or mis-represented when compared across the data set as a whole.

**Conclusions**

Supervision is an important, but underexplored area of CHW programme design and delivery. This study helps to shed light on how CHW supervision is delivered amongst one small group of CHWs
in the Mukono district of Uganda. Even amongst this small group we identified that CHW supervision is fragmented and has various challenges, ranging from a lack of funding, to challenges with supervisory design and structure.

We therefore suggest the need to consider a more supportive model of supervision which responds to the needs of CHWs who are responsible for delivering basic health services at the community level. We propose that a starting point for the delivery of supportive supervision would be to outline logistical parameters for how supervision should be conducted and focus on the selection of and appropriate training of CHW supervisors, with a focus on ‘good supervisory practices’, some of which we have identified in this study.

Our proposed approach will not be without its challenges given the lack of health workers to take on the roles of supervisor, and the historically rooted hierarchical model of healthcare delivery in Uganda. Nonetheless, this study represents an important starting point for beginning to reconsider how supervision can be better designed based on the needs of key stakeholders in this context.

Disclosure statement
All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: X reports grants and personal fees from the Economic and Social Research Council, during the conduct of the study as part of a Doctoral Training Grant. No financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

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Data availability statement
Data are available upon reasonable request. We are able to provide de-identified participant survey data, deidentified interview transcripts. All requests for data should be addressed to the corresponding author in the first instance.

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