A Qualitative Study on The Role of Community Health Workers In Influencing Social Connectedness Using The Household Model: A Case Study of Neno District, Malawi

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Research article

Keywords: Social connectedness, community health workers, household model

Posted Date: November 12th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-81409/v1>

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Abstract

Background: There is growing global recognition that community health workers (CHWs) play a key role in facilitating social connectedness. Through direct interactions and relationship building, CHWs link people to key services such as healthcare and social support. Several models aim to understand how CHWs facilitate these interactions, but the theory of change is not yet fully understood.

In Neno District, Malawi, CHWs recently transitioned from a disease-focused model to what we call the “household model.” Under the household model, each CHW is assigned to several households to provide screening and linkage to care, as well as psychosocial and chronic disease support. We theorise that this public health approach facilitates social connectedness in the households and rural communities served by CHWs. We aim to understand drivers of influence on social connections from the CHW-, healthcare worker-, and patient perspectives.

Methods: This was a cross-sectional qualitative study utilising focus group discussions (FGDs) and in-depth semi-structured interviews with purposively sampled community stakeholders, CHWs, health service providers, and patients (total N=180) from October 2018 through March 2020.

Results: Participants reported improved social interactions and connectedness and increased access to health care in their communities following the transition to the household model. This was driven by factors including reduced stigma and discrimination, empowerment of households and community members, and fostering both social cohesiveness and individual agency in accessing health services. The main themes that emanated from this study are; expansion of care by CHWs, trust in CHW’s provision of care, and equal treatment of community members by CHWs.

Conclusion: Our study demonstrates that through the polyvalent household model, CHWs foster high levels of social connectedness in the communities, evidenced by a reported reduction in stigma and discrimination and an increase in individual agency in accessing health services.

Background

Social connectedness, defined as the practice of belonging and relatedness, is a vital determinant of human wellbeing. It is centred on quantitative and qualitative social assessments in interaction and relationship strength (1–3). Currently, in many parts of the world, the use of smart technology and social media is recognised as an enabler and facilitator of social connectedness (4–6). However, in places with less technology availability and strong in-person community networks, physical means of interaction within the community are the primary mode for establishing social connectedness. In rural Malawi, this is especially true given low electricity and connectivity availability – usually less than 5% of the population in most rural areas and internet usage rates as low as 13% (7).

Research shows that social connectedness can be a powerful phenomenon to tap into when planning for public health interventions. Improved mental health, reduced depression, enhanced sense of belonging,

improved health-seeking behaviour, reduced stress, enhanced self-esteem, and improved cognition are all notable benefits of social connectedness (3,8–12). Evidence has shown that people with decreased social connectedness have poor mental and physical health and higher morbidity and mortality compared to those with strong social connectedness (8–11,13). Successful community-based interventions depend on strong community and individual relationships, trust between people and groups, and good rapport with individuals in the households and community at large (14–21).

Community health workers (CHWs) are individuals who carry out healthcare delivery outside the formal health system. Typically they have no formal professional training or degree in tertiary education and are locally trained in the context of the intervention and community in which they serve (22,23). CHWs perform an important role in connecting communities and the health system. CHWs link people to vital health and social services within their communities and help them to claim their economic, social, environmental, and political rights (24). Literature shows that CHWs have contributed positively to improved health in the rural and poor communities. For example, they have been found to increase antiretroviral (ART) adherence among HIV patients through psychosocial support to patients and accompaniments to health facilities (22,25,26).

In 2018, Neno District was home to an estimated 139,000 people (27). Located in southwestern Malawi, Neno is rural and impoverished, with no tarmac roads and only 3.7% of the population having access to electricity (27). Health facilities in the district include one district hospital, one community hospital, and twelve health centres. Partners In Health (PIH), known in Malawi as Abwenzi Pa Za Umoyo (APZU), developed a community health worker (CHW) cadre to, among other goals, facilitate social connectedness to improve the health of the community and patient outcomes. Starting in 2007, the CHWs, deployed by PIH/APZU, used a patient-assigned model with a focus on providing individual HIV and tuberculosis (TB) patients with accompaniment, education, and psychosocial support. In 2016, with a desire to support the health of the community at a household level, decrease stigma, and increase social connections, PIH/APZU transitioned to the “household model.”

While studies have shown improvements in social connectedness within communities since the introduction of CHWs (25,28), much is unknown about the factors that enable CHWs’ influence in improving social connectedness among communities. Our study aims to qualitatively examine the role, actions, and interventions of the CHWs that promote social connectedness and wellbeing. We examine each of these questions from the perspective of the CHWs, community stakeholders, patients, and facility healthcare workers.

CONCEPTUAL FRAMEWORK

The household model in Neno District has a mandate to formalise the connection between community members and the clinical support system that exists to serve them. We theorise that CHWs work as agents of social connectedness in their communities using the household model. In this polyvalent public health model, the CHWs are positioned at the intersection of formal and informal social health structures within healthcare workers, community leaders and organisations, government structures, and friends and

neighbors (Figure 1). It leverages organic social connections by pairing CHWs with every household, centering them as a valuable resource within the community. Further, it aims to strengthen CHWs' connections to clients and the community by identifying key relationships and practices which build health and social processes around them. The foundation of this work was initiated with the community members, which aided the selection of new CHWs. One of the qualifications for CHWs is that they are active and respected members of the community. As both leaders and participants in the web of rural Malawian society, they are well-positioned to connect individuals and households to health services and to support the emotional, spiritual, and physical health of their fellow community members. (Figure 1: CHW linkages in the community)

Methods

From October 2018 - March 2020, 12 focus group discussions (FGDs) were conducted with CHWs, community stakeholders (village chiefs, village health committee members, and general community members), and healthcare workers at the formal health facilities (N = 140). Additionally, 40 in-depth interviews were conducted with patients. FGDs and interviews together included a total of 180 people (N = 180). The study was conducted within four catchment areas of Neno District- Ligowe, Dambe, Chifunga, and Zalewa. This study was conducted utilising purposive sampling methods (29). Under this method, the study team deliberately chooses participants to ensure that a desired range of experiences is represented in the final sample. The full sample was selected to include healthcare workers and community members with experience of the previous (vertical) and the current (horizontal) CHW model, span a wide age range and equal gender representation. Data collection was performed in three phases 1) eight FGDs with CHWs and community stakeholders (N = 93), 2) four FGDs with facility healthcare workers (N = 47), and 3) forty in-depth patient interviews (N = 40) with patients enrolled in chronic care programs including HIV, TB, and NCD among others. The sample size was preselected at a level that was more than the minimum usually needed to achieve saturation the point at which the data collection process no longer offers any new insights (30). Saturation was reached before completing all focus groups and interviews, so there was no need to seek additional respondents after the initially planned focus groups and interviews were completed.

For the eight CHW and community stakeholder FGDs conducted in the first phase of data collection, two focus groups were completed at each of the four catchment areas. The first was comprised of 11–12 community stakeholders, and the second was comprised of 11–12 CHWs and senior CHWs (SCHWs). The four FGDs conducted in phase 3 were similarly comprised of 11–12 participants of health facility staff of each catchment area. Each of the phase 3 FGDs included the site supervisor (SS) of the CHWs for the catchment area and the facility in-charge of the local health centre. Additionally, other key health staff included mental health clinicians, medical attendants, nurses, clerks, HIV testing counsellors, laboratory personnel and environmental community health staff. Due to the small population from which the participants were drawn in phase 3 FGDs, participants were recruited without consideration of age or gender. Individual in-depth patient interviews were conducted in patient homes, with 10 participants

purposively sampled depending on chronic care program, age and gender per catchment area for a total of 40 patients.

In all the three qualitative phases, question guides included open-ended questions followed by probes for more detailed information. The question guides were developed in English, translated into Chichewa and pretested with CHWs and SCHWs before use, with translations adjusted before formal data collection. Interviews were conducted in Chichewa, recorded, transcribed verbatim from digital recordings and then translated into English. Research assistants took field notes and debriefed with the researcher immediately after every FGD and interview. Transcriptions were checked against the original recordings by a separate team member, and identification numbers were used to make sure that participants' information was not linked to names of participants. Translated transcripts were loaded in Dedoose (version 8.3.17) for analysis with a codebook that guided classification of themes in Dedoose.

Results

Demographic characteristics of study participants

Sample demographics for the 180 individuals who participated in focus groups or interviews are shown in Table 1. The study participants' median age was 37 years, with the age range of 12 to 78 years old. The majority of participants were aged above 25 years (93%). The study had slightly more female participants (55%) compared to males (45%). Participants were categorised into: CHWs (27%), community members (25%), patients (22%) and healthcare workers (26%).

Table 1
Demographic characteristics of focus group
and individual interview participants

Variable	N (%)
Age	
12–24 years	12 (6.6)
25–39 years	102 (56.6)
40–59 years	56 (31.1)
60 years and above	10 (5.5)
Gender	
Male	81 (45)
Female	99 (55)
Occupation/category	
CHWs	31 (17.2)
Senior CHWs	17 (9.4)
Community members	45 (25.0)
Patients	40 (22.2)
Facility health care workers	47 (26.1)

Qualitative Results

The study used an inductive approach with pre-prepared questions to guide data collection. Semi-structured interview guides were used to organise both the focus group discussions and individual interviews. The main themes that emanated from this study included: (1) expansion of care by CHWs (2) trust in CHW's provision of care and (3) equal treatment of community members by CHWs (Table 2).

Table 2
Themes and subthemes

Themes	Subthemes
Expansion of care by CHWs	i. Linkage to health facility ii. Linkage to social support
Trust in CHW's provision of care	i. Health care providers' trust in and reliance on CHWs ii. Trust in CHWs by community members
Equal treatment of community members by CHWs	i. Proper messaging to communities from CHWs ii. CHW role modelling for community members

Theme 1. Expansion of care by CHWs

Previously, APZU used an individualised patient-based model where CHWs were assigned specific HIV and TB patients to monitor and support. Under this model, communities eventually started associating a CHW visit with the presence of an HIV-positive client or TB patient at a targeted household. This approach inadvertently exposed the client's confidential information on their disease status, which caused stigma and discrimination from neighbors and community members. As a result, clients reported that they were not completely comfortable with being visited by their CHW despite the fact that they appreciated the services they were receiving. Following the transition to the current household model design of the program, a CHW is now linked to all households in the community. Monthly visits now include both households with clients with chronic disease and households without chronic disease clients. This transition, along with the expansion of services, including maternal and infant care and malnutrition screening, has enhanced social interactions in the communities and decreased stigma, as explained by a client in Zalewa:

"This arrangement is good. At first, people could say that if the CHW visits you, it means you have HIV. Now that everyone is visited, the relationship has been well cemented because people do not have an idea of who is suffering from what; hence, we interact freely because of this new arrangement." Man on Antiretroviral Therapy and Tuberculosis treatment – Zalewa

Furthermore, the expansion of services has increased screening, referrals and educational opportunities in the communities. One community member noted that the community has been able to learn about childhood nutrition and work on decreasing the incidence of malnutrition from the CHWs:

"We thought that the only way of helping a malnourished child is by feeding him/her RUTF [ready-to-use therapeutic food such as chiponde], but the CHWs have taught us to use the readily available food, which we have in our communities. Fruits, vegetables and beans. Malnutrition has decreased therefore simply

because of the advice they gave us and we are able to feed our children the locally available food.”

Community Stakeholder-FGD-Dambe

Community stakeholders demonstrated that they appreciated the revised CHW approach and the increased role that CHWs are now playing in promoting health-seeking behaviours and increasing health-related knowledge of community members. Community members were able to outline the main functions that CHWs support within their communities. These functions include providing health education, counselling patients, screening and referring patients to health facilities, following-up with and monitoring patients during pregnancy, acute conditions and chronic illness. Community stakeholders also directly link CHWs with decreased morbidity and mortality in their areas. For example, one respondent offered:

“Without CHWs, we could have high mortality rate, more especially on maternal deaths. CHWs encourage women to go to the waiting shelter when their delivery time is near.”

Community Stakeholder-FGD-Chifunga

Linkage to a health facility

Through monthly home visits, CHWs conduct case finding in the communities mostly through verbal symptom screening. Patients who screen positive are referred and linked to medical care in the formal healthcare system. Study participants, including health care workers, reported that CHWs are productive at screening household members for various health conditions and accompaniment of identified clients to the health facility. By screening household members even before significant illness, CHWs enhance health-seeking behaviour and advocate for quick access to care for clients in the community. These actions help clients feel that there is someone who cares and will advocate for them and their family, which enhances interaction and builds trust between the household members and the CHWs. The following were some illustrative responses on how CHWs initiate interactions by linking clients to care:

“Yes, they link clients to care. For instance, last week, there was a client who came here Monday. He got sick on Friday, but the relatives were just keeping him. When the CHW knew that there is a patient at that household, he went there and brought the client here.” Clinician at Dambe health facility

“CHWs live closer to the households that they visit. So CHWs link us to the clients that require our help. When they suspect TB cases, they collect sputum and bring it to the hospital for testing ... Since they are closer to the clients, it becomes easy for them to assist clients in different aspects.” Medical attendant at Ligowe health facility

“...it took the CHW to link me to the hospital when I was too sick...it made me feel that I am also important, and I started interacting with other people since I was encouraged. So without the CHW, we could not know which direction to take.” Woman on Antiretroviral Therapy for more than one year- Zalewa

Linkage to social support

As CHWs conduct home visits in their assigned households, they also assess the household's social and economic situation and then link those that are vulnerable to available social support programs in the district. PIH commonly provides social support to such clients in the form of cash transfers, house repairs and new construction, food or agricultural assistance, and sponsoring education requirements for the children. It has been noted that these efforts have not only contributed in enhancing the wellbeing of households, but also enriched the community connectedness through the support of needy community members and trust in the CHWs making connections between the households and social supports. Below are the experiences of some participants:

"I was very sick and nearly gone. My house was dilapidated such that people could not drink water at my house. When I gained strength and started walking, sometimes I would feel thirsty, and when I ask people to give me water to drink, they would use some old cups that they do not use [...]. When Partners In Health built a house for me, people started coming to see me, so I feel like this house enabled people to start interacting with me. I guess they saw that I am now important." Woman on Antiretroviral Therapy for more than one year – Chifunga

"The help that I received was about my son. My CHW connected me to Partners In Health who gave a bursary to my son, and other children were receiving exercise books [...] this strengthened the trust on my CHW even more." Man on Antiretroviral Therapy and Non-Communicable Disease-Ligowe

Theme 2. Trust in CHW's **provision of care**

Confidentiality is one of the core attributes of an effective CHW, as they have access to people's medical information, including information that is often sensitive and private. In the FGDs and interviews, health care workers, patients and community members were asked about trust in CHWs as cadre of health care workers, who function outside the formal healthcare system and without formal training. Participants unanimously reported a high level of trust in CHWs, that CHWs keep patient information confidential and that CHWs are adept at working with clients. As a result, community members are willing to confide in CHWs.

Health care providers trust in and reliance on CHWs

Health care providers were asked to discuss their relationship and perspective on CHWs, including their willingness to share patient information with CHWs. They reported that they hold no reservations on sharing confidential patient information with CHWs, provided that the client has given consent. This confidential information includes program enrollment, patient status, type of medication, dosage and appointment dates. This information informs follow up actions by the CHW, including counseling on medication adherence, worsening or improving symptoms and psychosocial support in the home. Furthermore, the CHWs often accompany their clients to clinic visits and provide useful feedback on how the patient is responding to medications or the side effects that the client is experiencing to clinicians and nurses. This information allows for critical treatment and care decisions. Information that health care workers share with CHWs further assist the CHW cadre to actively follow up with clients with missed

appointments or locate those whose test results are available and need action at the health facility. In summary, health care providers reported that CHWs handle patient information with confidentiality and support patients in receiving high-quality care in the formal health care system. As a result, they are a trusted cadre among the health care workers:

“Yes, they are a very trusted cadre. We have few staff at facility level, so we rely on them to link us to clients. They are like eyes, ears, hands, legs and a voice of those that work at facility level. Also, they are very good at keeping secrets in regard to patient information; hence we trust them.” A nurse at Ligowe health facility

“Without CHWs, it could have been difficult for the hospital to operate well as it is doing now comparing to the past when there were no CHWs working. For instance, with TB, CHWs help us find TB clients through community screening. When clients default CHWs also help us to trace them and bring them back into care.” A Medical Attendant at Chifunga Health Facility

“When we give pregnant women appointment dates, sometimes they forget to come, but CHWs remind them always to make sure that they do not miss their appointments. CHWs also escort them to ANC to make sure that they enroll within the first three months. Sometimes they give women referral letters when they want to see us, and we automatically know that they have come through the CHWs.” A nurse at Zalewa Health Facility

Trust in CHWs by community members

Community members were also asked how they felt about CHWs’ ability to provide health-related care and to maintain confidentiality. Respondents generally trusted CHWs to maintain confidentiality. Furthermore, they reported that they feel free to confide in CHWs because they regard them as a source of physical, social, and emotional help for the household. The respondents described strong connections with their CHWs and were comfortable engaging with them on highly sensitive and topics, including non-health issues such as family and community relationships. On health-related topics, community members report being openly honest with CHWs, and disclosing disease symptoms or challenges in accessing care or caring for their household. This openness allows clients to be screened and linked to the formal health care system in a timely manner – sometimes prior to overt symptomatology or severe disease – thus, improving outcomes. This experience enhances trust in the CHW’s ability to provide screening and care. Below are some quotes elaborating how trusted CHWs are:

“They keep secrets. They do not go about publicising people who are on ART; hence it is difficult for the community to know who is suffering from what hence it is difficult to discriminate each other.” Mother of an under-five baby - Chifunga

“Mmmmm I cannot hide anything from him. If I hide, then I can die. Even if it is about my marriage, I would still let him know. Because he is like my doctor so I am free to tell him whatever problem I can encounter.” Man with Non-Communicable Disease –Ligowe

But while the majority of participants expressed confidence in CHWs, a few participants mentioned that not every CHW is equally trusted. Lack of trust might occur either because a particular CHW was “talkative” and did not keep all information confidential, or because some community members are simply less willing to share personal details than others as quoted below:

“We had one who could reveal secrets when drunk but was counselled, and it has changed now...so you cannot confide in someone who doesn’t keep secrets, it’s double impossible.” Male Community Stakeholder, FGD-Ligowe

“Some do not trust their CHW not because they did something wrong, but they just don’t like sharing their personal information. Such people will even discourage others to confide in CHWs. So it’s just the mindset, not that they don’t keep secrets. We cannot rule out though that some don’t keep secrets, but it’s a very small percentage.” Health Surveillance Assistant at Dambe health facility

Theme 3. Equal treatment of community members by CHWs

Participants reported a decrease in discrimination and stigma with the transition to the household model. With all households receiving CHW services, there is not a way to distinguish between community member with a disease and a member who does not. Similarly, some participants reported no discrimination from fellow community members because the community is seldom aware of the condition they are suffering from. In this way, there were stronger linkages of trust between community members and households with CHWs because of perceived equal attention and treatment of all people in the district. The following are some representative responses on how CHWs treat their clients:

“The CHW treats us equally. Does not differentiate that this one is HIV positive, and this one is not. That makes us follow his example; hence there is no stigma and discrimination here. Sometimes she will even teach my relatives to treat me equally despite my condition, which also contributed to the good care that my relatives give me.” Woman on Antiretroviral Therapy for more than one year- Zalewa

“My relatives love me the same way even after the knowledge that I am now HIV positive. There were no traits of discrimination. Even the CHW treated me like my own sister. Now I even encourage my friends to go to the hospital citing my own example. The CHW showed a good example to my friends and relatives by being the first person to care for me.” Woman on Antiretroviral Therapy for more than one year - Zalewa

“The interaction was ok, but people were not aware that I am on ART. It was just between me and the CHW.” Woman on Antiretroviral Therapy for more than one year – Dambe

Although overall CHWs have a positive influence on how community and family members perceive those who are enrolled in chronic care programs, it was reported that teenage pregnancy remains to be a challenge for community members to accept without judgement. There are deep societal expectations that are placed on young women in rural Malawian communities and families, and adolescents often

face discrimination if she becomes pregnant, especially if it happens outside wedlock and is in school. In such instances, an adolescent pregnancy often attracts discrimination, stigma and poor household and community coping as explained below:

"My parents are very harsh on me such that they shout at me every day saying I should refund the money that they have been spending on my school fees and pocket money. I stay with my stepmother since my mom went to Mozambique. They told me that I should be responsible for all the expenses on this pregnancy. Up to now, I am fetching for the labour materials on my own." Adolescent pregnant woman – Dambe

Through FGDs and interviews, it was learnt that CHWs are yet to have little influence to alter some of the deep-seated cultural beliefs around some aspects of pregnancy. Pregnancy, especially in its early stages is a highly sensitive matter because it is believed that it can easily be lost through ill intentions of others. As such, most women are highly secretive about it and unwilling to disclose or discuss anything that will indicate that they are pregnant. This renders the pregnancy screening task by CHWs one of the most difficult tasks to achieve as clients will seldom cooperate as outlined in the below quotation:

"...about pregnancy screening, you feel like maybe she [the CHW] has a wrong motive behind [wants to bewitch you maybe] so it is difficult to be very open. Sometimes they will come early in the morning, and they ask you about menses. Even if I am menstruating, I don't tell her because I don't feel free to do so. Sometimes I lie just to do away with her." Adolescent pregnant woman – Chifunga

Proper messaging to communities from CHWs

Respondents reported that CHWs disseminate powerful messages in the communities and households. They start with psychosocial support at the individual level, encouraging clients to accept screening and referral. If diagnosed, CHWs also provide support to clients with chronic disease on successful management for a high quality and productive life. The CHWs will assist clients, especially in their first year of treatment, to remember to take medications, monitor for side effects and accompany the client to the clinic. At the community level, they share messages of hope for those that have lost hope, love for those that feel lonely, and peace for those that are troubled in their hearts due to their current condition – whether emotional, medical or social. They build trust in the CHW cadre, in people's ability to gain access to medical care and social support and live healthy lives, and in the community to come together to support each other. This support and positive messaging have encouraged community members to think of themselves as "brother's keepers" and live in greater unity. For example, CHWs have encouraged other community members visit and assist each other when one is sick or is faced with other problems:

"Previously, people were discriminating each other, but with the messages that CHWs have disseminated, people have accepted that everyone can get sick and they are able to live together with their relatives." A Health Surveillance Assistant at Ligowe health facility

"He [the CHW] advises us that we should not be idle and sad. We should interact with our friends in different groupings. He says we should not separate ourselves from other people. People should not tell

that this one is HIV positive. Other people are also taught that do not discriminate those that are HIV positive. It is not that they will die, they are the people that will help you in future when you have problems. Therefore this is achieved through talking to the people on the same during home visits.”
Woman on Antiretroviral Therapy for more than one year – Dambe

“CHWs have enhanced relationships between chiefs and their people as they link them through different forums. They encourage us to love each other during problems and otherwise. CHWs have helped us to coordinate with our neighbours, for instance, when someone is sick we organise to go to the hospital as a team, and then the CHW follows us later.” Female Community Stakeholder, FGD -Chifunga

CHW role modelling for community members

CHWs were heralded as role models for unprejudiced interfaces in their communities with a positive outlook and messaging, leading many in the community and the households they serve to emulate them and encourage others to follow. Many participants reported improved interaction between themselves, their families, friends and community at large with the transition to the household model. When asked what the CHW exactly does to influence these interactions and community unity, respondents gave such answers:

“I feel like by visiting me now and again, she was setting a good example to other people. She could treat me like her relative.” Man with Non-Communicable Disease – Zalewa

“The relationship with my relatives has improved. In fact, this is good that everyone is being visited and people are not suspecting that the other one is positive since they are also visited. So by visiting everyone, the CHW is setting a good example to others.” Man on Antiretroviral Therapy and Tuberculosis-Ligowe

Discussion

Our data suggest that CHWs enhance social connectedness in the communities through our qualitative themes of expansion of care by CHWs, trust in CHW’s provision of care and equal treatment of community members by CHWs.

Theme 1. Expansion of care by CHWs

Our study has shown that there are notable changes in the relationship between patients, households and communities after the introduction of the household model. A CHW’s visit previously had a sense of anxiety of being associated with CHWs due to potential disclosure of illness, even if the CHW was helpful in disease management and psychosocial support. We find that stigma and fear have decreased with the introduction and implementation of the household model in which CHWs visit every household in a community, without regard to specific diseases or conditions. CHWs are now better accepted in their communities and trusted as critical agents in linking community members to health care and social support along with long term support and relationships between the household and the CHW. Linking households with necessary financial and physical support that clients did not previously know existed

has helped bolster social connectedness and helped uplift CHWs as trusted resources. Similar findings were noted in a Dutch study done by Toepoel (31), who reported that multiple social connections to other people and the health care system gives people alternative routes to resources like social and financial support, information, and cultural connectedness through connections to experts. Researchers elsewhere have also highlighted the power of a public health approach for CHWs. Kok et al (16) have found that a broader approach enables a more intimate sense of community and individual needs that go beyond health care needs and provision. These relationships are enhanced through a complex interplay of factors influencing trust and the strength of the relationship between CHWs, their communities, and other stakeholders in the formal healthcare and community sectors.

Theme 2. Trust in CHW's **provision of care**

The ability of CHWs to keep patient information confidential has enabled them to gain the trust of both health care workers as well as community members. Household members confide in them not just on health-related matters but also on social and relationship issues that they face in their households and the community. CHWs provide their clients with a friendly ear and platform to share their fears and problems. This helps to minimise loneliness and increase abilities to cope with difficult situations, both of which are directly linked to trust in the CHW and thus the services and support they provide. Social connectedness is a resource that an individual can draw upon in times of need and protects the mental health by overcoming loneliness (2). A study conducted by Grant et al (14) explored the acceptability of CHWs conducting household visits. The study found that poor confidentiality and trust were barriers to CHWs delivering health services in the homes. However, a healthy collaboration at an individual level can positively improve outcomes in a client (14). Similarly, our study results make clear the importance of fostering trust between CHWs and their communities by ensuring that CHWs are trained and supported to follow strong confidentiality practices and equipped to provide valuable information, resources and connections to their clients.

Theme 3. Equal treatment of community members by CHWs

This study has shown that CHWs managed to influence social connectedness in the communities through teaching and living by example and conducting themselves as role models in their communities. For the most part, they demonstrate impartial treatment to all family members irrespective of their health status. As they conduct home visits, CHWs focus on messages that promote hope, empathy and support between community members and are examples of these traits in their everyday work. For example, our findings indicate that the household model helps decrease stigma against HIV clients. Clients living with HIV feel that they can accept the support from the CHW without fear that this will result in disclosure of their disease status. This results in decreased isolation, improved psychosocial feelings around managing their disease. Researchers elsewhere have highlighted the importance of mental and social well-being on health. For example, a study by Findlay (32) indicates that social isolation contributes to poor health, depression, personality disorders and suicide. Similarly, Luo and Waite (33) examined the relationship between loneliness, health and mortality in a national representative sample of adults in

China. They reported that subjective social capital or loneliness is a stronger predictor of mental health than companionship. Our study has shown that by the CHWs contributing positively to social connectedness of the community in both HIV clients and beyond, they build trusting relationships with the individuals and households they serve. This is achieved by reducing misinformation and stigma around specific health conditions, by modelling collaborative social interactions, and by linking individuals with needed resources.

This study has limitations for generalizability. Given our qualitative methods within a single rural district, these results cannot be broadly generalised outside our local context or household model that has been implemented along with Partners In Health's longstanding relationship with the Neno District. However, these methods are well suited to illustrating nuanced aspects of social connectedness. As a multifaceted concept that encompasses several aspects of relationships and community connections, social connectedness is not easily understood utilising quantitative measures alone. Despite the limited generalizability of the study, we believe that this investigation provides an illustrative portrait of how a highly functioning CHW program can enhance social connectedness, health, and wellbeing. It helps frame the theory of change for social connectedness and adds to implementation and building public health systems that build social connectedness to support the health of communities in Neno and beyond.

Conclusion

Our study findings demonstrate that CHWs occupy a critical space in their communities, with a marked effect on how community members relate to one another and access the formal health care system. The transition to a polyvalent, household-based model had several positive outcomes. It minimized stigma, built trust and increased the ability of CHWs to play a broader role in increasing the health and social connectedness of the full community. CHWs are powerful extensions of the health system because of their proximity to community members and patients in their day-to-day lives. By forming bridges between the community and the health system, CHWs directly connect patients to needed medical care, psychosocial support and social and economic resources. The value they bring in this regard helps make them trusted figures in the community, with a powerful platform to discourage stigma and model the kinds of accepting, collaborative behaviour that build lasting social connectedness.

Abbreviations

CHWs: Community Health Workers; PIH:Partners In Health; APZU:Abwenzi Pa Za Umoyo; TB:Tuberculosis; NCDs:Non Communicable Diseases; STIs:Sexually Transmitted Infections; FDGs:Focus Group Discussions; SCHWs:Senior Community Health Workers; SS:Site Supervisors; HIV:Human Immunodeficiency Virus; ART:Antiretroviral Therapy

Declarations

Ethics approval and consent to participate

This study was approved by the National Health Science Research Committee (NHSRC) in Malawi with protocol number 1059 titled “*Lessons Learned from Monitoring and Evaluation of Community Health Initiatives in Neno District, Malawi*”. Written consent was obtained from all participants prior to data collection.

Consent for publication

Not applicable

Availability of data and materials

The datasets generated during and/or analysed during the current study are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

Funding

This study was supported by the Samuel Family Foundation, Canada (PIHC project MA.LI.CHW.17). The funding body had no role in the design of the study, data collection, analysis, interpretation of data, or write-up of the manuscript.

Authors' Contributions

MKN, BN, AM and EC conceptualised and designed the study. MKN collected data, analysed data and drafted the manuscript with assistance from BN and ECBN and EC also reviewed the transcripts and the codebook. EC, AM, BN, FM, MA and HM reviewed the manuscript, provided input and suggested additions and changes. All authors read and approved the final manuscript.

Acknowledgements

We are grateful to the CHWs, SCHWs, Health care workers, patients and community members who participated in the study. Many thanks to the APZU Community Health team, the clinical, M&E and operations departments for the collaborations. Furthermore, we acknowledge the District Health Management Team and health care workers of the Neno District for the work they do for patients and support given to the CHWs. We acknowledge the support rendered by the following research assistants: Marcus Gondwe, Elizabeth Kayange and Alfred Thoza.

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Figures

Figure 1

Figure 1

CHW linkages in the community

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