

ORIGINAL ARTICLE

Sustained volunteerism: Motivational factors of community health volunteers in Democratic Republic of Congo, Malawi, Zambia, and Nepal

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ABSTRACT

Objective: Community health volunteers (CHVs) provide significant contributions to the health and welfare of people in sub-Saharan Africa and Nepal. This study was to determine motivations for ongoing volunteerism.

Methods: A descriptive mixed methods design was used in this study, a survey included demographic, quantitative, and qualitative sections. One-on-one interviews were completed with 44 subjects from Nepal, the Democratic Republic of Congo, Zambia, and Malawi during 2016-2019. Interviews were conducted orally using translators, allowing literate and illiterate healthcare workers to participate. SPSS was used to calculate the results. Open-ended questions were analyzed using thematic analytics.

Results: Having compassion for others, gaining health knowledge, and filling community needs ranked highest of the motivating factors queried. Hoping for employment, seeking recognition, and avoiding idleness ranked lowest.

Conclusions: Enabling CHVs to gain knowledge that supports their community's needs contributes to the longevity of CHVs more than money.

Key Words: Community health workers, Community health volunteers, Sustained volunteerism, Motivational factors, Sub-Saharan Africa, Nepal

1. INTRODUCTION

Developing countries continually suffer from a severe lack of access to medical care. Maternal and child health are significantly impacted, resulting in high rates of mortality and morbidity. Although the global under-5 mortality rate has declined by 51% since 2000,^[1] 4.9 million children still die annually, with most of those deaths occurring in sub-Saharan Africa and Southern Asia. Further impacting the health of families, approximately 800 women die every day from perinatal complications, with more than 70% of those deaths

occurring in sub-Saharan Africa.^[2] The Joint United Nations Programme on HIV/AIDS^[3] reports that globally in 2024, an estimated 38.4 million people are living with HIV/AIDS, approximately 67% of these in sub-Saharan Africa. HIV/AIDS affects all members of a family and severely magnifies the need for community-based health and hospice care as well as care for orphaned children.^[4]

There is a wide disparity in the distribution of healthcare personnel around the globe. In 2022, the density of physicians was 17.2 per 10,000 population worldwide compared

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to 1.9 in the Democratic Republic of Congo (DRC), 0.5 in Malawi, 8.7 in Nepal, and 2.6 in Zambia.^[5] A similar disparity was apparent in nursing and midwifery personnel, with 37.7 per 10,000 people worldwide compared to 11.9 in the Democratic Republic of Congo, 5 in Malawi, 34.9 in Nepal, and 21.5 in Zambia.^[6] On the other end of the spectrum was Europe, which had 43 doctors per 10,000 people and 77 nurses and midwives per 10,000 population.^[7]

Due to professional medical worker shortages, community health workers (CHWs) and Community Health Volunteers (CHVs) are vital to healthcare access and improved health outcomes for low-income rural communities in the developing world.^[8] For this paper, CHWs are defined as workers who get paid, and CHVs as those who are unpaid. In both cases, they are healthcare providers with less formal education and training than health professionals, such as doctors, nurses, and midwives. CHWs and CHVs are seen as trusted and knowledgeable community members and serve as critical links between other community members and professional health workers.^[8,9] The CHVs in this study are legally registered with the government in their countries and must renew that registration annually.

In addition to providing basic healthcare education and treatment, CHWs/CHVs are also attuned to other needs in their communities and encouraged to address them. Their interventions prevent illness and death from common maladies such as diarrhea, malnutrition, leg ulcers, and dehydration. For community members suffering from long-term illnesses such as HIV/AIDS and tuberculosis, CHWs provide direct care, medication compliance monitoring, and emotional support. In addition, some provide emotional support and services for orphaned children, which ultimately strengthens entire communities. "Although CHWs can't fill the functions of all healthcare personnel, their contributions to care are undeniable."^[9]

2. BACKGROUND

The subjects in this study were non-paid CHVs trained and equipped by a non-governmental organization (NGO). To sustain the long-term engagement of unpaid CHVs, it is important to understand their motivations for the work. This research was conducted to determine the motivational factors that contribute to sustained volunteerism vs. short-term volunteerism since the latter requires continuous recruitment and orientation of new volunteers. Even though numerous studies can be found conducted in Kenya, Ghana, Ethiopia, Tanzania, and other countries regarding CHVs/CHWs,^[10-13] the findings from this study contribute additional insights in countries less reported in the literature such as the Democratic Republic of Congo, Malawi, Zambia, and Nepal.

Motivational factors

Findings in the literature identify two central themes regarding health worker motivation: financial incentives and non-financial incentives. Financial incentive strategies, that incentivize CHWs, vary widely and may include monthly stipends, transportation stipends, and performance-based or project-based awards. Financial incentives differ greatly.^[14] Even though some CHWs are motivated by the presence of financial compensation, many express frustrations with the timeliness and insufficiency of their payment.^[13] Financial incentives provided through CHW programs often do not provide a living wage and may result in deterring continued involvement in the program.^[15]

In addition to financial incentives, non-financial incentives also motivate CHWs. Among non-financial incentives are increased social status and/or community recognition found in Kenya and Ethiopia, respectively.^[10,12] Kok et al. found that a major incentive in Tanzania was recognition within managerial structures through affirmation, rewards, feedback, and additional training and knowledge.^[13] Chatio et al. found that transportation incentives in Ghana highly influenced volunteer performance.^[11] Another study suggested that non-financial incentives such as recognition, family support, community demand, or training/knowledge for CHWs are significantly less effective than financial incentives in a changing rural economic environment in Bangladesh.^[15]

Generally, the literature supports both financial and non-financial incentives and acknowledges the interchange of these themes as motivators of CHWs. Disagreement in the literature exists in determining which theme is most influential in motivating CHWs, especially in a changing economic environment in rural communities that place demands on CHWs to make a stronger contribution to household income.

On the other hand, CHVs, or "volunteers," are broadly defined as those who serve without direct financial payment.^[15] CHVs are incentivized only through non-financial incentives. One of the primary non-financial incentives identified in the literature is that of altruism. Literature describing altruism indicates a strong presence of an internal desire and willingness to serve others. Altruism may be derived from faith, civic duty, a sense of fulfillment, and/or empathy.^[14] Altruistic motivations vary widely. For some, belief in a higher power and ultimate reward drives the willingness to serve.^[16] For others, a sense of purpose, meaning, and fulfillment motivates long-term volunteerism.^[17] Loth et al. emphasize altruism as the top motivating factor for volunteer palliative care health workers, dominating financial or other non-financial incentives.^[14] In another study of palliative care volunteers, results affirm that altruism governs their motivation.^[18] Ormel et

al. found that an intrinsic desire to serve their community is part of a combination of factors for volunteer motivation.^[19] Jigssa et al. found that the desire to have good status in the community because of volunteer service, a commitment to serve the community, and the satisfaction of accomplishing something worthwhile for the community were strong motivating factors.^[12]

The results of the literature review suggest that motivation for CHVs or volunteers cannot be summarized by a single element but is instead a complex interplay of numerous factors encouraging volunteerism.

This study aimed to identify the motivational factors that promote sustained volunteerism of community health volunteers, those who receive no financial incentives. The literature contains numerous studies documenting the motivational factors of CHVs during short or undefined periods. This research adds valuable insights to the literature by including 28 subjects who had volunteered for ten years or longer, with eight of those subjects serving more than 25 years. This study sought to answer the following question: “What are the factors that encourage the long-term, sustained motivation of non-paid community health volunteers (CHVs)?”

3. METHODS

3.1 Design

This study used a descriptive mixed methods design from both quantitative and qualitative perspectives to understand participants’ motivational factors for the CHV. The combination of qualitative and quantitative data at the method level allows the researcher to obtain a broader and richer understanding of the research question.^[20] Combining quantitative data using survey questionnaires and semi-structured qualitative interviews provided a broader understanding of the participants’ experiences and perceptions about their volunteerism. In addition, quantitative and qualitative data help complement each other and enhance validity. The design of this study combined a demographic section, a quantitative section, and a qualitative descriptive section using semi-structured individual interviews. The tools designed by the PI were vetted by the University’s research committee, but neither validity nor reliability was established.

3.2 Setting

This study was conducted in the rural communities of four countries: the Democratic Republic of Congo, Malawi, Zambia, and Nepal. The involved NGO in this study was founded with the mission to empower women and children through evidence-based health, education, and advocacy programs. This NGO’s model establishes programs based on needs identified by volunteers rather than an agenda predetermined by

the NGO.

3.3 Sample

The study population was recruited from a group of CHVs currently engaged at one of the four study sites. Participation in the study was voluntary. After health worker training sessions, participants were invited to participate in an interview regarding the motivation behind their volunteerism. In most cases, there were more volunteers than the PI had time to interview, so those who volunteered first were given priority. Inclusion criteria were: 1) worked as a CHV for a month or more in one of the four study sites; 2) worked for the same NGO; 3) did not receive a monetary incentive for work performed; and 4) gave informed consent in their preferred language. There were no exclusion criteria.

3.4 Ethical considerations

This study was approved by the Institutional Review Board of Graceland University, Lamoni, Iowa, on June 6, 2016, and was conducted per the ethical principles of the Declaration of Helsinki.

3.5 Measures

A questionnaire developed by the PI included three parts: demographics, a quantitative section, and a qualitative section (see Table 1). Age was not included in the demographic profile since many of these CHVs did not know their birth date. The quantitative section consisted of nine potential motivating factors to be scored on a 1–10-point Likert scale (with 10 being the highest motivator and 1 being the lowest motivator). The qualitative section consisted of an investigator-designed interview guide of six major questions encouraging the participants to share their experiences, motivations, and needs.

3.6 Data collection

Data were collected between 2016 and 2018. Interviews were conducted as opportunities arose during the PI’s on-site visits. All interviews were conducted by the PI after informed consent was obtained from each participant. Community members who were available, spoke English and the local language, and were not supervisors of the CHVs were used as interpreters. In some cases, the only people available who met these criteria were peers. A private location for interviews was identified. No tape recordings were made of the interviews. Quotes were written at the time of the interviews, as stated by the interpreters. Data collection forms were kept confidential in a securely padlocked backpack, except when additional completed questionnaires were added. Forms were kept in a secure closet, accessed only by the PI, after the completion of the site visit.

Table 1. Community Health Volunteer Motivational Factor Questionnaire

PART I. Demographics

Code # _____ Date of Interview _____
 Village _____ Primary Language _____
 Gender: Female _____ Male _____ Married _____ Single _____ Widowed _____
 Year attended first CHV training _____ Number of years working as a CHV _____

PART II. Assessment of Motivating Factors

On a scale of 1-10 (1 = lowest motivator and 10 = highest motivator), check (√) how strongly each of these factors encourage you to keep volunteering as a CHV?

Motivational Factor	1 (low)	2	3	4	5	6	7	8	9	10 (high)	N/A
Having Compassion for Others											
Filling a need in the community											
Hoping CHV job will lead to employment											
Avoiding idleness											
Gaining health knowledge											
Obtaining Spiritual benefits											
Seeking recognition											
Socialization											
Making me feel good											
Other? Specify											

PART III. Interview Guide

1. Tell me about a memorable person you cared for as a health worker.
 - What did you do to help them?
 - What was the outcome?
 - How did that make you feel?
2. What do you most enjoy about being a health worker?
3. What do you least enjoy about being a health worker?
4. What is your biggest need as a health worker?
5. What would be your future dream or desire as a health worker?
6. What makes you want to keep volunteering year-after-year

3.7 Data analysis procedures

Descriptive statistics were calculated using IBM SPSS version 29.0. The descriptive analysis of CHV motivational factor mean scores was calculated and presented in rank order from highest to lowest. Motivational factors were compared between CHVs who worked less than 10 years and those who worked 10 years or more, using descriptive statistics. The descriptive data are presented as frequency, mean, and standard deviation. Significant testing of mean differences was not computed. Thematic analysis of the qualitative data was conducted by reading, re-reading, categorizing, and synthesizing data.^[21] The PI and a research assistant conducted this analysis.

4. PARTICIPANT CHARACTERISTICS

The CHVs surveyed in this study were integral members of their communities, chosen by community leaders to participate in classes offered by the NGO. Of 123 potential CHVs, 46 (35%) agreed to participate. The sample included 44 women and two men. One questionnaire was incomplete and removed from the data analysis, leaving a total of 45 participants, with six from Nepal, eight from Malawi, 30 from Zambia, and one from the Democratic Republic of Congo. The majority of CHVs were married ($n = 26$; 59%). Time in service when interviews were conducted ranged from one month to 28 years, with an average of 11.4 years (see Table 2).

Table 2. Demographic characteristics of community health volunteer participants ($n = 45$)

Characteristic	N	%
Gender		
Female	43	95.5%
Male	2	4.5%
Marital Status		
Single	12	26.6%
Married	26	57.8%
Widowed	7	15.6%
Country		
Democratic Republic of Congo	1	2.2%
Malawi	8	17.8%
Zambia	30	66.7%
Nepal	6	13.3%
Number of years as a Community Health Volunteer		
0–10 years	28	62%
≥ 10 years	17	38%

4.1 Quantitative results

Table 3 presents CHV motivational factor scores ranking from highest (10) to lowest (1). Factors are standardized,

stratified independently, and represented by a mean rank. The motivational factor “having compassion for others” ranked highest with an average score of 9.5 out of 10, while “hoping a CHV job will lead to employment” ranked lowest with an average score of 3.4 out of 10. Table 4 presents mean differences in motivational factors between CHVs who had volunteered for less than 10 years and those for more than 10 years. Those who were CHVs for more than 10 years scored lower on avoiding idleness, seeking recognition, and socialization, and higher on spiritual benefits than those who were CHVs for less than 10 years.

Table 3. Community health volunteers rank of motivational factors ($n = 45$)

Motivational Factor	Rank
Having compassion for others	9.5
Gaining health knowledge	9.3
Filling a need in the community	9.0
Making me feel good	8.8
Obtaining spiritual benefits	8.4
Socialization	7.3
Avoiding idleness	5.1
Seeking recognition	5.0
Hoping CHW job will lead to employment	3.4

Note. CHW: Community health workers

4.2 Qualitative results

Table 5 presents the central themes that emerged from participants’ responses. The seven recurrent themes that arose from the interviews were: 1. CHVs seeing their positive impact on the health of people within their communities; 2. eagerness to learn to help others; 3. compassion, and desire to mitigate the suffering of others; 4. resources needed to provide additional care; 5. desire for continuing education; 6. hope for the continued growth of the program; and 7. love and empathy for others.

5. DISCUSSION

Due to several limitations, including non-validated data collection tools, language barriers, and a lack of formal translation procedures, interpretation of findings must be made with caution. Both the quantitative and qualitative data revealed the importance of compassion and knowledge. Participant responses support the results of the ranking section but also

give a more in-depth perspective on long-term volunteerism. CHVs were found to have a profound desire to serve their communities, motivated through empathy, faith, a yearning for knowledge, and an aspiration to improve the lives of others, especially children. While CHVs requested medicines, scales for infants, and an emergency fund, they requested nothing for themselves except additional training.

CHVs in this study were motivated in the long term by factors that were largely altruistic and non-financial. Also notable was that the participants were from the top ten poorest countries in the world.^[22] The longevity of CHVs in this study is particularly noteworthy given the routine personal barriers many faced, including carrying water, washing clothes in nearby rivers, locating firewood, planting and harvesting gardens, and cooking over an open fire, all frequently with an infant strapped to their back. Additional barriers faced when volunteerism was added included walking long distances (both in monsoon seasons when snakes emerged from holes as well as in sweltering hot weather when dust filled the air), being willing to respond to needs in the middle of the night, and, for married volunteers, obtaining the approval of their husbands. The level of experience and longevity of the CHVs in this study (average 11.4 years) is significant in comparison

to averages of six years or 4.4 years in other literature,^[16,17] giving the results of this study special importance and insight into long-term motivation.

This study aimed to gain an understanding of the motivational factors that promoted sustained volunteerism of non-paid health workers for an NGO. The top five motivational factors for a sustained CHV reported in our study included compassion for others, gaining health knowledge, filling a need in the community, feeling good, and spiritual benefits. These quantitative results were confirmed by seven themes obtained from the qualitative data. These findings were partially aligned with previous studies^[14,17,23] in that volunteerism is a way to stay active (avoid idleness), to gain spiritual benefits, to be recognized, and to socialize with others. In addition, our data showed that motivational factors were similar between those CHVs who served less than 10 years and those who served more than 10 years. CHVs who served 10 or more years were less motivated to avoid idleness and seek recognition and socialization, while being more motivated to gain spiritual benefits. Overall, study findings support that both personal and social factors contributed to the sustained volunteerism of the CHVs.

Table 4. Comparison of motivational factors between community health volunteers who serve 10 years or more and less than 10 years ($n = 45$)

Motivational Factors	Years CHV	N	Mean	Std. Deviation
Compassion	< 10 years	28	9.43	1.136
	≥ 10 years	17	9.47	0.874
Community Need	< 10 years	28	9.61	0.737
	≥ 10 years	17	8.88	1.111
Hope for employment	< 10 years	28	2.96	2.887
	≥ 10 years	17	4.00	3.041
Avoid idleness	< 10 years	28	5.36	4.057
	≥ 10 years	17	4.41	3.183
Health Knowledge	< 10 years	28	9.29	1.243
	≥ 10 years	17	9.24	1.017
Spiritual benefits	< 10 years	28	8.25	2.689
	≥ 10 years	17	8.29	1.611
Seek Recognition	< 10 years	28	5.32	4.083
	≥ 10 years	17	4.03	2.928
Socialization	< 10 years	28	8.43	2.781
	≥ 10 years	17	5.41	3.429
Make me feel good	< 10 years	28	9.18	2.109
	≥ 10 years	17	8.08	2.600

Table 5. Open-ended questions, central themes, and representative responses (n = 45)

Question/s	Central Theme	Sample of Participant Responses
Tell me about a memorable person you cared for as a health volunteer. What did you do to help them? What was the outcome? How did that make you feel?	Impact on child/ family/community resulting in a positive outcome, e.g. recovery or enrollment in school.	<p><i>"[The client] was very sick and I put her in a basket on my back and carried her one hour to get her help. She was bleeding from childbirth. The hospital personnel said she would have died if I hadn't gotten her there in time."</i></p> <p>Male, married, 3 children, from Nepal</p>
What do you enjoy most about being a health volunteer?	Acquiring and applying new knowledge that benefits others	<p><i>"When I go to their room and see their feelings. We are both happy. They cry and I also cry. They are part of my life"</i></p> <p>Female, married, with 1 child, from Nepal</p> <p><i>"I see when we are teaching them, we are changing their lives."</i></p> <p>Female, widowed, 5 children, from Malawi</p> <p><i>"Seeing children eating, smiling, and happy."</i></p> <p>Female, single, 4 children, from Zambia</p>
What do you enjoy least about being a health volunteer?	Witnessing suffering	<p><i>"People dying without help"</i></p> <p>Female, single, 4 children, from Zambia</p> <p><i>"Seeing children mistreated"</i></p> <p>Female, married, 4 children, from Zambia</p> <p><i>"When person I'm visiting is not getting well"</i></p> <p>Female, married, 5 children, from Zambia</p> <p><i>"Clients dying"</i></p> <p>Female, married, 6 children, from Zambia</p>
What is your biggest need as a health volunteer?	Additional resources and acquisition of additional knowledge	<p><i>"Wasaidizi Center [facility]"</i></p> <p>Female, married, 8 children, from Democratic Republic of Congo</p> <p><i>"To learn more! Don't stop teaching."</i></p> <p>Female, married, 6 children, from Zambia</p> <p><i>"Scales for infants; medicines (fever, cold) - out of stock now"</i></p> <p>Female, married, 4 children, from Nepal</p> <p><i>"More knowledge:"</i></p> <p>Female, divorced, 4 children, from Zambia</p>
What would be your future dream or desire as a health volunteer?	Continued growth of the program and end of suffering	<p><i>"To grow [as a program] and be known."</i></p> <p>Female, single, 5 children, from Zambia)</p> <p><i>"See children happy and finishing school."</i></p> <p>Female, married, 4 children, from Zambia)</p> <p><i>"All people can be cured that we care for; share knowledge more and more."</i></p> <p>Female, married, 1 child, from Nepal</p>
What makes you want to keep volunteering year-after-year?	Love and empathy for others	<p><i>"To see people changing and Sinkhani reaching other places. There are many places Sinkhani has not reached so people can benefit by caring for their families, e.g. prepare good diets, family planning."</i></p> <p>Female, widowed, 5 children, from Malawi</p> <p><i>"When you do something, when you are helping your friends, and changing their lives, you can't come tired."</i></p> <p>Female, widowed, 5 children, from Malawi</p> <p><i>"I don't like seeing people in need when I can help."</i></p> <p>Female, married, 2 children, from Zambia</p> <p><i>"I love serving people. I'm not tired."</i></p> <p>Female, married, 4 children, from Nepal</p> <p><i>"The heart, madam, the heart."</i></p> <p>Female, married, 4 children, from Zambia</p> <p><i>"I love being a volunteer, I like my job. One time it happened to me. My husband was ill, they came, I paid them nothing."</i></p> <p>Female, married, 4 children, from Zambia</p>

Non-financial factors played significant roles in promoting sustained volunteerism in this study. A sense of identity contributed to the CHVs' recognition and status within their communities. Even though all the health workers in this study are referred to as CHVs, the health workers themselves used different titles to refer to themselves. In Zambia, they chose Kafwa, a Bemba word meaning "helper"; in the Democratic Republic of Congo (DRC) Wasaidizi, a Swahili word also meaning "helper," in Malawi, Sinkhani, a Tumbuka word meaning "one who prevents," and in Nepal, Soyamsebika meaning "volunteer." Interestingly, none of the titles chosen in the local language, i.e., kafwa, sinkhani, wasaidizi, or soyamsebika, denoted health but rather broadened the scope of the volunteers' role to include additional community needs. The title chosen by each group of volunteers became their lifelong identity, just as formal education becomes the identity of a teacher or a nurse. In each of the countries where this research was conducted, the CHVs were legally registered with the local government (as verified by the NGO), giving them approval and status.

There were several significant factors not addressed in the study that also could have positively impacted their sustained volunteerism. The participants chose a title that became recognized in the community, as noted previously, they proudly wore t-shirts with logos as uniforms, and they saw improvements within their communities due to their efforts. Even though all CHVs received the same basic classes and information on child monitoring, maternal care, and home health visits, their focus gradually diverged to meet the specific needs they identified in their communities.

5.1 Impact of community health volunteers

The motivational factor that ranked highest at 9.5 out of 10 (see Table 3) was compassion. As one Sinkhani said, "I don't like seeing people in need when I can help" (see Table 5). In Malawi, one of the top ten poorest countries in the world,^[22] the Sinkhani faced ongoing struggles with malnourishment and stunting of the under-5 children. As volunteers in the government clinics, the Sinkhani monitored babies, made home visits when babies failed to thrive, and provided baby care classes for the mothers. In 2023, the Sinkhani reported weighing over 65,000 children and seeing malnourished children gaining weight as mothers learned better nutrition and health practices. Gaining knowledge ranked second at 9.3 out of 10 (see Table 3) as a motivator for sustained volunteerism, with one CHV from Zambia saying the biggest need was "To learn more. Don't stop teaching," and another saying her biggest need was "more knowledge" (see Table 5). In the DRC, one of the top five poorest countries in the world,^[22] the maternal mortality rate (MMR) was 547 per 100,000

live births in 2020 compared to 668 in 2000.^[23] After being trained as Traditional Birth Attendants by a government doctor, the Wasaidizi in DRC have triaged and safely referred high-risk women to hospitals and delivered over 2,000 healthy babies a year.

Seeing a need in the community ranked third (9.0 out of 10) as an overall motivational factor (see Table 3). In Zambia, the acquired immunodeficiency syndrome (AIDS) was decimating communities. As the CHVs made home care visits, they noted that the grandmother caretakers could not afford to send their orphaned grandchildren to school. Three school campuses were ultimately established for kindergarten through 7th grade, resulting in an enrollment of over 1,600 students in 2024.

In Gorkha District, a rural area in the high Himalayas of Nepal, 45 latrines were built and sanitation systems were established in 3 remote villages to reduce illnesses caused by a lack of sanitation. Before that time, many of the villagers had been "going to the fields." A CHV observed, "I see why we are teaching them, we are changing their lives" (see Table 5). In Biratnagar, a small Nepalese town near the India border, 25 vented cook stoves designed to reduce respiratory illnesses due to smoke inhalation were installed. Seeing needs being met and lives changed encouraged the CHV to sustain their volunteerism to impact even more people.

Programs in each country addressed critical needs that changed and improved their communities. It was through the longevity and sustained volunteerism of the CHVs that such remarkable progress was made. Notably, these gains were made without financial incentives. Today, the NGO trains and supports 167 volunteer CHVs in four countries: the Democratic Republic of Congo, Malawi, Zambia, and Nepal.

Through quantitative and qualitative data analyses, the results of this study revealed altruism to be the dominating factor influencing volunteer motivation, a finding consistent with the literature presented above that emphasized the importance of intrinsic motivators. On the other hand, this study did not find that a desire for financial incentives heavily influenced volunteer motivation, as some studies have shown.^[14,24] The category "hoping a CHV job will lead to employment" received the lowest relative ranking among the encouraging factors. This finding indicates that volunteer CHVs associated with the NGO do not expect or desire employment or financial compensation despite living in poverty in some of the world's poorest nations.

The findings in this study show that CHVs who have served for decades are primarily motivated by non-financial factors. CHVs who have years of experience, who can mentor new

workers, who have the respect of their community, and who have developed a reputation of compassion and trust within their communities have the potential for greater impact than inexperienced neophytes.^[25] These insights are important as an NGO looks to both sustain and scale its operations, impact, and reach.

5.2 Limitations

This study has several limitations. The tools used did not have established validity or reliability. The interviews and data collection were carried out by the PI, which posed a potential risk of bias because of the relationships between the interviewees and the PI and may have wanted to please her with their answers. Translators were routinely utilized as the PI did not speak the local languages. In some cases, the only people available who spoke both English and the local language were peers. Translation/back-translation procedures were not performed therefore, it is unknown if translations were inaccurate. Tape recordings of the interviews were not utilized since the PI did not have access to interpreters who spoke the various languages after leaving the countries. It is also possible that the CHVs who were unavailable would have had different input. The inability to create a dependably confidential space within the villages where the interviews were conducted could have influenced the candor and honesty of participant responses. However, these potential sources of bias could be mitigated by the fact that the CHVs receive no financial incentives from the organization and have no obligation to continue their volunteer service. Results of the study cannot be generalized since subjects represented only four countries. If comparisons between cultures were desired, greater numbers of participants from each of the various countries would be needed.

5.3 Implications for further research

The findings of this study are promising and suggest that further research is indicated. This study tested the feasibility of collecting data in remote rural areas of developing countries and evaluated the use of a quantitative tool with these populations. Limitations, particularly the validity & reliability of the instruments and data collected from them, need to be addressed in future research.

Further research is needed comparing the performance and sustainability of unpaid community health volunteer programs versus paid or incentivized community health volunteer programs. Research is also needed to understand how to identify and cultivate people with significant altruistic motivations that lead to long-term commitment.

The combination of the NGO's focus on maternal and family healthcare and its pure volunteer delivery model also invites

future research about gender dynamics relative to community health service delivery and health worker motivations. Reasons for the longevity of CHVs who are encouraged to choose their program focus, compared to those whose programs are determined by an NGO, could also add to the understanding of their motivations.

6. CONCLUSIONS

The CHVs trained and supported by this NGO present a sustainable model of pure volunteerism. Volunteers in this study, some of whom served over 25 years, were primarily motivated by an altruistic desire to serve their community as well as to gain knowledge that will improve the health of their children and community. This study provides evidence that a pure volunteerism model, one that values the traditional knowledge and independent decision-making of CHVs and empowers them through continuous education, can be both sustainable and influential in providing basic health coverage. Future research addressing the limitations could provide significant information further clarifying the factors that promote sustained volunteerism.

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AUTHORS CONTRIBUTIONS

Dr. Sharon Kirkpatrick conceived of the study, designed the study, and interviewed the participants. She also developed the statistical analysis plan. Each author contributed to the statistical analysis. The first draft of the manuscript was written by Dr. Kirkpatrick and Janette Elliott. Each co-author contributed to manuscript preparation, editing and review. All authors have given final approval for the current version to be published.

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CONFLICTS OF INTEREST DISCLOSURE

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INFORMED CONSENT

Informed consent was obtained prior to interviews through visual examination of written survey with literate participants and oral review with limited-literacy participants.

ETHICS APPROVAL

The Publication Ethics Committee of the Sciedu Press. The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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DATA AVAILABILITY STATEMENT

The datasets generated during and/or analyzed during the current study are available from the corresponding author on

reasonable request.

DATA SHARING STATEMENT

The study respondents did not give consent for their data to be shared publicly, therefore, the data are not available for sharing.

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