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Community Systems, Health Knowledge, And The Role Of Promotoras De Salud In Rural Bolivia

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ABSTRACT

Community Health Worker (CHW) programs have had a positive impact on public health across many settings worldwide. However, due to the nature of their vocation and the challenging health infrastructure in which they often work, these individuals commonly face significant barriers that threaten their performance as health promoters, educators, and liaisons. This qualitative research study assessed the perceived challenges for volunteers of a rural *Promotoras de Salud* program in Bolivia. Data were collected by way of in-person interviews with 20 active *Promotoras de Salud* of ten communities in the north central region. Results showed that two commonly reported sources of perceived challenges were community inter-related systems and *Promotoras'* level of health training and knowledge. Potential solutions to these challenges include improved communication between *Promotoras*, community members, local leaders, and clinic staff; consistent and uniform incentives for *Promotoras*; and more detailed and efficient training sessions. This study focused on a specific community setting but findings are likely to be generalizable to other CHW programs serving disadvantaged populations in Bolivia and beyond.

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I. INTRODUCTION

According to the World Health Organization, there exists a worldwide shortage of health workers, particularly in low-income countries, which leads to poor access to health and healthcare services for many in need.[1] Many organizations and institutions have taken measures to address this gap in health by training community paraprofessionals to supplement the health infrastructure by rendering basic services to hard-to-reach populations that may be separated by political, geographical, or social barriers. Community Health Worker (CHW) is a broad term referring to a range of these community-based health aides, including *lay health worker, volunteer health worker, promotora de salud, and traditional birth attendant*.[1] The American Public Health Association defines a CHW as:

> [A] frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the CHW to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.[2]

While there has been significant assessment of the impact of CHW programs around the world, few evaluations have incorporated qualitative methods that take into account the perspective of CHWs themselves regarding facilitators and constraints in delivery of their services.[3, 4] CHWs carry an intimate understanding of the sociocultural characteristics and health status of their areas. Thus, it is imperative to incorporate their first-hand knowledge when determining appropriate action steps for improving health and access on a global scale. This personalized information can provide valuable insight into the lived experiences of CHWs as local leaders who are interweaved in the health and culture of their communities. Their

qualitative feedback can undoubtedly provide evidence for how and why health systems may fall short in serving their beneficiaries, details that quantitative data often fail to convey.

The Centro Médico Humberto Parra (CMHP) is a community medical clinic in Palacios, Bolivia, founded by two American physicians from Loyola University Stritch School of Medicine in Chicago, Illinois. The clinic is in its fourth year of operating its version of a *Promotoras de Salud* program, through which the staff educate local volunteers to help prevent and manage health issues in their communities where access to medical professionals is a frequent challenge.[5] The most prominent issues the *Promotoras* strive to address are the treatment and self-management of diabetes and hypertension among community members; however, despite the training and deployment of *Promotoras*, clinic personnel report minimal improvement of these common health challenges and desire a systematic assessment of perceptions from the *Promotoras* themselves regarding the challenges they are facing in performing their duties.

The primary goal of this research study is to evaluate how the *Promotoras de Salud* at CMHP perceive their roles and the challenges they face which prevent them from performing to their full potential. This study is the first of its kind to be conducted at CMHP. The results are meant to add to the growing understanding of CHW roles in Latin American populations and the common challenges of health promoter programs around the world.

II. REVIEW OF RELEVANT STUDIES

A review of the literature provides evidence of the challenges and barriers to performance CHWs face in various settings around the world. Evidence has been collected from the

perspectives of stakeholders, program coordinators, and community members. A few studies have also incorporated evidence derived from CHW feedback as well.

Workload and social burden has been identified as a component of burnout for CHWs. A study conducted with Taiwanese community health volunteers (CHVs) revealed that burdens of number of patients, the CHVs' marital status, and the personal health of the CHVs can create barriers to their performance as health promoters.[3] Volunteers who served a higher number of people, who were married, or who perceived their own health as poor reported feeling a higher workload burden than those who served fewer people, were widowed, or reportedly in good health.[3] In addition, it was shown that CHWs can experience community distrust and misunderstanding which can also threaten their performance.[3] Similarly, a study conducted with volunteer caregivers of AIDS patients in South Africa revealed stigma, denial, and discrimination were major challenges of the caregivers' performance.[6] The health volunteers reported families denying their entrance into their home, for fear that the volunteers' presence would make it easy for other community members to identify and stigmatize them.[6] It was also reported that community members often voiced that the volunteer caregivers were of no value and that they would betray the families' trust.[6] The volunteers noted particularly difficulty with confidentiality, as they wanted to keep patients' status confidential but their care would often benefit from family members' awareness of their condition, even if it were against the patients' wishes.[6]

A systematic review of CHW performance in low- and middle-income countries reported that perceived absence or poor quality of education level, financial and non-financial incentives, coordination and communication with other health staff, high workload, and lack of clarity on CHW roles were significant sources of barriers to performance.[7] The review examined reports of

performance from a study conducted in Bolivia with *mananzeras*, another version of community-based health promoters, which showed that community distrust of legitimacy, rumors of health workers' true motives, and lack of effective advertising of the *manzaneras'* role threatened their performance and effectiveness.[7]

Another qualitative assessment of client and provider perspectives of a CHW program in Rwanda found irregular trainings, an overwhelming workload, and lack of sufficient supervision to be the key challenges faced by the volunteers.[8] In addition to lacking an understanding of the details of common ailments, the CHWs in the study noted that they were not trained in communication skills, making it difficult for them to effectively promote healthy behaviors and inspire community members to adopt better habits, such as a balanced diet or practicing basic hygiene.[8] Similar results were reported in another study conducted with lady health workers (LHWs) in Pakistan; the majority of LHWs as well as their supervisors felt their communication skills were lacking, and the LHWs expressed difficulty in engaging in dialogue with men about family planning or discussing taboo subjects such as STDs.[9] In addition, they reported lacking adequate knowledge of topics such as maternal, newborn, and child health, family planning, and communicable and emerging diseases.[9] They expressed these topics were not a component of their curriculum, which rendered them unable to respond when community members would ask questions about these health concerns.[9]

In eastern Tanzania, CHWs were interviewed to assess the key sources of their motivation. This study revealed inadequate remuneration, lack of supplies, and supervision as forms of discouragement and barriers to performance.[10] On top of irregular payments, the CHWs also noted that their volunteer work left little time for income-generating activities, which often lead to increased dropout or to less time being devoted to CHW responsibilities.[10] Interestingly,

CHWs in this study noted that supervision was associated with their feelings of inadequacy, as they believed they should not be monitored if they were performing well.[10] In this sense, supervision was regarded as a source of demotivation.

Still, another study reported community culture and internal politics can impede CHW performance. A study conducted in Botswana, which evaluated the establishment of a community home-based care (CHBC) committee and the associated challenges faced by lay caregivers, found that the intimate care of a chronically ill patient, such as bed bathing, is the prerogative of the patient's family.[11] Despite the CHWs' acquired skills in these areas, they were often discouraged from practicing them by the patients' families. Furthermore, these lay health workers often found themselves up against the cultural reverence of traditional healing methods; despite the necessity of antibiotic treatment for an infection, patients would commonly abandon the Western biomedicine prescription and turn to alternative healing methods.[11] The health worker, tasked with verifying the patient's adherence, was confronted with this cultural tendency toward traditional methods and would resort to seeking authority figures to help intervene.[11]

Also pertinent to the research at hand are reports from a study conducted with Latino caregivers of Alzheimer's disease patients, which showed that religion and spirituality moderated the relationship between stress and depression among the caregivers.[12] These researchers reported how the role of religion is central in Latino culture and can often mitigate certain barriers to caregiver performance through direct and indirect pathways.[12]

When evaluating barriers to *Promotora* sustainability, another study found that funding was the most frequently cited barrier to performance among *Promotoras* working in Hispanic communities in 10 US states.[13] Similar to other reviewed studies, additional barriers included lack of financial, political, and supervisory support.[13] Interestingly, the program planners in the

study noted that a deficit in process evaluation and program effectiveness data obstructed effective program development.[13] It is difficult to balance the necessary paperwork required of the *Promotoras* with the amount of data an organization or health center needs for its records, as *Promotora* literacy may be a limitation but sufficient records are necessary in order to continue to monitor progress and, ultimately, obtain funding.[13]

A recent study in Iran collected feedback from CHWs regarding their perceptions of their role and contributions to health improvement in their communities.[14] The researchers reported a perceived lack of a reliable support network as well as low recognition of their contribution by higher authorities.[14] The CHWs, or *behvarzes*, explained how they do not have sufficient physical space in the health house in which they work and do not feel supported or recognized by higher authorities in the health system; some reported having to pay out of pocket for maintaining the health house.[14] Similar sentiments were also reflected in a systematic review of barriers to scaling up CHW programs around the world, with program design and management, community support and value, and integration with the broader environment posing the most prominent challenges to performance.[15]

Given the evidence of several potential barriers and facilitators to *Promotoras'* performance, it is necessary to investigate which may be impacting the program effectiveness at CMHP. Furthermore, it is apparent that personal accounts provide valuable evidence for guiding the direction of program development, especially within a program as young as the *Promotoras de Salud* program at CMHP.

III. RESEARCH DESIGN

Study design

Data collection took place between the months of June and August 2014 and utilized a qualitative structured and cross-sectional design. Data were collected by way of in-depth in-person interviews, which were conducted in Spanish and in a private location with each individual participant.

Study location and recruitment

CMHP is located on the outskirts of the town of Palacios in the Santa Cruz department in central Bolivia, approximately 72 miles (116 kilometers) north of the departmental capital, Santa Cruz de la Sierra. The *Promotoras* supported by CMHP reside within the respective communities they serve, which range in distance from the clinic between 25 minutes and 2 hours by vehicle. The clinic relies on these volunteers to act as the first responders to medical situations in the communities as well as to conduct weekly blood pressure checks, glucose monitoring, and insulin administration for chronic patients.

There were 20 active *Promotoras de Salud* supported by CMHP and working in 10 surrounding communities at the time of this study. This project and its goals were introduced to all clinic staff and all members involved in the *Promotoras* program prior to scheduling interviews. Time was reserved to shadow 3 *Promotoras* with their patients in order to become acquainted with both the individuals and the program's design. During the pre-interview phase, I learned that some *Promotoras* hadn't yet completed their training but were currently working with patients in the community so these individuals were included the in study, despite their training status. Therefore, inclusion criteria for recruitment were: (a) the *Promotora* was

currently an active *Promotora* in the community, and (b) he/she was in the process of completing or had already completed training as a *Promotora de Salud*.

All 20 *Promotoras* agreed to be interviewed. Interviews were scheduled by phone or through in-person contact with each *Promotora* and were conducted at the *Promotora's* home, the clinic, or an agreed-upon location in the *Promotora's* community, depending on individual preference, availability, and convenience.

METHODS

Data collection

A structured interview was developed for this study and consisted of 88 questions aimed at capturing information including but not limited to:

- Basic information about the individual and family life
- Location of and access to available medical services
- General sentiments about their role as a *Promotora de Salud*
- Level and type of training provided to them by the clinic
- Level of comfort and preparedness in addressing a range of basic health topics
- Feelings of connectedness with patients and community members
- Feelings of collaboration with and support from the clinic staff
- Satisfaction and challenges in performing their duties
- Opinions of the major health challenges facing their community
- Perceptions regarding their current reimbursement for their work
- Health topics they would like to learn more about to better serve their community
- Recommendations for program improvement

Appendix I contains the complete English version of the interview. The questions were reviewed for grammatical accuracy and dialectal appropriateness by a volunteer at CMHP and by the clinic's Medical Director prior to the data collection phase.

An American medical student, who was visiting the clinic as a volunteer, assisted in the interviewing phase of the project. This student shadowed the first 8 interviews, during which she observed and recorded field notes. These notes were used for reflecting on the interviews together after their completion to determine any areas of adjustment based on participants' understanding (e.g. clarity in presentation of the questions). I conducted nineteen of the interviews while the medical student conducted 1 of the interviews as the primary interviewer after feeling comfortable and well acquainted with the interview methods. Both the student and I are fluent in Spanish and have experience collecting qualitative data with *Promotoras de Salud*.

The goals of the project were re-explained to each participant and verbal consent for participation was obtained prior to beginning each interview. The *Promotoras* were also informed that their participation was voluntary and they may decline to answer any question(s). All questions were open-ended and were verbally presented to the participants. Participants were read every question during the interview though the order varied slightly, depending on if a participant provided a response to a question before having been asked. Natural conversation and tangential thoughts were not discouraged. Interviews were recorded on a voice-recording device for which verbal consent was obtained from all participants. When the medical student or I were conducting interviews alone, minimal notes were taken in order to not detract from the conversation. Before the close of each interview, the *Promotoras* were given the opportunity to add any additional comments. Audio recordings were saved to an external hard drive for later transcription and were never shared with the clinic staff. It was explained to the participants that the staff would only receive a summary of the study's results and that the individual responses would remain anonymous.

Qualitative analysis

Audio recordings were transcribed in Spanish between the months of December 2014 – February 2015 by fluent or native speakers who were compensated for their time. In an effort to achieve quality control, I reviewed a random sample of the transcriptions for grammar, validity, and accuracy.

Transcriptions were uploaded to Dedoose web-based software for qualitative coding. Techniques borrowed from grounded theory were used to arrive at coding themes and concepts.[16] A co-investigator from Loyola University assisted in the derivation and application of the codes to ensure they were consistently applied across the data. Codes were in English while the transcriptions remained in Spanish throughout the coding process to preserve the authenticity of the data. Certain excerpts were later translated into English during the final stages of analysis to be included in this report. [See Appendix II for Codebook]

Ethical considerations

CMHP's co-founders, Medical Director, and Program Coordinator approved this project on 10 February 2014. The Yale Human Investigation Committee granted exemption from HIC review on 16 May 2014, as the study was considered low risk to participants.

V. PRESENTATION AND ANALYSIS OF FINDINGS

Study population

Respondents included the 20 active *Promotoras de Salud* supported by CMHP in the summer of 2014. Duration of the interviews with the *Promotoras* ranged from 26 to 77 minutes. Most respondents were female and between the ages of 21 – 60 years. Education levels (prior to becoming a *Promotora*) ranged from primary school to some university training, with a couple

participants reporting some level of previous health training (i.e. basic adult and child nutrition, nursing). The length of time reported as being an active *Promotora* ranged from 2 months to 5 years, with a median time of 24 months. Table 1 shows the descriptive characteristics of study participants.

Table 1
Description of *Promotoras de Salud* at CMHP

Characteristic	N	%
Sex		
Male	3	15
Female	17	85
Age (years) Mean=41		
15-20	2	10
21-30	4	20
31-40	4	20
41-50	5	25
51-60	4	20
61-70	1	5
Time as *Promotora* (months) Mean=24.45		
<12	6	30
12-24	8	40
25-36	1	5
37-48	4	20
>48	1	5
Level of Education*		
Primary	7	35
At least some high school	10	50
At least some college	2	10
Some health training	2	10
Length of Training Reported (months)		
2-4	7	35
5-6	6	30
7-8	1	5
9-10	1	5
11-12	1	5
Several (estimate could not be determined)**	4	20

*Column percentages may not sum to 100% as some individuals qualified for more than one category
**Respondents were unable to provide an estimated time beyond "many" or "a long time"

Findings

Two central themes emerged as challenges that hinder the performance of the *Promotoras de Salud* at CMHP: (1) community systems and dynamics and (2) lack of health training and knowledge. When asked about specific solutions to these challenges, Promotoras

identified 3 prominent changes necessary for improvement: (1) improved communication between clinic staff, *Promotoras*, community members, and local leaders; (2) provision of consistent and uniform incentives for all *Promotoras*; and (3) more detailed and frequent trainings.

Challenges arising from Community Systems

Several *Promotoras* referred to the community "groups" as a source of performance barriers given their relationship with the clinic and the *Promotoras*. These groups were present in many of the 10 communities surrounding CMHP and act as the local social committees for event planning, fundraising, and liaison to services. Community members had the option to pay a monthly fee to be a part of these groups, which would afford them community status, access to information, emergency travel funds to a hospital for them and their family members, and a lower payment rate for health services at CMHP. In exchange, group members were expected to contribute to event planning and to host a certain number of fundraisers throughout the year for the community. Some *Promotoras* themselves belonged to these groups while others did not. Interview conversations revealed that some families opt out of group membership, as the fee would be a financial burden on them.

The community groups appear to influence the streams of reimbursement for the *Promotoras* in the community, which can lead to inconsistencies across members of the *Promotoras de Salud* program. All *Promotoras* concurred that CMHP provides a monthly reimbursement of 50 bolivianos, the equivalent of $7.24, for their volunteerism, which is intended pay for phone credit needed to make work-related phone calls and to defray the costs of travel to the clinic and to patients' homes. However, several *Promotoras* also noted alternative sources of funding that stemmed from the presence or absence of community groups.

Participants explained that some *Promotoras* receive extra funding from the groups while others do not:

> *In other places, the group in [three other communities], they pay the Promotoras 200 bolivianos monthly. To me, no, it's not the same. Because there, they are 4 Promotoras so they give them more.* –Promotora de Salud 1

It was also common for the groups to not pay a *Promotora* anything during certain months. This was common in communities where more than one *Promotora* was present; they would alternate responsibilities monthly, which provided workload relief but also resulted in a lack of allowance for some when their partners were active. It was found that internal community systems impacted payment streams to the *Promotoras* in other ways as well. Some participants reported that it was the norm in their community for patients to pay them directly at the time of their weekly visits. This practice did not take place in every community, however, resulting in another form of payment variability for the *Promotoras.* Patients paid for their visits in various forms, with the most commonly noted being cash or food. This payment would either go directly to the *Promotora* for his/her personal expenses or was saved for emergency funds:

> *We charge them 3 bolivianos for their blood sugar check and 2 bolivianos for a blood pressure check. So, we charge [the patients] 5 bolivianos. […] Some people that don't have it; we don't charge them anything. […] [The money] is for each person because the group doesn't pay us anything. […] Yes, [the money] is for me, that's all.* –Promotora de Salud 13

While some *Promotoras* mentioned that their payment was sufficient, several others expressed discontent with the amount they received from the clinic or community. The lack of a uniform payment system coupled with awareness that other *Promotoras* were receiving different amounts of payment may be at the root of this sentiment. Participants explained that the

reimbursement was an incentive for them to continue their work, despite difficult times or their other responsibilities.

Another noted challenge that arose from the community systems was lack of community-wide collaboration. Several *Promotoras* expressed difficulty in maintaining a productive relationship with the group leaders, which resulted in fewer health services being offered to the community members. One respondent explained that in the past when his relationship with the group leader was good, they offered regular health education sessions together for the community but since their relationship has deteriorated, these sessions are no longer offered to the community. Some participants noted their current relationship with the group leaders was so poor that they have thought about quitting their role as *Promotoras*:

> *The truth is, with the lack of communication that I have with the leader, sometimes, yes, I have wanted to quit.* –Promotora de Salud 20

In some cases, accounts reflected feelings of outward malevolence toward the *Promotoras* on the part of the group leaders. Some respondents explained that often times when they ask the leaders to collaborate with them, the leaders would intentionally act in a way that leads to the detriment of the *Promotora*. In a specific example, one *Promotora* explained a group leader had waited so long to inform her of a community workshop that the *Promotora* was not able to attend. Occurrences like this frustrate some *Promotoras* and leave them feeling like they are "fighting" to be in their role, as one respondent noted.

Group presence also seemed to dictate which community members were entitled to receive care from the *Promotoras*, which lead to disparities in health access. Some *Promotoras* reported only being permitted to tend to patients if they were group members:

> *[My contact information] is only for the group. […] This is the problem. I have wanted to work with people that don't belong to the group but the group leaders were upset with me because I wanted to help other people.* –Promotora de Salud 18

Some *Promotoras* postulated that their poor relationship with the groups could be attributed to the leaders' insecurities of having another form of leadership in the community. One respondent suggested that perhaps there is mistrust toward the *Promotoras* because the group leaders feel they want to take over their job in the community.

There was also perceived mistrust toward the *Promotoras* on the part of community members, which poses further challenge to their efforts. Several participants reported difficulty in gaining trust and confidence among community members regarding health recommendations the *Promotoras* would give. While some expressed receptiveness to their peer education efforts, others noted that some members seemed unappreciative and resistant to their efforts to provide advice and set a good example. When specifically asked if she feels members of the community confide in her as a peer educator and value learning from their neighbor, one *Promotora* responded with the following:

> *Yeah but I know the people and have been talking with them. And no, they're not like that because I have attempted [to serve them], I have tried to talk, and I say 'maybe they're already going to the clinic [for care]' I know how they are and so I say no.* – Promotora de Salud 13

This *Promotora* went on to suggest that perhaps the community members' lack of confidence stems from a general sentiment that health information ought to come from a medical professional, like a nurse or a doctor—a "higher person" as she puts it:

> *It has to be a higher person that comes [to teach] so that they are given importance.* –Promotora de Salud 13

Despite their understanding of the local culture and connection with the clinic, the efforts of the *Promotoras* are clearly hindered by challenges that stem from the inner systems and dynamics at play in the communities.

Challenges arising from lack of training and knowledge

Another source of challenges for *Promotoras* that came to light during the interviews was their level of health training and knowledge. When asked if they feel adequately prepared to explain or address certain health issues pertaining to things like nutrition, family planning, cancer prevention, women's health, infectious diseases, and domestic violence, several respondents reported that they lack the skills to do discuss these topics with community members. Many *Promotoras,* especially those who have been in their role for several years, explained that it has been a while since they were last trained on these topics and they have forgotten a lot. Interview data suggest that the *Promotoras* experienced varying degrees of training and that the length, quality, and depth of these trainings may be of concern.

All respondents described their training as weekly sessions held every Saturday at CMHP. However, the *Promotoras* reported undergoing various lengths of these training sessions, with reports of ranging from 2 to 12 months in duration. Currently, the clinic hosts monthly meetings for all active *Promotoras*, during which they turn in their month's report of the diabetic and hypertensive patients with whom they met during the weeks prior. There was programmatic expectation that different health topics would be reviewed at these sessions but respondent data was not consistent in this regard. Several reports revealed that these review sessions lacked detail, variety, and adequacy and that the *Promotoras* rarely learned new things:

> *[The review sessions] are almost all the same theme. We are repeating the same thing over and over, from my point of view.* –Promotora de Salud 18

There were common reports that this repetition centered heavily around diabetes, as the most prominent role of the *Promotoras* was to manage the diabetics in the communities by conducting blood glucose testing, administering insulin, and teaching proper foot cleaning techniques. However, some felt that this concentrated training left them at a loss when community members would seek advise in other areas of health:

> *[T]here are times when patients come and we stumble with [telling them] how we can prevent, say, cancer, no? So what should we say? Nothing. Why? Because they have not taught us that.* –Promotora de Salud 1

Yet, despite the overarching focus on diabetes, many *Promotoras* felt their level of understanding of this disease was limited:

> *[I] would say I lack the ability to explain [diabetes] well. I have to learn more because I lack understanding. It's not just insulin- it has other names and that knowledge I lack. […] Yes, I lack [details of the disease]*. –Promotora de Salud 9

It was apparent that this limited scope of health information left the *Promotoras* feeling like they require more training to better serve their community. Many participants explained that while they possess a basic understanding of how health and body systems work, they lack conceptual knowledge of things like medications and how they interact with the body, which prevents them from providing recommendations to patients:

> *[I want to learn] what dose I am able to give to a patient because many times, they ask, "Can I take this medication?" and I don't know what to say. […] I'm not saying to be able to give prescriptions because that corresponds to a doctor but to be able to identify what it is, what it does, what effects it can cause, if one can or cannot take it. So things like that- a little more advanced.* –Promotora de Salud 18

In addition to a desire for more advanced training sessions, the *Promotoras* also expressed a need to receive more practical training, which would equip them with the necessary technique to better convey health information:

> *We are not very practical* (in the sense of not having received practical training). *It's just practice that we lack. A little bit of practice. […] They teach us more theory than practice.* –Promotora de Salud 10

Some respondents explained the lack of extensive training results in an inability to be effective educators and that they require more experience in order to deliver health information:

> *Yes, it should be [more training], that someone trains me more so that I can be more qualified. […] Sometimes when one is not well trained, one doesn't know how to teach.* – Promotora de Salud 9

This idea recurred throughout many other interviews as well, with respondents sometimes focused on the premise that they are taught to *listen* to health information, rather than *teach* health information. The lack of detail in the trainings coupled with the lack of instruction on how to effectively convey learned information was regarded as a common challenge to the *Promotoras'* performance.

Potential solutions to challenges

The respondents proposed a range of solutions for the challenges stemming from the community systems and health training. These solutions included measures that would improve communication between the *Promotoras*, clinic, and community members; establishing consistent and uniform incentives for the *Promotoras*; and initiating more detailed and efficient training sessions for the program.

Many *Promotoras* expressed a desire to work more directly with community members without having to always reply on direction from group leaders or clinic staff. It was noted that an increase in their communication with patients would better allow them to make decisions in their role:

> *I would like to work more directly [with patients] without having to ask for permission […] and to make decisions, rather than going around asking to.* – Promotora de Salud 18

Another line of communication that respondents noted as needing improvement was that which exists between the *Promotoras* and the clinic staff. As described previously, many *Promotoras* reported receiving news from the clinic through the group leaders and that this method of communication was not always reliable. Several Promotoras suggested being contacted directly by clinic staff regarding community events, meetings at the clinic, and workshop opportunities to remedy this communication issue:

> *For example, there's something that last time bothered me very much. I told the group lead and [program lead] that when there is an event in which the Promotoras are participating, to please tell ME.* –Promotora de Salud 20

This would ameliorate any lack of awareness among the *Promotoras* and could also stimulate improved communication from the *Promotoras* back to the clinic staff. Receiving regular updates from the clinic was also noted as a beneficial addition to the lines of communication. In response to the question of whether the Promotoras feel informed of what happens at the clinic, many noted they ought to be receiving more information on a regular basis:

> *[Receiving more information] is terrific because that way one learns how [the clinic] is functioning in order to see how it affects here. It relates to the program over there, you know?* –Promotora de Salud 11

Respondents expressed that being informed of things like changes in staffing, the scheduling of certain services at the clinic, and community health statistics would be beneficial and could help them in their job.

A unique suggestion that arose during the interview phase was the discussion of the need for a Bolivian lead at the clinic. Currently, the clinic is run full-time by 3 visiting medical

students, a system that some *Promotoras* regard as unsustainable. The Medical Director is involved in programmatic decisions but works at the clinic only part time. The concept of incorporating a Bolivian clinic lead had been presented to me by the Medical Director during our initial conversations about the project and came up again in a few interviews as a viable solution to the communication issues between the different parties. Having an established long-term local lead could streamline communication and support appropriate representation of the *Promotoras* program within the community systems:

> *There needs to be a boss here, a Bolivian. A Bolivian coordinator no? [The medical director] is the supervisor but he isn't always here. He has a job in [major city]. He has things to do. […] So we need a person from here that is in charge because the [Promotora program lead] believes she is this person. She thinks she has to command this, and then another person comes and commands that… so the problem is the supervisors. Everyone thinks they're the bosses here.* –Promotora de Salud 18

It was further explained that a full-time Bolivian lead staff member would be better suited to manage clinic operations, including the *Promotoras* program, than the foreign clinic coordinators, who are transient, and the medical director, who has other engagements.

Another solution to the challenges presented by the community systems was in regard to having increased consistent incentives for the *Promotoras*. Some participants had expressed frustration with the amount of money they received for reimbursements, especially if they were aware this amount was different from what other *Promotoras* were receiving. Others noted that what they are currently receiving is not enough to cover the costs of their role. Many agreed that a solution would be to increase their travel and phone credit allowance, with some offering exact levels of ideal monetary compensation:

> *I would say at least it should be 100 bolivianos for the Promotoras because for us, we really need a lot for our transportation. There are times when we fall short [on funds]. Imagine! One month with just 50 bolivianos…* –Promotora de Salud 1

Some participants also offered solutions for incentives outside of monetary values for their work. There were suggestions of ways to increase *Promotoras'* self-esteem through efforts that recognize and publicize their work:

> *[An improvement] would be to increase the self-esteem of the Promotora. It wouldn't be money because money we can receive in any form, but rather an incentive that they possess. Say, they bring us a plaque because the people need their self-esteem too.* –Promotora de Salud 7

These ideas offered solutions for uniform and transparent forms of *Promotora* incentives that could curb the challenge of payment discrepancies stemming from the different community systems.

In regard to the challenges the *Promotoras* face due to lack of health training and knowledge, it was suggested that measures be implemented to provide more detailed and efficient trainings to the volunteers. Several *Promotoras* recommended that the trainings encompass a larger scope so they can better understand not just which medication correspond to which illnesses but *how* they work to treat these conditions. There were also several recommendations that the trainings should cover more health topics in general:

> *More training [would be good], no? Some of the illnesses you have asked about, they haven't told us anything about. So it would always be good, right? Learning more and that they teach us more about family planning, things like that, that [community members] are asking us so many questions about […]* –Promotora de Salud 1

Improving access to the clinic was another proposed solution that would improve the trainings. Several participants expressed extreme difficulty in getting to the clinic, especially during the wet season when the road would flood, resulting in their inability to attend a session or the cancellation of the training altogether. Some *Promotoras* recommended holding the sessions at a more central location that did not require extensive travel on a muddy dirt road:

> *In [a community closer to main road] would be closer. [There] would be much easier than the clinic.* –Promotora de Salud 15

In addition to improving access, respondents recommended greater efficiency in the training sessions by beginning and ending at a designated time:

> *When I go to the trainings, we have a big problem. We arrive fine but when we leave at 1pm or 2pm, we leave from the clinic, then to the main road, then from there to our home... it's a long day. We lose the entire day. […] The classes should be earlier [because] we always leave [the clinic] so late. Nobody sympathizes with us. Previously, the trainings were early and we left early. We were always there at 8:30am. We would arrive early and the classes wouldn't start until almost 9am. Three hours in class until 12pm would be good. But to leave there at 2pm or 3pm… we're all busy you know?* –Promotora de Salud 14

Efficient trainings would facilitate more effective learning and would show respect for the *Promotoras'* time by making their journey worthwhile. [Additional excerpts can be found in Appendix III]

VI. DISCUSSION

Conversations with the *Promotoras de Salud* at CMHP provided valuable insight into the perceived challenges they face in their role and proposed solutions to these challenges. Interview data suggest several of the *Promotoras'* challenges and barriers related to the internal systems of the community as well as their perceived deficit in training and knowledge of health information. Recommendations for improvement in these areas included improved communication between all community and clinic parties, consistent and uniform incentives and reimbursements methods for the *Promotoras*, and more detailed and efficient training sessions. A conceptual map [see Figure 1] is useful in visualizing the influences that each community entity has on the performance of the *Promotoras* and the potential challenges that can derive from shortcomings

in these contributions.

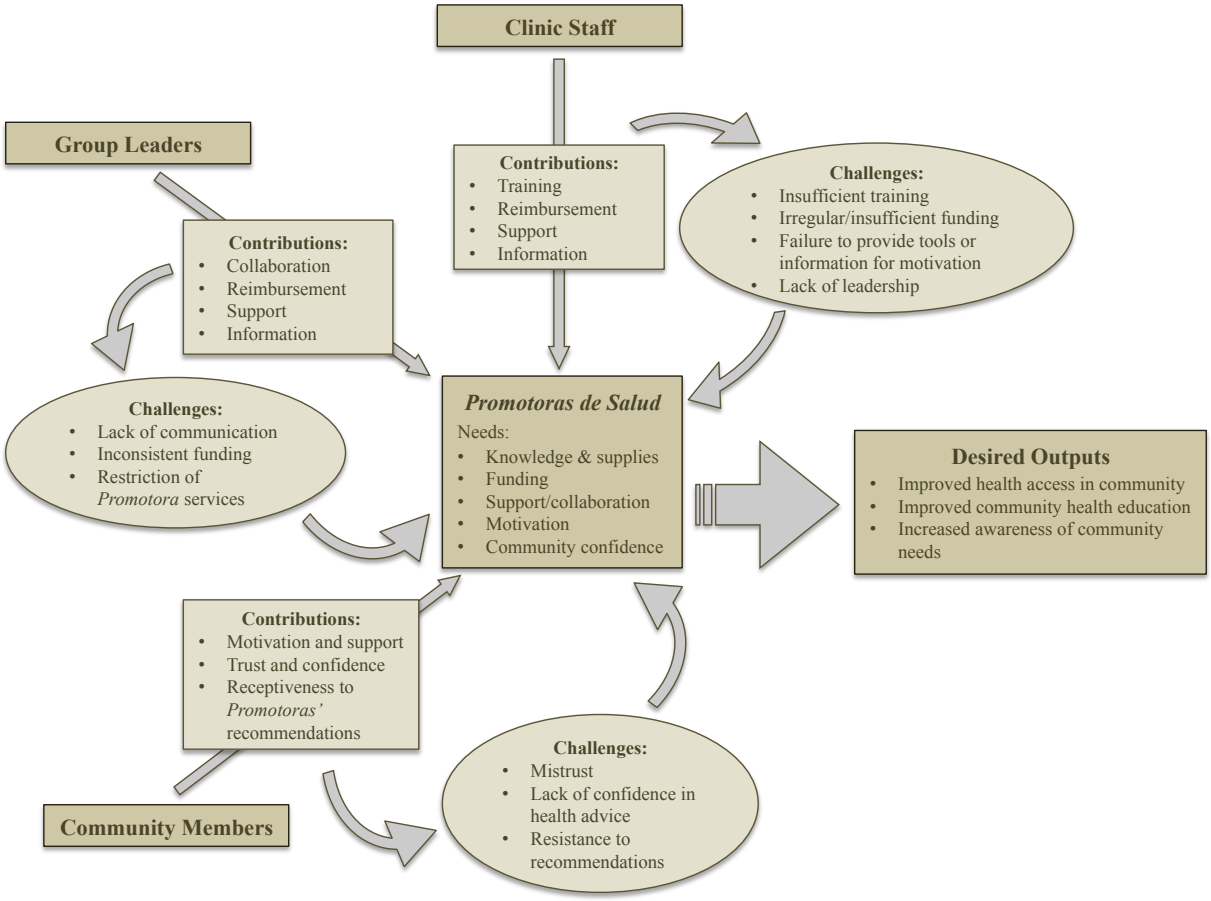

Figure 1: Conceptual map of entity contributions to *Promotora de Salud* performance and potential challenges that arise from insufficiencies in these contributions

Respondents noted several challenges that were the effects of the community's political and structural organization, with which I became familiar throughout the interview process. Figure 2 displays the key lines of communication between community and clinic entities, with the group leaders and *Promotoras* in the center as they have prominent representation within both the community and clinic and often act as liaisons between the two. These community entities had been long-standing before the inception of the clinic in 2011, and there are perceived difficulties in incorporating new forms of leadership within the community. In close-knit communities where individuals often take on leadership positions by way of familial ties and preferential referrals, it is necessary to make concerted and continuous efforts to ensure all

parties understand that the health program's goals are meant to parallel existing efforts, rather than compete with them. This important concept is supported by several previous CHW research studies and was apparent in many of the suggested improvements put forth by the *Promotoras* in this study.[3, 11, 13, 14] Community understanding, collaboration, and communication are key in ensuring a model that is compatible with community culture and internal politics.

While there were many accounts of *Promotora*–group leader challenges, it is worth noting that some *Promotoras* reported being group leaders or having group membership themselves. I was not fully informed of these overlaps until later in the study so I am unable to effectively comment on the significant difference (if any) perceived by the *Promotoras* who belong to groups versus those who do not. Further investigation in this area could provide valuable insight into the level of program saturation in the communities as a result of *Promotora* group status.

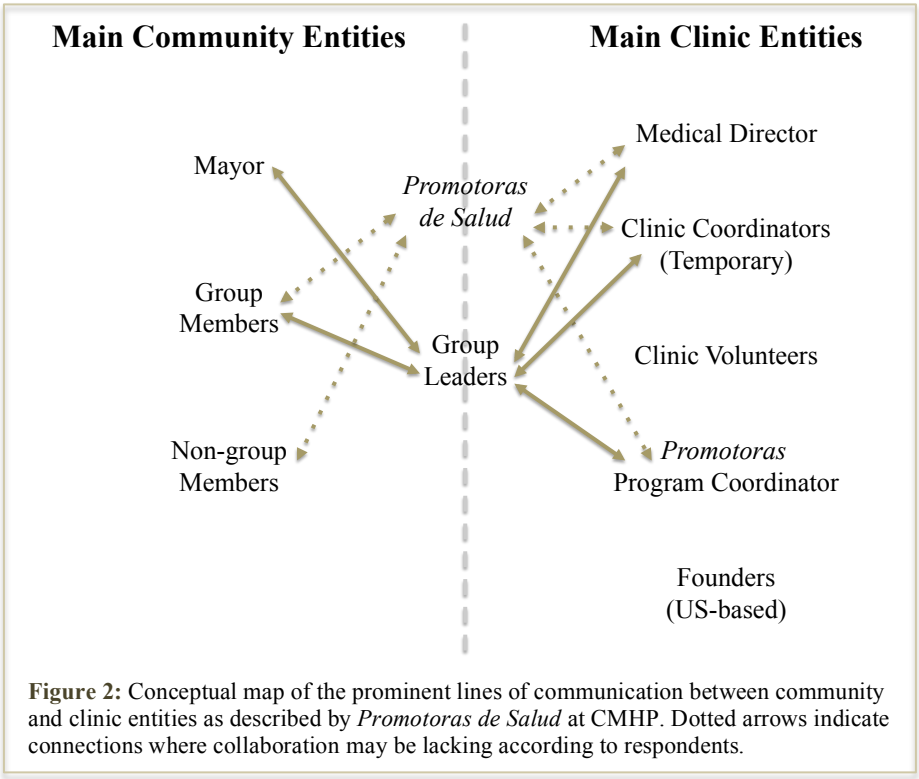

Figure 2: Conceptual map of the prominent lines of communication between community and clinic entities as described by *Promotoras de Salud* at CMHP. Dotted arrows indicate connections where collaboration may be lacking according to respondents.

While this form of community group membership may be unique to this population, community dynamics and internal political systems are something that any CHW program may face when attempting to integrate a health promotion program. As previous studies have shown,

it is imperative to be aware of these inner workings when conducting similar programs anywhere, as the route of introduction can directly affect community perceptions and program success, and in turn the overall health trends of a community.[3, 7] As the *Promotoras* at CMHP explained, reliable, direct, and open lines of communication can prevent misunderstandings of their role and can inspire positive collaboration.

It was proposed that the presence of a full-time Bolivian clinic coordinator could help to bolster this collaboration. Currently, the clinic's model consists of 2–3 full-time foreign clinic coordinators, a part-time Bolivian physician, a *Promotoras de Salud* program coordinator, and several other clinic personnel responsible for medical operations in the clinic. The full-time clinic coordinators are medical students from Loyola University who volunteer at the clinic for one year between their 3rd and 4th years of training. While this model affords the clinic a perpetual source of rejuvenating ideas and energy of young professionals, it also brings with it significant learning curves, challenges in reestablishing trust and camaraderie, and language barriers which are cyclical in the current model. In addition to the transient nature of the coordinators, the medical director is also a part time member of the clinic team; he also acts as a staff physician at a hospital in a town about 1.5 hours away from the clinic. This doctor conducts several of the training sessions for the *Promotoras* and occasionally attends the monthly meetings but his lack of full-time presence in the community may play a role in the community dynamics and understanding.

Interview data clearly slowed discrepancies in the amount and types of reimbursements that the *Promotoras* received for their time and how the community systems can influence this. Some *Promotoras* expressed satisfaction with the current reimbursement model but again, these data do not allow for the assessment of a correlation between group membership and perceived

barriers in the form of incentives. Of the recommendations provided, however, there seems to be a consensus for increasing the reimbursement amount or expanding it to include other forms of acknowledgement and appreciation, such as community-wide recognition or publicly displayed plaques of their certification. At their core, methods of reimbursement and recognition originating from the clinic ought to respect local politics but should principally reflect *Promotora* performance, rather than group or religious affiliations.[10, 13]

Another solution to performance barriers addressed through these data include more detailed medical training for the *Promotoras* so they may be better equipped to portray health information to their community peers. A "train the trainer" model, which has been researched among Hispanic CHW groups elsewhere,[17] may be feasible to adopted in this setting to allow *Promotoras* to take the lead on presenting certain health topics to their peers. This can afford them more ownership of their training as well as teach them communication skills when talking about health and medical treatment that they can later take to the community. Within this model, there is also room for promotion to "lead" or "senior" *Promotoras* based on the amount of time they have dedicated to the program and their training. These leaders may in turn be responsible for teaching newer members of the team, which could generate camaraderie and inspiration to meet milestones.

In addition, *Promotora* confidence can be boosted by improving their familiarity with health topics through the standardization of the training program. A set curriculum should be developed to make sure everyone attends the same sessions and absences are accounted for to ensure equal and quality training. Record keeping is essential to ensure all volunteers meet the certification guidelines for their training. Stagnation in the training phase, repetition of topics, and inadequate review sessions threaten *Promotora* confidence and familiarity with topics they

are responsible for, as we see in the data. Evidence from the US shows that CHW models that follow these recommendations can indeed have an impact on improving chronic disease self-management, including diabetes.[18]

Strengths

As the first of its kind to take place at CMHP, this study provides valuable insight through its originality and timeliness. In addition, this study achieved a 100% response rate with every active *Promotora* participating in the interview process. The interview questions were comprehensive and provided many topic areas on which the *Promotoras* were invited to elaborate and share their feedback. The participants exhibited a range of time since becoming a *Promotora*, which offered feedback at several time points along the trajectory of the role. Furthermore, as a visiting American student, I did not have any prior association with the clinic or its staff, which presumably provided an extra sense of anonymity to the participants.

Limitations

This also study has several limitations. It is possible that the in-depth interview questions provided too much structure and more natural feedback may have surfaced if the interviews were less structured. A considerable amount of participants resorted to providing one-word answers (i.e. yes/no) to some questions, possibly because they had interpreted the interview to be a list of questions rather than a conversation.

The generalizability of these findings may be limited. Although recruitment of participants was exhaustive, the population is nonetheless small and restricted. *Promotoras* in other regions may have different feedback regarding responsibilities and barriers. In addition, this study was only able to capture a cross-sectional collection of *Promotora* feedback and at this time, is not able to provide longitudinal data to compare perceived barriers at the onset of the

Promotora role to perceptions later on in his/her role. It was also realized too late in the study that more demographic information, such as group membership or religious status, would have been useful in order to assess potential correlations between community affiliations and perceived challenges among the *Promotoras*. Nevertheless, these data represent strong evidence for the day-to-day challenges that *Promotoras de Salud* face in their role as well as feasible action steps to address these challenges, which compliment and expand upon existing evidence in the literature.

CONCLUSION

CHWs, *Promotoras de Salud*, and other volunteer lay health workers have been shown to affect positive change in health promotion and disease prevention in numerous settings around the world. Given their vital contributions in this arena, it is imperative to assess and address the perceived barriers to performance these individuals face within their roles in order to inspire progress and avoid attrition.

The data from this study reveal 3 feasible actions steps that CMHP and similar CHW programs can take on to resolve issues arising from community inter-related systems and insufficient knowledge and training among health workers:

- Invest time and effort to improve communication between all entities
    - *Promotoras* should be encouraged to work directly with community members, irrespective of their status in community groups
    - Supervisors ought to contact *Promotoras* directly regarding events, meetings, and trainings and should provide updates regarding health trends
    - A full-time local staff member may remedy communication issues
- Provide sufficient, consistent, and uniform incentives for all *Promotoras*
    - Monetary pay ought to be sufficient to cover all *Promotora*-related expenses and be the same for every *Promotora* in the program

  - Regular efforts should be made to recognize *Promotora* performance and boost self-esteem

- Deliver efficient training with adequate health information for the *Promotora* role

  - Health training sessions should begin and end on time, cover more detailed information, and should be accessible to *Promotoras*
  - Review sessions should take place in a central location that is closer to the main road to ensure greater attendance

In conclusion, this study supports on-going efforts to understand the challenges and barriers lay health workers face, which can offer reliable evidence for CHW program development efforts. Addressing the sources of these barriers in a timely and sensitive manner is crucial in order to maintain a continuum of care to underserved community members. Further research is necessary to address the limitations described in this study and to design CHW-led models that can be tested through experimental or quasi-experimental research designs.

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APPENDIX I

Full interview document (English version)

Evaluación del Programa de Promotores de Salud: Estudio Cualitativo

Health Promoters Program Evaluation: A Qualitative Study

INTERVIEW CODE: _____

Basic Information

Age:	Sex:	Community:	Number of adults in household	Number of children in household
	M F			

Distance from clinic	Cost of travel to clinic	Distance from closest town	Cost of travel to town	Are you a midwife?
hr min		hr min		Yes No

Time being a Promoter	Level of education (before becoming a Promoter):	Previous training/medical experience:
years months		

General Questions

Why did you become a Promoter?

Do you have another job? If so, what is it?

How much time do you spend working as a Promoter each week?

Visitng patients: In the clinic: Phone calls: Meetings/events: Other:

Do you have other leadership roles in the community?

Did you have these roles before becoming a Promoter?	How has being a Promoter effected these roles?

Work Related Questions

Training

How long was your training to become a Promoter?	Do you feel sufficiently trained for this role?

Are there other things you wish you were taught before starting?

What else would you like to learn in order to improve your capability as a Promoter?

Are you offered review or refresher courses regularly? If so, do you attend?

Did you receive some sort of a certification upon becoming a Promoter?

Evaluación del Programa de Promotores de Salud: Estudio Cualitativo

Health Promoters Program Evaluation: A Qualitative Study

Patient Contact

How do community members get in contact with you?

How is your contact information made available to the community?

Do you visit patients' homes? How often?

How do you pay for travel to their homes?

How often do patients come to you house?

>Weekly Weekly 2-3 times per month Monthly <Monthly

How do you document the visits?

What are the most common reasons for which patients visit you?

Have you taught a patient something about his/her health? What was it?

Do you think that the management of chronic patients has changed due to your involvement? How?

Do you think the management of infectious diseases has changed due to your involvement? How?

Do you think the management of pregnant women has changed due to your involvement? How?

Have you attended births? How many?

Do patients pay you for your services in some form? (i.e. with money, food, etc)

Contact with the clinic

How often do you visit the clinic for the Health Promoters program?

>Weekly Weekly 2-3 times per month Monthly <Monthly

How do you pay to travel to the clinic?

How do you inform the clinic of your visits with patients?

How often do you call the clinic with quesitons related to your work as a Promoter?

>Weekly Weekly 2-3 times per month Monthly <Monthly

How do the clinic staff get in contact with you?

By phone By visit By announcement Other

How often are you informed of what happens at the clinic?

>Weekly Weekly 2-3 times per month Monthly <Monthly

Do you feel sufficiently informed of what goes on at the clinic?

Does the clinic staff inform you of the impact the Health Promoters Program has had on the commuinty?

Evaluación del Programa de Promotores de Salud: Estudio Cualitativo

Health Promoters Program Evaluation: A Qualitative Study

Reimbursement	How are you reimbursed for your work as a Promoter?	Is this reimbursement appropriate for the work you do?
	Do you think you should receive a different type of reimbursement? What would it be?	

Feelings about the Position	
Do you like being a Promoter?	
What is your favorite part of being a Promoter?	
What bothers you about being a Promoter?	What type of challenges have you experienced?
In what way do you feel your job is meaningful?	
Do you feelt the clinic staff values your work?	
Do you feel comfortable calling the staff for advice and questions?	
Does the clinic staff treat you well?	Do you the community members treat you well?
Do you feel the clinic staff supports you as a Promoter?	
Do you feel like a leader in the community?	Do you feel like a valued member of the community?
Do you feel you have changed the lives of the community members since becoming a Promoter?	
Do you feel your role as a Promoter imposes on your other responsibilities? (For example, with your family, other job, church, etc.)	
Are you proud of being a Promoter?	Do you feel you are setting a good example?
Do you feel like an educator?	Have you ever tried to convince someone else to become a Promoter?

Evaluación del Programa de Promotores de Salud: Estudio Cualitativo

Health Promoters Program Evaluation: A Qualitative Study

Feelings of comfort with topics				
Do you feel comfortable explaining diabetes to chronic patients? How would you explain it? (i.e. prevention, control, complications)				
Do you feel comfortable explaining nutrition to patients who want to learn how to be healthier? How would you explain it?				
(Repeat:) Hygiene	(Repeat:) Family planning	(Repeat:) Wound care	(Repeat:) First aid	
(Repeat:) Types of cancer and their prevention	(Repeat:) Hypertension and control/complication	(Repeat:) Women's health		
(Repeat:) Infectious diseases	(Repeat:) Domestic violence and sexual health			
Do you think the program has positively impacted the community where you live?				
Have you ever wanted to stop being a Promoter? Why?				

Recommendations for the Future	
How do you think the program can be improved?	
Would you like to have more of a prominent role as a Promoter? If so, how?	
Would you like to be able to provide more health-related information to your fellow community members?	
Are you interested in holding classes for adults/children in the community?	What would you like to teach?
Would you like to have more extensive classes where you conduct projects and presentations?	
Would you like to teach your fellow Promoters about a topic of your interest?	
Would you like the class schedule to be different? (For example, the frequency, duration, etc.)	

APPENDIX II
Codebook

Category: Basic information
- **Subcategory: Demographics**
  - Code: AGE
  - Code: COMMUNITY
  - Code: EDUCATION LEVEL
  - Code: SEX
- **Subcategory: Experience**
  - Code: TIME AS *PROMOTORA*
  - Code: PREVIOUS MEDICAL TRAINING

Category: Discussion of role
- **Subcategory: Feelings about being a *Promotora***
  - Code: DEDICATION
  - Code: COMFORT/CONFIDENCE
  - Code: EDUCATOR/SETTING AN EXAMPLE
  - Code: IMPACT
  - Code: PRIDE
  - Code: RECOGNITION
  - Code: SATISFACTION
  - Code: SIGNIFICANCE/VALUE
  - Code: SUPPORT
  - Code: TEACHING COMMUNITY MEMBERS
  - Code: TREATMENT
  - Code: WHY BECAME *PROMOTORA*
- **Subcategory: Challenges/dislikes**
  - Code: COMMUNITY POLITICS
  - Code: HAVE WANTED TO QUIT
  - Code: IMPACT OF GROUPS
  - Code: MISTRUST
  - Code: OPPOSITION
  - Code: RESTRICTION
- **Subcategory: Receiving information**
  - Code: FEELING INFORMED
  - Code: RECEIVING INFO

Category: Reimbursement/Compensation
- Code: FAIRNESS
- Code: INSUFFICIENCIES
- Code: SOURCES
- Code: TRANSPORTATION COSTS

Category: Training
- Code: CERTIFICATION
- Code: DURATION
- Code: LACKING DETAIL
- Code: READINESS FOR ROLE

Code: REVIEW SESSIONS

Category: Recommendations for improvement

Code: CHANGES IN LEADERSHIP
Code: CHANGES IN PROGRAM
Code: CHANGES IN ROLE
Code: COLLABORATION/COMMUNICATION

APPENDIX III
Addition excerpts

Challenges arising from community systems

- Discussion of varying payment schemes:

  We have the group that supports us with 200 bolivianos (about $29). *[It comes] from those that are in the women's group. In each community there's a group and from that, they take [the money]. Each family provides 5 Bolivianos* (about $0.72) *and from there they take the 200.* –Promotora de Salud 5

  Before, yes, [the group] gave us 10 bolivianos monthly. But now, they are not paying us. –Promotora de Salud 14

  I want them to give me at least a small salary because those in Warnes receive a salary and me, no. Nothing. –Promotora de Salud 16

- Discussion of receiving payment from community members:

  [The patients] sometimes give me fruit. They are always appreciative. –Promotora de Salud 8

  We use the 5 bolivianos from each patient for when there is some emergency at the clinic. […] I save it. […] It's for emergencies. –Promotora de Salud 14

- Discussion of community collaboration:

  The truth is, with the lack of communication that I have with the leader, sometimes, yes, I have wanted to quit. –Promotora de Salud 20

  Generally, when I had a better relationship with the leaders, we gave [health education lessons] […] with the group. The first Sunday of every month we gave [them]. But now there is no such relationship. –Promotora de Salud 18

  There was a workshop in [community] where the Promotoras went and I wasn't there. Why wasn't I there? Because they didn't inform me. So for that, I told [them] to inform me because I want to participant. I want to gain more knowledge that can serve my work for the clinic. […] [Group leader] is always trying to do what is best for her kids or spouse. I don't understand her wickedness toward me. […] She doesn't tell me or tells me right when it's time to be at that place. It's like that and I, as a Promotora, have to be fighting. –Promotora de Salud 20

- Discussion of community mistrust:

  Perhaps my problem is that I have the spirit of a leader. […] And maybe this is what [the group leaders] don't understand, that I see things and I want to contribute, I want to organize, because that's how I am. And I think maybe they think I want to take their jobs. –Promotora de Salud 18

Potential solutions to challenges

- Discussion of improved communication:

  [Currently] if I want information, I have to call and ask. […] I would like to be more informed because I am curious. –Promotora de Salud 18

- Discussion consistent and uniform incentives for Promotoras:

  I think it would be ideal if they provide to us all the things of necessity, like transportation… not necessarily money, because we understand this voluntary. When I came, I knew that it would be voluntary so I wouldn't say they should pay us […] –Promotora de Salud 18

- Discussion of more detailed and efficient trainings:

  I would like to learn many more things. [Previously] they were teaching about medications, what were the medications, how to identify them […] and the dose. All of that is very interesting to me […] but they didn't continue. Instead, they moved back to the primary, very basic things. […] –Promotora de Salud 18

  [They should] open more classes, not always about diabetes. –Promotora de Salud 1

  It's always good to have a fixed schedule. That way, we all arrive together to begin and we leave early too. –Promotora de Salud 9

  We should begin early; then we can cover more topics. –Promotora de Salud 10