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EN ALIMENTACION Y DESARROLLO, A.C.

CIAD

SEP-CONACYT-UNAM-IPN-GOBIERNO DE SONORA-GOBIERNO DE SINALOA-GOBIERNO DE CHIHUAHUA-SAGARPA

COORDINACION DE NUTRICION

February 16, 2015

Caroline Dickinson
Business Manager
Health Initiative of the Americas
UC Berkeley, School of Public Health
1950 Addison Street, Suite 203
Berkeley, CA 94704-2647

Dear Caroline,

It is with great pleasure that we are submitting a draft of our manuscript for the PIMSA research project: *"A Health Promotion Model for Migrant Agricultural Workers from Southern Mexico*", on behalf of the University of Arizona Mel and Enid Zuckerman College of Public Health, El Colegio de Sonora, and The Centro de Investigación en Alimentación y Desarrollo, A.C. On behalf of all three institutions, I would like to express our deep appreciation for the support provided to us to develop and implement this research project through PIMSA.

The manuscript is a paper draft that at this time is being reviewed by all authors. We hope the final paper will be submitted soon to the Global Health Action Journal, and of course, it will be sent to you as well.

This research project allowed all three of our institutions to strengthen our research capacities in the binational area as well as strengthen our institutional relationships and our commitments to improving the health and wellbeing of the migrant agricultural workers and their families in Mexico and the United States.

Once again, we appreciate the oportunity to be a member of the PIMSA family and look forward to continued opportunities for presenting our research results and next steps with the PIMSA research community and others thorughout the United States and Mexico.

Sincerely,

María Isabel Ortega Vélez, Ph.D.
Professor of Public Nutrition
Centro de Investigación en Alimentación y Desarrollo, A.C.
Coordinación de Nutrición
Departamento de Nutrición Pública y Salud.

Km. 0.6 Carretera a La Victoria
Apartado Postal 1735,
Hermosillo, Sonora, Mex. C.P. 83304

Tel. (662) 289-2400
Fax: (662) 280-0094

PIMSA
PROGRAMA DE INVESTIGACIÓN EN MIGRACION Y SALUD

Final Report

Developing a Network of Community Health Workers:

Improving the Lives of Migrant Farmworkers

THE UNIVERSITY OF ARIZONA
Mel and Enid Zuckerman College of Public Health

CIAD Centro de Investigación en Alimentación y Desarrollo A.C.

EL COLEGIO DE SONORA

Abstract

Objective. The goal of this study was to design and implement a community health worker program that identifies domains and methods relevant to improve health among migrant farmworkers in Mexico. **Methods**. This was a qualitative action-driven research carried out at southern Mexico communities in the states of Puebla and Chiapas, as well as at northern Mexico (Sonora State) farms (Don Enrique, La Cuesta y Pozo Manuel in the Municipality of Hermosillo, and San Miguel de Horcasitas, Sonora, Mexico). Four steps were followed through the diagnosis, curriculum design, training and implementation and impact evaluation process. **Results.** Through interviews with workers whom have initiated the community health worker training and focus groups of migrant farmworkers, the evaluation activities generated a more comprehensive outlook for the perceived health needs of this population. Identified barriers and needs were used for development and evaluation of a comprehensive curriculum for health promotion, for this specific population. **Conclusion and practical implications**. Environmental changes as well as political willingness are needed to sustain sustainability of a health promotion model for migrant farmworkers. Agribusiness owners and managers, as well as certifying organizations (such as Fair Trade), and the social development and health promotion governmental institutions, could work together to enforce the adoption of this health promotion model among agribusiness along the country.

Introduction

Health promotion and disease prevention are vital to the betterment of overall health of all populations regardless of socioeconomic status, political affiliation, and socio-cultural background, but in particular, and the focus of this project, the health and well-being of migrant farmworkers. Farmworkers have a high rate of occupational health risks compounded with limited access to care, nor any continuity of care, due to cyclical migration and low retention of health workers in the field and home, especially in rural communities (Rosales, et al, 2012). Programs and policies to address this problem can provide the support, guidance and community support for the implementation of health promotion and disease prevention programs. Farmworkers, specifically migrant farmworkers, who travel annually through Mexico and the United States to find work, are often one of the most marginalized populations and have the greatest need of access to care and health promotion and disease prevention programs. This population is subject to many job-related occupational health conditions, but also, both communicable and non-communicable diseases. Yet, access to care is a prevailing issue. Due to the complexities of providing care to a transient population, migrant farmworkers need an integrated health model that reflects community-level participation and investment in continued growth and development. Community health worker (CHW) models focusing on community health promotion, using a participatory approach, work within the community to develop leaders who can integrate and continually develop responsive health promotion methods.

Farmworker Conditions: Identification of Health Concerns

Migrant farmworkers have a high prevalence of health concerns due to their constant mobility, the nature of the work performed; seasonality, length of time in the field, and living conditions

and health care availability. These health risks are inclusive of pesticide exposure, heat and sun exposure, injuries due to hazardous tools and machinery, infectious disease exposure, musculoskeletal injuries, respiratory illnesses, skin disorders, eye injuries, compounded with increasing risk factors for chronic disease, specifically, obesity and diabetes, chronic respiratory problems, dermatologic conditions, cancer, depression, tuberculosis, neurologic deficits, higher rates of infertility and miscarriages (NCFH, 2012; Rosales et al, 2012). These are pervasive health risks that were identified, but preventable through the availability and affordability of care, continuity of care and integration of health promotion strategies not only within the workplace, but within their respective communities of origin and during their transit, to the worksites, often hundreds of miles from home, traveling several days. In addition to the high rates of occupational health hazards, communicable and non-communicable disease risks, it is imperative to understand the limits to access to care, as well as how best to address the social determinants of health in order to improve the health of this particular population. Migrant farmworkers labor in rural communities that are medically underserved and health profession shortage areas and/or experience low retention rate of health providers. Likewise, the cyclical migration patterns of farmworkers becomes challenging for insuring their continuity of care (Rosales et al, 2012). Moreover, the health risks pervasive in the occupational environment are exacerbated, in as much as supervisory staff are inadequately trained to address on-site injuries or infirmity, especially when agribusinesses are experiencing shortages of onsite health providers.

Barriers to quality health care also includes language barriers, frequent mobility characteristic of this population, low literacy, low health literacy, and transportation needs, to name a few. In summary, internal migration of farmworkers, especially those traveling from the

most southern states in Mexico to the northern states require a health care delivery model that addresses the specific needs related to this mobile population that is subject to ever changing living and working conditions (NCFH, 2012; Rosales et al, 2012).

Indigenous groups, in particular, frequently follow the migrant agricultural streams from the most southern states to the most northern states in Mexico to earn a living. This population requires models that are culturally and linguistic sensitive. In Mexico, indigenous populations migrate primarily from the southern states of Chiapas, Veracruz, Puebla, and Oaxaca for employment. Most indigenous migrants speak little to no Spanish; have strong ties to their cultural background, and often accustomed to their traditional health care and disease prevention. Factors contributing to migration include lack of employment, displacement, economic depression or instability in home communities, or deterioration of physical environment (NCFH, 2012; Rosales et al, 2012; Arcury et al, 2010).

The farmworker population migrating and temporarily living and working in Northern Mexico experience barriers to health care access; as such, according to previous research, this population endure social stigma and racial discrimination, poverty, and invariably are victims of exploitation. This is especially true of indigenous farmworkers. Migrant agricultural workers especially in, need health protection, due to risks highlighted in an occupational health capacity. They experience limited exposure to training on health promotion in an agriculture specific manner, and tend to have worse health outcomes due to various contributing factors outlined herein (Rosales et al, 2012).

Community health workers (CHW): addressing health needs of migrant populations

Community Health Workers (CHW) programs are, in many cases, the frontline for primary care and disease prevention. CHW identify members of the population to be the liaisons in delivery of care, and health promotion. These members of the community are able to overcome cultural and linguistic barriers, and remain relevant to the subject population. CHW can also work to identify and overcome other barriers, such as beliefs on health, provisions of health care, financial limitations, and overall health literacy. CHW can also provide a bridge of communication between the needs of the population and, specifically in agriculture, the expectations and attitude of the enterprise and health care staff, to create lasting change in provision of health services to marginalized populations. CHW can serve as a means of assessment, community building, and monitoring system to help marginalized populations overcome barriers to access, and limit exposure to preventive health problems and preventable disease (NCFH, 2012; Matthew et al, 2009). Although CHW serve as the front line representatives for health promotion with migrant populations, it should be noted the extensive challenges they face, with both community participation and also with their access to communities that might be most in need. First, to successfully implement a community health worker program, community participation requires that healthcare providers have a solid knowledge base of the community they are working with; espouse cultural sensitivity, supportive attitudes, communication skills and conflict management. While these are all assets to CHW capacity, they can become barriers if not properly trained or implemented as training tactics (Gofin, 2005). Second, there are barriers for the capacity building among CHW based on community level participation. There can be barriers that lie within this framework dependent on social and personal contexts, specifically, if they are in any field of healthcare, limited knowledge of the construct of the program, or preconceived notions of the

goals and objectives of this type of knowledge. Challenges also occur upon the realization that change can be slow and that it requires continual integration, presence, patience, and goal orientation to successfully work with community members to enact positive change (Gofin, 2005). While it is imperative to address the challenges a CHW can face while providing services, continual community engagement, extensive knowledge of the culture and needs of the community one is trying to address, and high levels of patience, trust-building skills, and knowledge base of the health risks the community faces, can all be positive indicators for positive change and capacity building for a community health worker program. CHW can serve as not only the front line health providers, but also can facilitate change through addressing needs and challenges within a population, and offer insight and communication to community members to bring awareness to the needs of special sub-populations (Matthew et al., 2009).

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Community based participatory research

Community based participatory research (CBPR) is defined as "a collaborative, partnership approach to research that equitably involves, for example, community members, organizational representatives, and researchers in all aspects of the research process. Partners contribute their expertise and share responsibilities and ownership to increase understanding of a given phenomenon, and incorporate the knowledge gained with action to enhance the health and well-being of community members" (Israel et al., 2001, Love, 2011). CBPR is not a research method or a study design, but is rather an *approach* that is intended to give the community authority in the research project—a form of community empowerment (Blumenthal, 2011). CHW present an opening for community-based participatory research (CBPR) by their unique position as a bridge between researchers and the communities they study. As Matthew et al. propose, "Community Health Workers can bring the end users' perspectives to academic investigators; successful programs often integrate feedback from communities to solve challenges that arise during implementation of CHW programs" (Matthew et al., 2009).

The Socioecological Model and the Health Impact Pyramid

Considering that this investigation intends to be a CBPR, we should account for all those aspects surrounding the lives of farmworkers that will allow a health promotion training curriculum to succeed. The socioecological framework (Stokols, 1996; Richard et al., 2012.) guided our research to understand all those social determinants of health (farm health and dining services, cost of food, farm organization and model of health care followed, as well as cultural differences between owners, managers and farmworkers) that could impede or facilitate the process of training and its success. Also, The Health Impact Pyramid framework allowed us to be aware of

all those socioeconomic and environmental factors that should be considered to have an impact of education and health promotion on health-related behavior.

Accordingly, the aim of this study was to develop and evaluate a CHW training model among agricultural Mexican migrant farmworkers, aimed to strengthen a prevention environment in their communities of origin, as well as in their working communities at northwestern Mexico.

Methods

The theoretical frameworks guiding this investigation are the Community-Based Participatory Research (CBPR), the Socioecological Model and The Health Impact Pyramid (Israel, 2012; Stokols, 1996; Richard et al., 2011; Frieden, 2010).

Study design and localization of study participants

This was a qualitative action-driven research (Patton MQ, 1990) carried out at southern Mexico communities in the states of Puebla and Chiapas, as well as at northern Mexico (Sonora state) farms (Don Enrique, La Cuesta y Pozo Manuel in the Municipality of Hermosillo, and San Miguel de Horcasitas, Sonora, Mexico). Four steps were followed through the diagnosis, curriculum design, training and implementation and impact evaluation process (Figure I).

We encouraged a voluntary participation of farmworkers from the beginning of the study. Farm owners and managers, however, proposed an initial participation of middle managers who had a direct communication and responsibilities with farmworkers. Accordingly, a total of 32 middle managers (agricultural engineers, group supervisors, dinning manager, social workers, medical personnel (medical doctors, dentists) and campers, participated in a first needs assessment diagnosis meeting. A second needs assessment was performed among 8

farmworkers' supervisors. Using a participative approach and group interviews (n = 5), we identified the main health concerns among farmworkers. D. Werner methods of popular health education published as "Donde no hay doctor" (Where there is no doctor, Werner et al., 2010), were used to discuss main health issues concerns (Werner et al., 2010; Patton M.Q., 1990; Gueguen J, et al., 2010).

First training stage was held at three farms located in La Costa, municipality of Hermosillo, and Estación Pesqueira, municipality of San Miguel de Horcasitas at northern Sonora sate, Mexico. Two of them receive an average of 1,800 migrant farmworkers per season and the third, an average of 600 farmworkers per season.

Second training stage included migrant farmworkers working as "cuadrilleros" or workers' immediate supervisors. During our previous fieldwork we identified Izúcar de Matamoros and San Andrés Larráinzar, as two of the main towns in the states of Puebla and Chiapas from were migrant workers engaged in the migration process (Rosales et al., 2012; Ortega et al, 2014). We contacted migrant workers "cuadrilleros" and contractors that were willing to participate in a week training program. These "cuadrilleros" were migrant workers that after several working seasons, acquired the status of group managers of around 20 migrant farmworkers; they come from the same communities and often they travel together with their supervised workers (De Zapien J, et al., 2008). Through their leader (contractor), we invited "cuadrilleros" in Chiapas to a 5 day, 4 hour per day workshop, acknowledging the "cuadrilleros" own agendas. We followed the same approach with "cuadrilleros" in Chiapas and Puebla; however, we had to modify how we approached "cuadrilleros" in Puebla, due to a reorganization of travel agendas as consequence of whether fluctuations and harvesting date changes. In this case, we used a half hour training per group ($n \approx 30$), regarding the issue of dehydration and

heatstroke, given that it will be the health priority during the next work season. We also distributed a training manual, and an 8 rapid-card guide, about health themes and solutions. We encouraged farmworkes and "cuadrilleros" traveling from Puebla, to continue their training through the manual and through their participation in subsequent training sessions at the farms.

At the end of the training period, we conducted 5 individual and 3 group interviews with "cuadrilleros" from Chiapas and Puebla and middle managers (26 participants in three groups of 8, 6 and 12 persons), Table IV, in order to evaluate the impact of the training curriculum. We used an interview guide developed by our multidisciplinary team (De Zapien, 2008) and composed of 11 open questions (Table I). These were carried out during the working season in farms at northern Mexico.

Results

The needs assessment interview with middle managers, "cuadrilleros" and contractors, resulted in eight health themes that they considered a priority among migrant farmworkers: What is a "promoter"?, dehydration and heatstroke, respiratory infections (flu, sore throat, fever), work accidents, nutrition and hygiene, as well as mental health (Table II). One of the subjects was not a health aspect per se, but participants considered it basic to understand their role as a part of the Health Team at the farm: What is a Promoter?, social reenactments, play sessions, as well as a summary of ways of identification, prevention and treatment of each health issue were arranged in a curriculum as a Promoter Manual, named "Nosotros Sanos". Also 8, 2.75 per 3.5 inches cards were set as a pocket quick guide, containing information on how to identify symptoms of each health issue, and the basic prevention or treatment action that each one required. Every

training session, the trainees and the training team reviewed new materials and added them to the manual.

Model domains relevant to a health promotion model for migrant farmworkers

Health concerns. Specific themes contained in the "Nosotros Sanos" manual were developed according to the main health concerns reported by middle managers. These health concerns were also shared by indigenous "cuadrilleros" and contractors, and are related to weather, living conditions, type of work, and cultural and socioeconomic characteristics of migrant farmworkers.

Trainees' selection. Although our team considered that the network should be composed mainly by migrant farmworkers who decided to participate in a voluntary manner, through the process of discussion with the farm owner and main managers, we agreed to start our promoter training process with farm middle managers (n = 32), who throughout the process, were encouraged to remain in the team as voluntary members (n = 20). During our discussion sessions with middle managers, we were able to identify "cuadrilleros", contractors and key farmworkers that were trained in their communities in order to strengthen the network of health promoters. Selection of trainees in the communities of Chiapas and Puebla was done through contractors (both, from the farm and free-lancers).

Farmer's organization and leadership style. One of the main challenges that our team faced along the training process was the Farm's vertical and authoritarian organization for work. The Farm's Health Team and Social workers' authoritarian and traditional work style, followed a health management approach instead of a health promotion style. Participation of the Farm's Health Team along the training process was essential to overcome this barrier. We encouraged recognizing the promoter's activities as part of the health team's efforts to minimize health problems and maximize the use of resources, which stands as the business/farm goals.

On the other hand, selection and participation of "cuadrilleros" from Chiapas and Puebla was facilitated through the contractors' own agendas.

Promoter Training Impact evaluation

Interview guide and characteristics of participants in the evaluation stage can be found in Tables II and III. According to the season of the year when the interviews were performed (March), the most mentioned training issues were those related to heat: dehydration, heatstroke, water intake, wearing adequate clothing for heat protection, and precautions when working with a hangover. Recognizing the importance of prevention was frequent among all those interviewed. Drug addiction, first aid training, and nutrition, as well as being aware of promoter responsibilities, were also mentioned as priorities among those interviewed.

Training methods. Participants recognized the usefulness of social reenactments as a way to improve communication among managers, contractors, "cuadrilleros" and farmworkers.

"Reenactments helped us to realize that what you are rehearsing could happen in real life… They were very helpful, because we know how to act now, what we should tell somebody that feels sick, or what we can do to help them at first and when to refer them to formal treatment"..

Promoters' experiences. Most of the promoter experiences were in regard to the confidence they feel to act in any health-related circumstance, mainly within the farm, since they spend most of their life-time working there.

"*For ourselves, It (the training) has been very helpful, because we are more confident now. "They (farmworkers) trust us, and that make us more confident on ourselves to not being scared when something happens*".

"Cuadrilleros" on the other hand, identified that one of the main barriers to their performance as health promoters is that health promotion is not a priority when they arrive to the farm. That

there is a lack of orientation and promotion of networking between them and the middle managers' health promotion team.

"In case of an emergency, you first call a farm middle manager because we are "cuadrilleros", we supervise workers. But here in the field, we have to call a middle manager. And they go to a higher supervisor to take who has been injured or is sick to the farm's clinic".

"You know?, I don't have much education., So what has been taught, sometimes we forget…"

"Cuadrilleros" recognized, in addition, that some of the themes in the promoter program could be used within their families, especially those regarding hygiene and diarrhea. Although, they spend most of the year at the farm in Sonora (~ 10 months), they have limited opportunities to practice what they have been taught.

"Yes, with our families what has worked a lot is that regarding hygiene…what you have to do…yes this has been helpful"..

"No… Because I have been working here (farm) most of the time, I go home just 4 to 6 weeks when harvesting finishes. And I come back in September again (from the end of July to September)".

"…To this day, we have not had any case (regarding dehydration) with our workers. Several of them have the flu or they are coughing… Our advice is to drink lots of water, even if the weather is not too hot… Also that they do not need to take antibiotics for the flu, unless it is prescribed by a Medical Doctor"…

Also, practicing and rehearsing experiences (reenactments) supported self-confidence to act.

"To me, the issue of dehydration was very important, because now I can see when people are sick, when they have dehydration symptoms. Before you just see people, but after you know about the disease, you see people with different eyes… You can become aware of people that need help"…

Prioritizing health themes. When asked which were the key health issues that they considered central to their recent experiences as a health promoter, participants highlighted dehydration as

number 1, followed by drug and alcohol addiction, mental health, first aid (cuts, falls, sprains, fractures), as well as prevention in general.

"Knowing how to act when we face sick people, somebody with a cut or dehydration".

"Knowing how to act, due to the quantity of people per working season and the amount of working tools we use"..

"Mental health is so important, because people are sad or desperate. One has to have the knowledge to detect that too".

"The most important issue that I have learnt is…how can I say it? well,… from the beginning, is prevention…it is the strongest issue that we have been taught".. "

Specific situation experiences. Trainees discussed some specific experiences where they could use the training they received. Most of them were related to the prompt to act in situations like car accidents, snake bites, dehydration, dislocated body parts, cuts, knocks, and burns. Sometimes promoters will act with the tools they learnt, such as advising to drink water frequently and to rest to avoid dehydration or giving first aid to cuts and burns; some other times, training allowed them to react promptly recognizing emergencies and being the liaison between a particular health situation and the staff at the nearest Health Clinic. Also, "cuadrilleros" mentioned that farmworkers still do not welcome information that health promoter's offer, which requires a better networking with other promoters and health workers at the farm.

"When somebody is sick (flu), we have to advise him/her, not to sneeze in front of other people, because it is then that you transmit your microbes to other people"…

"..Here in the field, we have to call a middle manager. And they go to a higher supervisor to take who has been injured or is sick, to the farm's clinic".

"Several people (farmworkers) still do not believe on us, you know?... because this information (talk) is something new"…

Additional health issues: Participants commented that strengthen the knowledge they have received would be beneficial, and that how to manage pesticides and nutrition would be health promotion issues that should be added to the curriculum.

"We understood everything…but strengthening what we learnt would be useful"..It would be good to include pesticides use, since they can affect our health"…We should know how to manage emergencies, to act when there is no doctor"…

"Nutrition can be beneficial, because is a good way to health prevention…what you eat determines how your body fight infection or disease related to whether changes".

Promoter role and recognition. Even when trainees recognized their confidence as health promoters, they felt that there should be recognition of their role by the Farm. One of their proposals is to have a board with their pictures. According to their comments,

"It has to be a system that allows farmworkers to identify who the health promoters are, and that they know health promoters can help them.

"The knowledge we have acquired gives us obligations and responsibilities", " I feel more prepared…we did not know some things before, but now we know…",

"We now feel more secure about what we do (as health promoters), before we used peroxide to clean wounds, we now know it should be done just with water and soap"..,

"Now we do not expect that somebody else that knows comes to handle an emergency, we now feel capable of doing something",

"We now feel compromised"..

"We have confidence, because we had enough training, and it has been very clear, so specific, with patience"….the compromise we feel as health promoters, is that we feel that we can save a life, just acting, helping".

Several people (farmworkers) still do not believe on us ("cuadrilleros" as promoters), you know?...because this information (talk) is something new"…

Barriers to health promotion. Middle managers expressed that one of the main problems they have had is how to communicate with farmworkers, given their cultural and frequently, language differences. One of their proposals was to have indigenous health promoters in their health promoter's network. Another issue they recognized is that in order to reinforce their knowledge, they have to practice their new skills, and one way to do it is training other workers.

"Sometimes you try to explain something, and people do not understand, they (farmworkers) have their own beliefs and ideology, so it is a bit difficult, but we can do it". People come with own beliefs, so it makes efforts difficult".

"Sometimes it would be better to give the information in their own languages so it may be useful to have promoters that talk their same language, in order to communicate properly and have better empathy".

Discussion

Among characteristics of a successful health promotion program according to Green and Kreuter (1990), is to address those health problems that correspond with the epidemiological profile of a given population, but that the population itself considers a priority. As such, one element of the health promoter's model proposed to address the health needs of migrant farmworkers was to carry on a needs assessment that would define the health themes that should be addressed. In this way, the CHW approach was strengthen by participation of middle managers and "cuadrilleros" in defining and discussing main health themes for the training curriculum. In addition, the health promotion model proposed by Green and Kreuter, is based in the socioecological model as one of the main leading theoretical approaches.

Another important aspect of the health promotion model was to negotiate a voluntary participation of trainees, since the first selection was driven mainly by the farm interests.

Selection of trainees among “cuadrilleros”, however, was closer to the needs of farmworkers, since “cuadrilleros” started as farmworkers, came from the same communities, and share their knowledge of culture and language.

As the socioecological model and the health pyramid approach recognizes, health education or health promotion would not have an impact on health outcomes if there are environmental barriers that limit people to act on their behavior changes to improve health. Among environmental characteristics of farms were participants work and live, which could impact their performance as health promoters, is that the farm health team would not work together with health promoters. Also, some of the health promotion activities regarding infectious disease could not be followed by workers if physical living conditions (barracks, sanitary facilities, dining facilities) do not complain with minimal standards to guarantee health. Regarding methods of training and curriculum materials, trainees agreed that their main contribution was to enable them to better communicate with their fellow workers, as well as to increase their knowledge on how to identify and face common health problems. Language however, is still a barrier between middle managers and farmworkers. “Cuadrilleros” on the other hand, are better communicators with their fellow workers, but need a better networking with middle managers and recognition from the farm, in order to strengthen their health promotion activities. At the same time, middle managers could benefit from the communication abilities of “cuadrilleros” since most of them speak the farmworkers’ native language.

Practical Implications and Public Policy Recommendations

1. The Health Promotion Program based on a network of health promoters among migrant farmworkers, could be successful to improve the health of farmworkers and their

families, only if training continues and involves personnel from all working stages inside the farm, but also if environmental conditions improves as needed.

2. The health promotion model proposed in this study requires a real commitment from agribusiness to be sustainable. Research has shown that in general, Corporate Social Responsibility (CSR) among Mexican agribusiness in Sonora obeys, according to Quazi and O´Brien, to a classical and reduced view (***Agribusiness, Corporate Social Responsibility and Health of Agricultural Migrant Workers,*** submitted to Business Ethics, January 29, 2015). However, CSR is frequently known as a central aspect in business management beyond social, environmental and human rights issues, to elucidate and legitimate business role in poverty reduction (Blowfield M, 2005).

   Accordingly, since most agribusiness in northern Mexico behave as private enterprises, and consequently management and organization rules are internally defined, we see agribusiness involvement as a critical factor to the health promoter's model adoption and success. In this study, agribusiness involvement has been a key factor in the development and implementation of the model. Achieving model adoption and replication at a national level will be a challenge that would be achieved only through proper diffusion of results, not only regarding publications, but through real model transference, including its successes and difficulties. Agribusiness' associations, governmental associations (Secretaría de Desarrollo Social; Secretaría de Salud), as well as binational health promotion associations (Programa de Investigación en Migración y Salud (PIMSA), and The Bi-national Health Commission, are key actors to model diffusion and promotion.

3. Health promotion activities require adequate environmental conditions. In this sense, we propose and urge that those institutions in charge developing standards for farmworkers living conditions (National Program for Farmworkers within Secretaría de Desarrollo Social), review, jointly with agribusiness, the housing, dinning and personal hygiene areas within farms.

According to the WHO document on Social Determinants of Health and the social-ecological perspective of health promotion, essential aspects of any health promotion program should take into account socioeconomic, environmental and cultural aspects that are mediators of behavioral changes aimed to healthy lifestyles. These conceptual approaches insist that an interaction of environmental, personal, institutional and community factors are needed to motivation changes conducive to health improvement (Richard et al, 2011; OMS, 2009). In addition, Thomas R. Frieden (2010), from the national Institutes of Health (NIH) in the U.S., discusses that health education impact on health, would not be enough to achieve individual and community health, if there are not adequate structural and environmental situations to facilitate behavioral change decisions. In agreement with these proposals, the farmworkers model of health promotion could be a successful strategy only if environmental, organizational, and community conditions that trigger health problems are also addressed. Needs assessment previously performed among farmworkers communities (Rosales C, et al, 2012) showed that housing, dinning and sanitary facilities conditions were also mentioned as priorities for farmworkers health, in addition to health education. These environmental conditions were also mentioned by "cuadrilleros". They mentioned that conditions of barracks are

aids to respiratory and gastrointestinal infections, in conjunction with extreme weather conditions and poor nutrition.

Through our discussions with health promoters and farm administrative personnel, we agreed that adequate housing and living conditions are a priority to guarantee health prevention. As such, housing and living facilities need to be not only sufficient, but to assure a housing standard that allows health prevention. Public policies aimed to review standards and norms of housing are urgently needed.

4. Sustainability of our proposed health promotion model would require a joined effort from organizations such as Fair Trade, social development and health promotion institutions and agribusiness.

   Through the process of needs assessment and promoters' training, we have observed that agribusinesses are actively looking for different types of certifications from diverse international organizations. These organizations provide an endorsement for commercialization of food in the international market through audits regarding good agricultural practices and social justice. In our experience, at least one organization (Fair Trade) has shown interest in our health promotion model for farmworkers.

   Joint efforts between governmental institutions aimed to improve social wellbeing and health promotion (Secretaría de Desarrollo Social and Secretaría de Salud), agribusiness, agribusiness associations, workers unions and certifying agencies, could induce (trough public policy) agribusiness commitment with improving health of their farmworkers.

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Figure I. Process of training development

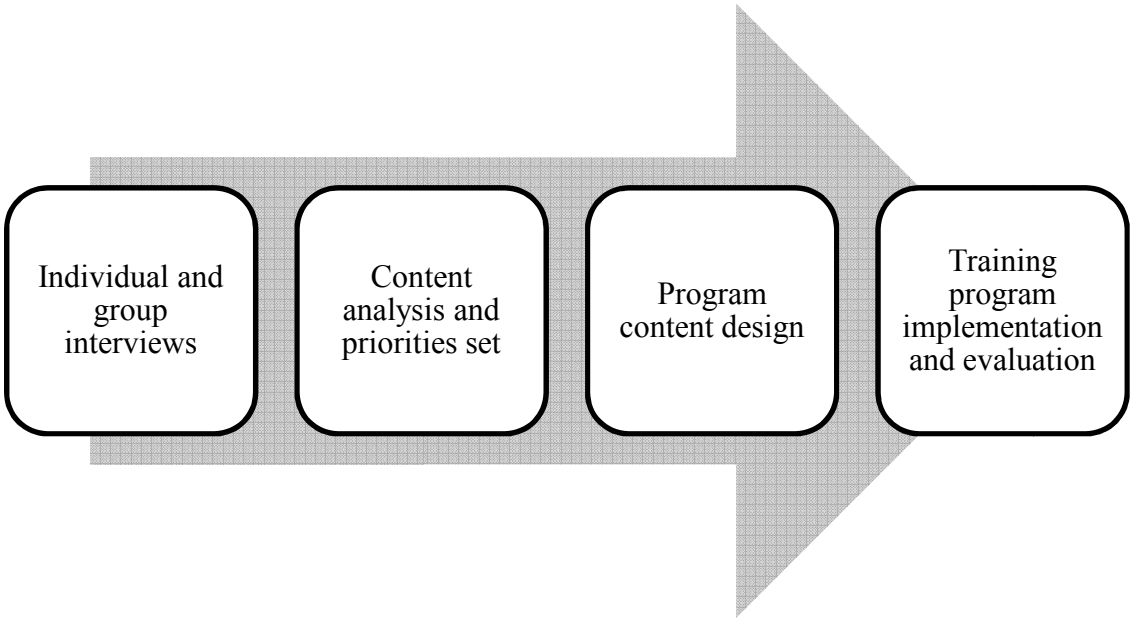

Table I. Curriculum themes description

Curriculum Theme	
What is a Health Promoter?	• Characteristics • Responsibility and compromise
Dehydration and diarrhea Heatstroke Respiratory diseases (flu, sore throat, fiber) Accidents Nutrition General hygiene Mental health	• Identification • Prevention • Treatment

Table II. Evaluation interview guide questions

1. What type of training did you attended as health promoter? (Include type and number of training sessions). 2. Can you describe your experience as health promoter, according to the following? a. Your own experience b. Your family' experience c. Your experience when working at the farm? 3. Which training themes have been more important to you as health promoter? a. Can you share how did you use that information in a specific situation? 4. What was more useful to you, your family, in your community and with your co-workers? 5. Which training themes have been more utilized in your own experience? 6. In your own experience, are there training themes that were not useful? Why? 7. Are there any other health themes that we should consider in the training sessions? Which ones? 8. Are you confident on your role as health promoter? How? 9. Have you felt that your work as health promoter has been recognized by your employer? 10. What problems have you faced when trying to implement your training as health promoter? 11. Do you have additional comments on your experience as health promoter?

Table III. Participants in the evaluation stage per type of farm occupation.

Farm 1 **n = 8**	**Farm 2** **n = 6**	**Farm 3** **n = 12**
2 Foreman Medical intern Social worker Food safety supervisor Manager Vegetable farmworker Agricultural intern	Foreman Food safety supervisor Camper Dinner Manager Administrative secretary Social worker	Production unity manager Production coordinator Production improvement assistant Agricultural Engineer Record keeper Production aid Storer Group supervisor Storer assistant Food safety technician Irrigation system assistant