



Published in final edited form as:

J Immigr Refug Stud. 2013 January ; 11(1): 24–43. doi:10.1080/15562948.2013.759034.

Empowering *Promotores de Salud* to engage in Community-Based Participatory Research

A. Paula Cupertino, PhD [Assistant Professor],

Department of Preventive Medicine and Public Health University of Kansas Medical Center 3901 Rainbow Blvd., MS 1008 Kansas City, KS 66160 Phone: 913-588-2783 Fax: 913-588-2780 acupertino@kumc.edu

Natalia Suarez, MA,

Department of Preventive Medicine and Public Health University of Kansas Medical Center 3901 Rainbow Blvd., MS 1008 Kansas City, KS 66160 Phone: (913) 945-7065 Fax: (913) 588-2780 nsuarez@kumc.edu

Lisa Sanderson Cox, PhD,

Department of Preventive Medicine and Public Health University of Kansas Medical Center

Cielo Fernández, MSc,

El Centro, Inc.

Mary Lou Jaramillo, MBS,

El Centro, Inc.

Aura Morgan, MPH,

Department of Preventive Medicine and Public Health University of Kansas Medical Center

Susan Garrett,

Department of Preventive Medicine and Public Health University of Kansas Medical Center

Irazema Mendoza, and

Department of Preventive Medicine and Public Health University of Kansas Medical Center

Edward F. Ellerbeck, MD, PhD

Department of Preventive Medicine and Public Health University of Kansas Medical Center

Abstract

Background—Latino immigrants are less likely to be involved in addressing health-related issues affecting their own community. Community health workers have played a significant role in addressing the health of underserved communities in several countries.

Objective—The objective of this article is to describe the development, implementation and evaluation of a community-based training program that empowers *promotores* to identify the health needs of recent Latino immigrants. *Promotores* were able to develop interventions based on the needs of recent Latino immigrants.

Methods—Latino community members participated in a 30-hour training program. Training was provided in 15 two-hour sessions over 3 months. Training included field work accompanied by skills development in leadership, organization, interpersonal communication, and survey implementation. Upon completion of the training, *promotores* conducted household surveys designed to identify community health needs. The evaluation employed quantitative measures to track *promotores*' canvassing activities and assessment of health behaviors.

Results—Out of the 22 *promotores* enrolled in the training program, 15 (68.18%) completed the training program. Within 3 months, *promotores* administered 105 household surveys and identified poor access to health care, lack of insurance (78.6%), low daily consumption of fruits (73%) and vegetables (37.5%) and frequent exposure to tobacco smoke (31.7%).

Conclusion—Our study demonstrated the feasibility of recruiting and engaging *promotores* to identify health priorities within the Latino community. This initial step will inform the development of future community-based interventions.

Keywords

Promotores de Salud; training; Latinos; health behaviors; immigrants

Introduction

The number of Latinos¹ in the United States (US) has doubled since 1990, in large part due to immigration from Mexico and Central America (Passel, 2004). Latinos in the US have become the nation's largest minority group: the Census 2010 estimated approximately 50 million Latinos in the US, accounting for more than half of the nation's growth in the past decade (Passel, Cohn, & Lopez, 2011). Geographically, most Latinos still live in nine states that have large Latino communities- Arizona, California, Colorado, Florida, Illinois, New Mexico, New York, and Texas- but there is a growth of Latinos living in “new growth states” (states with a large percentage growth of their Latino populations) (Passel, et al., 2011). Recently, the geographical settlement of new immigrants has shifted away from states with large foreign-born populations towards new growth states including Kansas (Passel, 2004).

Kansas is considered a “new growth state”: The 2010 Census estimates that Latinos represents a 59% population growth since 2000 (Pew Hispanic Center, 2010). In Wyandotte County; where this study was conducted, Latinos represent 26.4% of the total population, a 65% population growth since 2000 (Pew Hispanic Center, 2010). Latinos in this county are predominantly Spanish-speaking, recent immigrants, with low income and limited resources (Cupertino et al., 2010; Garrett et al., 2008). This rapid demographic shift has significantly changed the face of the healthcare system in the state of Kansas.

Latinos are a medically underserved population with the majority experiencing multiple barriers to healthcare access and treatment which result in health disparities (Zuniga, 2006). Latinos are the least likely racial/ethnic group in the US to have health insurance coverage;

¹In this paper we will use the term “Latino” to refer to a person (male or female) of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race, as defined by the United States Census Bureau.

30.6% of Latinos are uninsured compared to only 10.2% of non-Latino Whites (Lewin & Baxter, 2007). Latino immigrants in new growth states such as Kansas may face traditional barriers including language, low literacy, poverty, lack of trust, fear, and embarrassment (Blankenau, Boye-Beaman, & mueller, 2000; Navarro et al., 1995). Disadvantageous social conditions (e.g., lack of sense of community and recent immigration status) contribute to increase Latino immigrants' vulnerability accessing healthcare (Zuniga, 2006). Improving health care and advancing interventions for Latinos is a critical public health priority, requiring improved understanding of both Latinos' health behaviors and needs.

Community-based participatory research (CBPR) provides an important tool that academic and community partners can use to identify the needs of the community and develop sustainable efforts to build healthier communities (Martin, 2005). CBPR has been used successfully to address a variety of health problems in minority communities, including tobacco-related health disparities (Martinez, 2009; McQuiston, 2005). Community-based participatory research is a partnership approach that equitably involves community members, organizations, representatives and researchers in all aspects of the research process (Israel et al., 2003). Partners contribute their unique strengths while sharing responsibilities that guides actions to improve the health and well-being of community members (Israel, et al., 2003). CBPR follows nine characteristics or principles that capture key elements of the process. These are: 1) recognizing the community as a unit of identity, 2) building on strengths and resources within the community, 3) facilitating collaborative equitable partnerships in all phases of the research, 4) promoting co-learning and capacity building among all partners, 5) integrating and achieve a balance between research and action for the mutual benefit of all partners, 6) emphasizing local relevance of public health problems and ecological perspectives that recognizes and attend to the multiple determinants of health and disease, 7) involving systems development through cyclical and iterative process, 8) disseminating findings and knowledge gained to all partners and involves all partners in the dissemination process, and 9) involving a long-term process and commitment. These principles lead to steps within the process that may not be organized in this manner, but all are involved in the process throughout the duration of the interactions with community and lay educators.

Over a decade ago, the National Coalition of Hispanic Health and Human Services Organizations emphasized the critical need for the development and evaluation of infrastructure to meet the health needs of Latino communities, focusing on community-based services and sustainable efforts to reach the underserved (COSSMHO & 1995; Israel BA EE, 2005) (Baezconde-Garbanati , Beebe, & Perez-Stable, 2007). CBPR recognizes the community as a unit of identity, builds on the unique strengths and resources of the community, promotes co-learning and capacity building among partners, works with partners to share and disseminate knowledge gained, and involves long-term commitment (O'Fallon & Dearry, 2002). According to Báezconde-Garbanati et al., “the extent to which...Latino communities have the capacity to address effectively the disproportionate burden of tobacco abuse is contingent upon the presence of leadership, collaboration, programs, distribution of funds and resources....and an underlying understanding of community strengths, history, values and participation” (Baezconde-Garbanati, Beebe, & Perez-Stable, 2007). CBPR has been successfully implemented in Latino communities by

Pérez-Stable and colleagues in cancer awareness, training, education and screening (Ramirez, 2009), and other health behaviors (Darrow et al., 2004; Giachello et al., 2003; Meade & Calvo, 2001).

Promotores de salud -also known as lay health advisors, natural helpers, community health workers, and health advocates- have played a significant role in addressing the health of underserved communities in several countries (Andrews, Felton, Wewers, & Heath, 2004; Balcazar, Alvarado, Cantu, Pedregon, & Fulwood, 2009; Lewin et al., 2005; Swider, 2002). The broad understanding of *promotores* is aligned with the notion of natural helpers (Israel, 1985). As described by Israel, natural helpers are trusted people to whom others naturally turn to for advice, emotional support and tangible aid (Israel, 1985). The *promotores* program used in this study is based on decades of theory-driven research. *Promotores*-based interventions are commonly grounded in the social cognitive theory related to initiation and maintenance of health behavioral change (Bandura, 1997). In this model, health change is conceptualized as occurring within a network of social influence rather than solely changing the behaviors of individuals. Active social support may increase individual coping, moderate stress, and promote health behavior change (Heaney & Israel, 1997). In Latino communities, social support networks extend beyond family to include neighbors and friends who become part of an extended family (*comadre* or *compadre*) and serve complementary roles as sources of support, advice, social interaction and social role models. These networks may be beneficial for promoting healthy behavior change. Based on the social cognitive model of behavioral change and characteristics of Latino culture, we relied on *promotores* to increase utilization of evidence based smoking cessation resources within their social network.

Promotores have been shown to be effective in reaching minority populations, particularly those with barriers to accessing health care resources (Andrews, et al., 2004; Lewin, et al., 2005). Several *promotores* programs have also been successful in increasing immunization rates, cancer screening and reaching special populations (Lewin, et al., 2005). By serving as a gatekeeper to the Latino community, *promotores* provide a unique opportunity to reach recent and less acculturated immigrants and improve our knowledge on their health behaviors.

Methods

Our objective was to first establish a community-academic partnership engaging *promotores de salud*. This partnership wrote a grant to develop, implement, and assess the feasibility and acceptability of a culturally relevant training program for *promotores*, and empower members of the Latino community with knowledge and skills to identify health needs and concerns of their own community. Our study consisted of two phases: 1) training *promotores* utilizing a community-based curriculum that enhances leadership, organization, and interpersonal skills, as well as survey and canvassing implementation skills through empowerment, reflection, and action; 2) implementing a comprehensive community-based health assessment undertaken by *promotores* in 424 census track. After the completion of health needs assessments, findings were shared with *promotores* and community-academic partners. Ultimately, this program aimed to empower *promotores* and academic-community

partners in better understanding the health of Latinos as they collectively engage in future health interventions.

Setting

In 2005, Latino researchers from the Department of Preventive Medicine and Public Health at the University of Kansas Medical Center (KUMC) began efforts to develop a CBPR program to address health disparities among recent Latino immigrants. Our CBPR program relies on a strong partnership with El Centro, Inc., the largest Latino community social services organization in the area (see Table 1). Together, El Centro and KUMC obtained grant funding to promote Latino community health and have been involved in several health initiatives including *promotores*. Our *promotores* training activities and fieldwork were housed at El Centro, Inc., a central location for the Latino community.

Subjects and Recruitment

Promotores were recruited by El Centro, Inc. through Spanish-language media, invitations at churches, schools, and community gatherings, as well as through flyers distributed in the community (e.g. schools, community clinics). Community members were invited to attend a presentation in which the program director described the goals of the program, time commitment, and activities involved. Only individuals who self-identified as Latino, over 18 years of age, and willing to provide signed, informed consent were eligible to participate.

Curriculum Development

Promotores training curriculums, such as “*Por La Vida Cuidándome*, Taking Care of Myself: Women and Cancer”, “*Salud Para Su Corazón*” (Health for your Heart) and “*SONRISA*”, have been developed to empower and enable *promotores* to assess the health needs of their community, attempt to overcome barriers by reaching out to low-income Latino immigrants, and provide information about distinct health topics (Balcazar, Alvarado, Hollen, Gonzalez-Cruz, & Pedregon, 2005; Navarro, et al., 1995). Based on their work, our objective was to develop and implement a culturally relevant training program for *promotores* and equip them with the knowledge and skills to evaluate the health needs of the Latino community.

The *promotores* training curriculum was based on programs from the following institutions: Tiburcio Vazquez Health Center Program, La Clínica de la Raza, Inc., Casa C.H.E. (Community Health Worker Education), and “*La Escuela para Promotores*” NCLR manual. The broader aim of our community-academic partnership with *promotores* was to learn from the community, listen to their needs and explore innovative and suitable venues to offer health prevention and health education to the community through empowerment, reflection, and action.

Training

The *promotores* training utilized a community-based curriculum to enhance leadership, organization, and interpersonal skills, as well as to promote knowledge on survey and canvassing implementation through empowerment, reflection, and action. A Latino cultural competency training was conducted to expand the *promotores*' knowledge of cultures of the

population they could encounter, primarily from Mexico and Central America. This cultural understanding empowered *promotores* to feel knowledgeable enough to maintain a culturally and linguistically appropriate conversation with potential health assessment participants (Morgan, 2009).

The *promotores* training program was conducted in Spanish and consisted of 15 sessions of approximately 2 hours each. Refreshments and child care were provided to support the feasibility of program participation. *Promotores* were trained under the Paulo Freire method called “Empowerment Education” (Navarro, Rock, McNicholas, Senn, & Moreno, 2000; Wallerstein & Bernstein, 1988). In Freire's method, the individual is encouraged to actively participate and take responsibility for his/her own education. As such, our curriculum sought to encourage dialog and interactive activities to expand the learning experience (Navarro, et al., 2000; Raza, 1994). Each training session began with the *promotores* Project Coordinator (Ms. Fernandez) facilitating a dynamic “warm-up group activity” meant to engage the group and start the group discussion. The session then continued with a description of the topic to be covered and an interactive discussion. Each session included role-play activities that helped *promotores* understand concepts and develop skills to apply said concepts. Sessions also included interactive learning strategies (e.g. case studies, worksheets, role playing). Minimum reading was required and most sessions relied on interactive video and graphic materials. After each training session, *promotores* completed a verbal post-assessment test in which they created a summary of the objectives and goals reached individually and as a group.

Research staff (including Dr. Cupertino, Director of the University of Kansas medical Center *Juntos* Center of Advancing Latino Health) and the Project Coordinator planned and outlined the content of each session, as detailed in Table 2. Training was divided into three main components. The first component (10 sessions), based on programs by the Tiburcio Vazquez Health Center, La Clínica de la Raza, Inc., Casa C.H.E. (Community Health Worker Education), and “*La Escuela para Promotores*” NCLR manual, focused on the development of leadership, organizational, and interpersonal skills. The second component (3 sessions) focused on canvassing and survey implementation skills. The third component (2 sessions) encompassed field training, in which *Promotores* developed skills on how to identify single family households from the 424 census tract, an area with a high concentration of Latinos, and learned how to conduct a survey by means of field pilot testing (Morgan, 2009).

Upon completion of all training sessions, *promotores* attended a post-training and canvassing program session to discuss the training, and provide feedback to guide future activities. At this session together we established a priority action plan on how to implement interventions to address health needs identified. *Promotores* also attended a graduation ceremony and received a certificate of completion.

Community Health Assessment

A total of 41 blocks within the 424 census track was used to identify households. This census track was selected given that it is considered a new settlement site for Latino immigrants; 2000 Census data registered 1396 persons of Latino origin in that area,

representing a 151.5% increase since 1990 (Unified Government of Wyandotte County and Kansas City Kansas, 2000).

The *promotores* Project Coordinator produced a random number sequence list for each of the 41 blocks that comprised the 424 census track. A probabilistic approach was used to identify households; public housing buildings and houses under construction or remodeling were excluded. *Promotores* were divided into pairs and were given 3 to 4 blocks each, along with a random list of households. *Promotores* knocked on the first 10 houses from the list. Single family households were eligible to participate if a member of the household answered the door, was a Spanish speaker over 18 years old, and willing to participate in a 20 minute survey. Single-family households were defined as a household maintained by an adult who is in a family, and includes any unrelated people who may be residing there (United States Census Bureau, 2008).

Pairs of *promotores* conducted door-to-door assessments from Monday to Thursday, from 10am to 4pm, for 4 months (September to December 2008). Maps were checked for continuity by the program director to make sure that all the homes in the area had been canvassed. Each pair of *promotores* wore an identification badge and carried a bag with health-related pamphlets, health assessments, and small incentives for the survey participants.

Equipped with census map, trained *promotores* introduced themselves, obtained oral consent, and proceeded with implementation of the health assessment surveys. No identifying information was required in the health assessment to guarantee anonymity. Participants were provided with the research team's contact information in case they had any questions about the study.

Measures

In the first training session, *promotores* completed a brief survey including socio-demographic variables: age, gender, educational status, country of birth, number of years residing in the US, and number of years residing in the state of Kansas. Upon training completion, we evaluated *promotores*' engagement and skills performance over time by monitoring their activity level in the canvassing and health needs assessment implementation.

Community Health Assessments

A Spanish-language paper questionnaire was assembled by our community-academic partnership to implement the community health needs assessments based on items from the Behavioral Risk Factor Surveillance System (BRFS) survey (Nelson, 2001). Each assessment tool was available in English and Spanish and took approximately 20 minutes to complete. Assessment of socio-demographic data included age, gender, ethnicity, country of origin, marital status, number of children and adult members living in the household, employment status, education level, and language preference (English/Spanish). For participants born outside the US, we assessed length of time living in the US and in the state of Kansas.

Health status was measured using self-assessment (Blankenau, et al., 2000). Participants were asked to self-assess their general health (ranging from excellent to poor). Participants were asked the frequency of routine checkups (vision, blood pressure, glucose, and cholesterol check ups), health insurance access, preferred health care provider (community health clinic, health department, primary care physician), and dental care. Behavioral lifestyle was also assessed including frequency of engagement in physical activity, fruit and vegetable consumption, and tobacco use among household members (CDC, 2008).

Data Analysis

We used Statistical Package for the Social Sciences (SPSS) to describe frequencies, means and standard deviation of surveys conducted with *Promotores participating in the training program*. Same software was used to monitor and report frequencies of *Promotores'* participation in canvassing and health needs assessment activities. To assess specific aspects of the health needs assessment, each dichotomous item (yes/no) or categorical variables from the survey was tabulated in frequencies.

Results

Among the 22 individuals enrolled as *promotores*, the majority were female (95.5%), married (54.5%), and had children (77.3%); they were on average 37 years old. Most were of Mexican origin (81.1%), among which over one third were from the state of Chihuahua (40.9%). The remaining *promotores* were from El Salvador (13.6%) and Guatemala (4.5%). Approximately one third of the *promotores* had lived in the US for less than 10 years (36.4%) and over half had lived in Kansas for less than 10 years (54.4%). All *promotores* spoke Spanish (100%) and more than two thirds (81.1%) spoke little to no English. Over three fourths of *promotores* had a High School degree or less (81.8%) and the majority were unemployed (59.1%).

Of the 22 individuals initially enrolled as *promotores*, 15 (68.2%) completed the three components of the training; 14 women (63.6%) and 1 man (4.5%). Seven individuals did not complete the training due to various factors: 3 began full time jobs, 2 moved out of state, one left to Mexico, and one decided the program did not match expectations.

Post-Training Implementation of Canvassing and Health Needs Assessment

Among 853 single family households identified in the 424 census track, *promotores* knocked on 410 house doors during the 6 weeks of field work. Out of these 410 households, 116 houses answered the door: 107 households were eligible to participate in the study and 9 households were not eligible. Among the 107 eligible households, 105 (98.1%) households agreed to participate in the study and complete a survey. Only 2 (1.9%) households refused to participate due to time constrains. As for the remaining 294 identified households who did not answer the door, 22 houses appeared abandoned.

Among the 105 households that participated in the survey, more than one third self-assessed their health as “fair” (36.5%), 26.9% assessed their health as “good”, while only 11.5% assessed it as “excellent” (see Table 3). Most did not have health insurance (78.6%), and relied on community health clinics for their primary health care needs (52.9%). More than

two thirds of participants (73%) consumed two or less servings of fruit per day, and over half (51.5%) stated not having exercised in the past month. One third (31.7%) of participants reported having at least one smoker in their household. These household smokers were mostly males (69.7%) and averaged 41.55 years old (SD 15.16).

As part of the canvassing activities, *promotores* distributed culturally and linguistically competent and age appropriate information promoting the reduction of soda consumption, the increase of fruits and vegetables consumption, the increase of exercise, and the reduction of cigarette consumption (if applicable) to 516 individuals (342 adults and 174 minors), regardless if they completed the health assessments or not. Furthermore, *promotores* distributed a guide with a list of health care services available in their community.

Post- Implementation of Canvassing and Health Needs Assessment

After the completion of the canvassing assessments, 10 of the 15 *promotores* who completed the training attended a 3 hour debriefing session at El Centro, Inc. to assess the training, and provide feedback to guide future activities. *Promotores* were unified around the value of assessing the health needs of the community. They felt empowered with knowledge obtained from surveys and became committed to develop and implement future interventions targeting identified needs (e.g. smoking cessation).

Promotores had lengthy discussions about the growing health needs of the Latino community as well as the importance of disseminating culturally and linguistically relevant health information and information about community resources. *Promotores* also expressed that households requested further health information which went beyond the *promotores'* knowledge and skills acquired during training sessions. As such, they suggested that the training cover more health topics in order to equip them to better inform the community. *Promotores*, and academic-community partners together identified smoking cessation as their target area for future intervention. Together they submitted a grant to a local agency to address smoking cessation through churches and community groups among Latinos families.

Discussion

Our community-academic partnership demonstrated the feasibility to develop, implement, and assess the feasibility and acceptability of a culturally relevant training program for *promotores*, and empower members of the Latino community to identify health needs and concerns of their own community, by equipping them with the adequate knowledge and skills. Establishing this community-academic infrastructure with trained *promotores* has enhanced the cultural and linguistic appropriateness of our efforts in addressing health disparities faced by Latino immigrants.

CBPR is one approach for addressing the gap on health disparities faced by the Latino community, as it efforts strive to achieve broad-scale social changes aimed at eliminating health disparities by the inclusion of *promotores* in health promotion. A CBPR approach has been identified as one of the key strategies in effectively reducing health disparities in underserved communities (Hahn et al., 2004). CBPR offers the opportunity to address health disparities in communities by using equitable involvement by researchers and those affected

by health issues. It also aims to improve general health knowledge by improving access to needed resources (Horowitz, Arniella, James, & Bickell, 2004).

The *Promotores* approach has been used in a number of studies in the US and internationally to address health disparities (Andrews, et al., 2004; Lewin, et al., 2005). *Promotores* are “natural helpers”, trusted members from the targeted community; they can easily reach individuals out of the formal health care systems, and are a source of support given their ability to relate to others. Therefore, with appropriate training, they can be actively empowered in guiding health interventions within their community (Andrews, et al., 2004; Lewin, et al., 2005).

While a CBPR approach is based upon the concept of equal participation of community-academic partners, immigrant non-English speakers may face additional barriers limiting their participation. As described in Table 1, we followed several CBPR steps to fully engage Latino community members to identify the health needs of the community. The results of prioritized health needs have prompted our partnership to take action in several areas including smoking cessation, healthy eating and physical activities.

Barriers identified by trained *promotores* throughout the 424 census track community health needs assessment included participants assessing their health “fairly or poorly”, lack of health insurance, and relying on community health clinics for primary health care needs. These findings highlight the importance of the role of *promotores* in underserved settings where members of the community have difficulty accessing formal health services. Indeed, interest in *promotores* programs has been particularly prominent in low income countries in which the formal health system has failed to provide adequate care for low-income groups (Hadley, Cunningham, & Hargraves, 2006). Studies indicate that *promotores* have been shown to be effective in reaching minority populations, particularly those with barriers to accessing health care resources (Woodruff, Talavera, & Elder, 2002) (Lewin, 2005; Meister, Warrick, de Zapien, & Wood, 1992; Mock et al., 2007). The Institute of Medicine report “Unequal Treatment” recommends community health workers to improve use of preventive and primary care services (Lewin, 2005; Lewin, et al., 2005). Further studies should examine the role of *promotores* supporting medically vulnerable underserved populations to navigate US health care system.

Overall we identified that participants were less likely to engage in regular physical activity and more likely to have a diet low in fruit and vegetable consumption. These findings correlate with the 2009 Kansas BRFSS data for Latinos and other studies (Grisby-Toussaint, Zenk, Odoms-Young, Ruggiero, & Moise, 2010). Considering that recent immigrants tend to live in poor and underserved areas, access to fruits and vegetables and safe space to exercise are limited (Befort et al., 2006; Otero-Sabogal, Sabogal, Perez-Stable, & Hiatt, 1995). Food insecurity has been found to be associated with lower frequency of fat-lowering behaviors and as such, lower intake of fruits and vegetables (Kansas Department of Health and Environment, 2009). Food insecurity has been found to be associated with lower frequency of fat-lowering behaviors and a lower intake of fruits and vegetables (Kansas Department of Health and Environment, 2009). Furthermore, correlations between food insecurity and the development of chronic diseases have been found among Latinos in

particular (Chavez, Telleen, & Kim, 2007; Pekmezi, Marquez, & Marcus-Blank, 2010; Perez-Escamilla, 2010). A comprehensive intervention encompassing social determinants of health behaviors should be identified to improve diet and physical activities among Latino immigrants. Moreover, community outreach food assistance and support programs are greatly needed to reach vulnerable Latino families. Further studies should examine the role of Promotores in the tailoring of opportunities for nutrition outreach, system intervention to address food insecurity, and thus, health disparities among Latinos.

Our study identified that one third of participants reported having at least one smoker in their household, and that these smokers were mostly males in their early forties. Based on these results, *promotores* have shown to be a feasible way to identify health risks in a culturally appropriate manner. Information generated by this evaluation was critical in guiding *promotores* and community-academic partners toward development of community-based interventions addressing the health of Latino immigrants.

Equipped with the information gathered from the community and empowered by the community-academic partnership, trained *promotores* continue to be engaged in health intervention activities. *Promotores'* knowledge and skills to continue disseminating health messages contributes to the sustainability of the overall community based program. *Promotores* have completed training in several dimensions including smoking cessation, healthy eating and physical activities. They have also joined other health coalitions in the region and supported new community-academic partnership projects addressing health disparities among Latinos.

This study has an important contribution considering the recently approved Patient Protection and Affordable Care Act (Affordable Care Act) (Paez Errickson et al., 2011; Perez-Escamilla, Garcia, & Song, 2010; Williams, 2011). In January 2010, the US Senate passed the Patient Protection and Affordable Care Act (Affordable Care Act, or ACA), which is expected to provide health insurance to 32 million uninsured Americans by means of general provision aimed at reducing financial barriers to care (Paez Errickson, et al., 2011). While the ACA was not designed to address all of the factors associated with health disparities, it represents a significant step forward in the long march to eliminate health disparities. In particular, the affordable act describes the role of community health workers (e.g *promotores*), by including specific provisions, such as expanded funding to train community health workers to educate their communities on how to protect their health (Paez Errickson, et al., 2011; Williams, 2011). Taking advantage of this momentum, community-academic partnerships should continuously train and empower community members as a culturally and linguistically appropriate program to address health disparities within underserved communities that are not part of the formal health care system.

In our study, training implementation and community assessment had important limitations. Maintaining the engagement of *promotores* in the program was an ongoing issue during the training and implementation activities. *Promotores* moved out of the area or had scheduling conflicts with the educational sessions. While doing the canvassing and health needs assessments, several barriers –such as extreme weather conditions, stray dogs, and unanswered doors- limited the participation of larger number of households within the

census track. Additionally, *promotores* conducted surveys on weekdays increasing representation of stay-at-home females, unemployed individuals, or older adults.

Limited generalizability of our results to other US Latinos represents another limitation. Latinos are a heterogeneous population and we understand that our sample is not representative of all Latinos. We understand the majority of our participants will be of Mexican origin, Spanish-speaking, recent immigrant, with low socio-economic status. However, as these characteristics are shared by many Latinos, our findings provide a significant contribution to future health disparities community-based research efforts.

Our training facilitated the development of new skills among Latino *promotores*, empowered them in the process of becoming health advocates for their community, and encouraged them to feel ownership of the health behaviors assessment. *Promotores'* experiences canvassing their own community and identifying their health needs further empowered them to be involved in planning and implementing health related interventions.

Acknowledgments

This research was supported by grants from the National Cancer Institute at the National Institutes of Health (1K01CA136993-01A1).

We appreciate the efforts of community members, our community partners, and the first group of *promotores* trained at El Centro, Inc. Special thanks to Marina Daldalian and Octavio Estrella, MEd for providing feedback and editing to the present manuscript.

References

- Andrews JO, Felton G, Wewers ME, Heath J. Use of community health workers in research with ethnic minority women. *J Nurs Scholarsh*. 2004; 36(4):358–365. [PubMed: 15636417]
- Baezconde-Garbanati L, Beebe L, Perez-Stable E. Building capacity to address tobacco-related disparities among American Indian and Hispanic/Latino communities: conceptual and systemic considerations. *Addiction*. 2007; 102(Suppl 2):112–122. [PubMed: 17850621]
- Baezconde-Garbanati L, Beebe LA, Perez-Stable EJ. Building capacity to address tobacco-related disparities among American Indian and Hispanic/Latino communities: conceptual and systemic considerations. *Addiction*. 2007; 102(Suppl 2):112–122. doi: ADD1962 [pii] 10.1111/j.1360-0443.2007.01962.x. [PubMed: 17850621]
- Balcazar H, Alvarado M, Cantu F, Pedregon V, Fulwood R. A promotora de salud model for addressing cardiovascular disease risk factors in the US-Mexico border region. *Prev Chronic Dis*. 2009; 6(1):A02. doi: A02 [pii]. [PubMed: 19080008]
- Balcazar H, Alvarado M, Hollen ML, Gonzalez-Cruz Y, Pedregon V. Evaluation of Salud Para Su Corazon (Health for your Heart) -- National Council of La Raza Promotora Outreach Program. *Prev Chronic Dis*. 2005; 2(3):A09. [PubMed: 15963311]
- Bandura, A. *Self efficacy: The exercise of control*. Freeman; New York: 1997.
- Befort C, Kaur H, Nollen N, Sullivan DK, Nazir N, Choi WS, Ahluwalia JS. Fruit, vegetable, and fat intake among non-Hispanic black and non-Hispanic white adolescents: associations with home availability and food consumption settings. *J Am Diet Assoc*. 2006; 106(3):367–373. doi: S0002-8223(05)02081-X [pii] 10.1016/j.jada.2005.12.001. [PubMed: 16503225]
- Blankenau J, Boye-Beaman J, mueller K. Health Care Utilization and the Status of Latinos in rural meat processing communities. *Great Plains Research: A Journal of Natural and Social Sciences*. 2000; 10(2):275–294.
- CDC. State Medicaid Coverage for Tobacco-Dependent Treatments---United States, 2006. *MMWR*. 2008; 57(05):117–122. [PubMed: 18256583]

- Chavez N, Telleen S, Kim Y. Food Insufficiency in Urban Latino Families. *J Immigrant Minority Health*. 2007; 9(3):197–204.
- COSSMHO. (National Coalition of Hispanic Health and Human Services Organization). Meeting the health promotion needs of Hispanic communities. *Am J Health Promotion*. 1995; 9:300–311.
- Cupertino AP, Cox LS, Garrett S, Suarez N, Sandt H, Mendoza I, Ellerbeck EF. Tobacco Use and Interest in Smoking Cessation among Latinos Attending Community Health Fairs. *J Immigr Minor Health*. 2010; 13(4):719–724. doi: DOI 10.1007/s10903-010-9404-y.
- Darrow WW, Montanea JE, Fernandez PB, Zucker UF, Stephens DP, Gladwin H. Eliminating disparities in HIV disease: community mobilization to prevent HIV transmission among Black and Hispanic young adults in Broward County, Florida. *Ethn Dis*. 2004; 14(3 Suppl 1):S108–116. [PubMed: 15682779]
- Garrett, S.; Cupertino, AP.; Groneman, B.; Ndkium-Moffor, F.; Beard, F.; Fernandez, C.; Lang, M. Celebrating Healthy Families health focus event in the Latino Community.. Paper presented at the KDHE Center for Health Disparities Conference; Topeka, KS.. 2008.
- Giachello AL, Arrom JO, Davis M, Sayad JV, Ramirez D, Nandi C, Ramos C. Reducing diabetes health disparities through community-based participatory action research: the Chicago Southeast Diabetes Community Action Coalition. *Public Health Rep*. 2003; 118(4):309–323. [PubMed: 12815078]
- Grisby-Toussaint DS, Zenk SN, Odoms-Young A, Ruggiero L, Moise I. Availability of Commonly Consumed and Culturally Specific Fruits and Vegetables in African-American and Latino Neighborhoods. *J Am Diet Assoc*. 2010; 110:746–752. [PubMed: 20430136]
- Hadley J, Cunningham P, Hargraves J. Would Safety-Net Expansions Offset Reduced Access Resulting From Lost Insurance Coverage? Race/Ethnicity Differences *Health Affairs*. 2006; 25(6): 1679–1687.
- Hahn EA, Cella D, Dobrez D, Shiomoto G, Marcus E, Taylor SG, Webster K. The talking touchscreen: a new approach to outcomes assessment in low literacy. *Psychooncology*. 2004; 13(2):86–95. doi: 10.1002/pon.719. [PubMed: 14872527]
- Heaney, C.; Israel, B. Social network and social support. 2nd Edition ed.. Jossey-Bass; San Francisco - CA: 1997.
- Horowitz C, Arniella A, James S, Bickell N. Using community-based participatory research to reduce health disparities in East and Central Harlem. *Health Policy*. 2004; 71(6):368–374.
- Israel BA. Social networks and social support: implications for natural helper and community level interventions. *Health Educ Q*. 1985; 12(1):65–80. [PubMed: 3980242]
- Israel BA EE, SAPE. *Methods in Community-Based Participatory Research for Health*. Josey Bass; 2005.
- Israel, BA.; Schulz, AJ.; Parker, EA.; Becker, AB.; Allen, AJ., III; Guzman, JR. Critical issues in developing and following community based participatory research principles.. In: Minkler, M.; Wallerstein, N., editors. *Community based participatory research for health*. Jossey-Bass; San Francisco, CA: 2003. p. 53-76.
- Kansas Department of Health and Environment, T.. Kansas BRFSS. 2009. from <http://www.kdheks.gov/brfss/Survey2009/SummaryIndex2009.htm>
- Lewin ME, Baxter RJ. America's health care safety net: revisiting the 2000 IOM report. *Health Aff (Millwood)*. 2007; 26(5):1490–1494. [PubMed: 17848461]
- Lewin S. Bridging the equity gap in maternal and child health: lay health workers may help bridge equity gap in maternal and child health. *BMJ*. 2005; 331(7520):844. doi: 331/7520/844-a [pii] 10.1136/bmj.331.7520.844-a. [PubMed: 16210301]
- Lewin SA, Dick J, Pond P, Zwarenstein M, Aja G, van Wyk B, Patrick M. Lay health workers in primary and community health care. *Cochrane Database Syst Rev*(1). 2005:CD004015. doi: 10.1002/14651858.CD004015.pub2.
- Martin MY. Community health advisors effectively promote cancer screening. *Ethn Dis*. 2005; 15(2 Suppl 2):S14–16. [PubMed: 15822831]
- Martinez IL. Addressing the Challenges of Latino Health Research: Participatory Approaches in an Emergent Urban Community. *Journal of the National Medical Association*. 2009; 101(9):908–914. [PubMed: 19806848]

- McQuiston C. Community-Based Participatory Research with Latino Community Members: Horizonte Latino. *Journal of Professional Nursing*. 2005; 21(4):210–215. [PubMed: 16061167]
- Meade CD, Calvo A. Developing community-academic partnerships to enhance breast health among rural and Hispanic migrant and seasonal farmworker women. *Oncol Nurs Forum*. 2001; 28(10):1577–1584. [PubMed: 11759305]
- Meister JS, Warrick LH, de Zapien JG, Wood AH. Using lay health workers: case study of a community-based prenatal intervention. *J Community Health*. 1992; 17(1):37–51. [PubMed: 1564139]
- Mock J, McPhee SJ, Nguyen T, Wong C, Doan H, Lai KQ, Bui-Tong N. Effective lay health worker outreach and media-based education for promoting cervical cancer screening among Vietnamese American women. *Am J Public Health*. 2007; 97(9):1693–1700. doi: AJP.2006.086470 [pii] 10.2105/AJPH.2006.086470. [PubMed: 17329652]
- Morgan, A. Training Promotores de Salud for Door to Door Community Assessments. Masters, University of Kansas Medical Center; Kansas City: 2009.
- Navarro AM, Rock CL, McNicholas LJ, Senn KL, Moreno C. Community-based education in nutrition and cancer: the Por La Vida Cuidandome curriculum. *J Cancer Educ*. 2000; 15(3):168–172. [PubMed: 11019766]
- Navarro AM, Senn KL, Kaplan RM, McNicholas L, Campo MC, Roppe B. Por La Vida intervention model for cancer prevention in Latinas. *J Natl Cancer Inst Monogr*. 1995; (18):137–145. [PubMed: 8562214]
- Nelson D. Reliability and validity of measures from the Behavioral Risk Factor Surveillance System (BRFSS). *Sozial und Praventivmedizin*. 2001; 46(1):S3–42. [PubMed: 11851091]
- O'Fallon LR, Deary A. Community-based participatory research as a tool to advance environmental health sciences. *Environ Health Perspect*. 2002; 110(Suppl 2):155–159. doi: sc271_5_1835 [pii]. [PubMed: 11929724]
- Otero-Sabogal R, Sabogal F, Perez-Stable EJ, Hiatt RA. Dietary practices, alcohol consumption, and smoking behavior: ethnic, sex, and acculturation differences. *J Natl Cancer Inst Monogr*. 1995; (18):73–82. [PubMed: 8562225]
- Paez Errickson S, Alvarez M, Forquera R, Whitehead T, Fleg A, Hawkins T, Schoenbach V. What Will Health-Care Reform Mean for Minority Health Disparities? *Public Health Reports*. 2011; 126
- Passel, J. Mexican Immigration to the US: the Latest Estimates. 2004. from <http://www.migrationinformation.org/Feature/display.cfm?ID=208>
- Passel, JS.; Cohn, DV.; Lopez, MH. Census 2010: 50 Million. Latinos Hispanics Account for More Than Half of Nation's Growth in Past Decade. Pew Hispanic Center; 2011. Retrieved from
- Pekmezci D, Marquez B, Marcus-Blank J. Health Promotion in Latinos. *American Journal of Lifestyle Medicine*. 2010; 4(2):151–165.
- Perez-Escamilla R. Health Care Access Among Latinos: Implications for Social and Health Care Reforms. *Journal of Hispanic Higher Education*. 2010; 9(1):43–60.
- Perez-Escamilla R, Garcia J, Song D. Health Care Access Among Hispanic Immigrants: ¿Alguien Esta Escuchando? [Is Anybody Listening?]. *NAPA Bull*. 2010; 34(1):47–67. [PubMed: 21116464]
- Pew Hispanic Center. Census. 2010. 2011, from <http://pewhispanic.org/data/census2010/>
- Ramirez AG. Redes en Acción unvelis new PSAs and 'Salud Today' blog to improve Latino Health. 2009
- Raza, L. C. d. l. La Escuela para Promotores. Un programa de capacitacion para promotores de salud. Casa CHE. 1994
- Swider S. Outcome effectiveness of community health workers: an integrative literature review. *Public Health Nursing*. 2002; 19:11–20. [PubMed: 11841678]
- Unified Government of Wyandotte County and Kansas City Kansas, W.. Change in Hispanic or Latino Population, 1990-2000 For Wyandotte County Census Tracts. 2000. 2011, from http://www.wycokck.org/Internetdept.aspx?id=3140&banner=15284&menu_id=1368
- United States Census Bureau, T.. Current Population Survey (CPS)- Definitions and Explanations. 2008. 2010, from <http://www.census.gov/population/www/cps/cpsdef.html>

- Wallerstein N, Bernstein E. Empowerment education: Freire's ideas adapted to health education. *Health Educ Q.* 1988; 15(4):379–394. [PubMed: 3230016]
- Williams, R. The Good, the Bad, and the Ugly: Overview of the Health Reform Law and Its Impact on Health-Care Disparities.. In: Williams, R., editor. *Healthcare Disparities at the Crossroads with Healthcare Reform.* Springer Science+Business Media, LLC.; 2011. p. 145-165.
- Woodruff SI, Talavera GA, Elder JP. Evaluation of a culturally appropriate smoking cessation intervention for Latinos. *Tob Control.* 2002; 11(4):361–367. [PubMed: 12432162]
- Zuniga, E.; Castaneda, X.; Averbach, A.; Wallace, SP. *Mexican and Central American Immigrants in the United State: Health Care Access.* Publisher by the Regents of the University of California and the Mexican Secretariat of Health; 2006.

Table 1Community-Academic Partnership Implementing CBPR Principles in Our *Promotores de Salud* Program

Year	CBPR principles	Implementing CBPR principles in study
2005	Community-Academic partnership established	Academic institution represented by Dr. Cupertino- Director of KUMC <i>Juntos</i> Center for Advancing Latino Health and Ms. Fernandez- <i>Promotores</i> representing El Centro, Inc. established a community-academic partnership and together involving <i>promotores de salud</i> .
2006	Partnership identifies the local Latino community's health concerns	The academic-community with trained <i>promotores</i> conducted canvassing and health needs assessments in an area with a high concentration of Latino immigrants.
2007	Partnership shares leadership to guide decision-making	Together we reviewed results from health needs assessment to guide action steps. Leadership, budget, grant writing and decision making are shared activities.
2008	Partnership is engaged in research design, including defining research questions	<i>Promotores</i> , academic and community organization staff met weekly during the development of this study. We continue having formal and informal meetings as needed as part of new initiatives.
2009	Partnership guides researchers to effective recruitment strategies	The first generation of <i>promotores</i> recruited the following cohort of <i>promotores</i> . The partnership continues to actively collaborate in CBPR efforts engaging the Latino community in health intervention activities.
	Partnership collaborates in interpretation and dissemination of findings	We relied on the results of <i>promotores'</i> health needs assessment to develop this study. At least once a month we continuously shared the results with <i>promotores</i> , and the community.
2008-present	Partnership collaborates in adapting and disseminating models and findings	We have been co-presented and authored publications with other investigators and community members. Together we have planned and implemented dissemination activities in both academic and community settings.
2010-present	Discussing results of health needs assessment to plan next action steps addressing disparities identified	We identified smoking as a key health concern within their community, and as such, have implemented smoking cessation programs funded by local agency. <i>Promotores</i> have joined the Latino Health for All Coalition (LHFA). Our partnership is currently engaged in interventions to actively promote healthy nutrition, physical activity, and access to health services.

Table 2*Promotores de Salud* Training Curriculum

Sessions (1-15) Learning Objectives	Objectives
First Component: Leadership, Organization and Interpersonal Skills Development	
1. Defining <i>Promotor de Salud</i>	The first training component was accomplished by encouraging a dialogue between the academic-community partnership and <i>Promotores</i> at the end of each session using tools and methods of Paulo Freire as described in the methods section.
2. Group Work	
3. Meeting Facilitating	
4. Group Decision Making	
5. Popular Education	
6. Conducting Presentations	
7. Effective Communication Strategies	
8. Analyzing Factors Affecting Health	
9. Steps for Planning a Meeting	
10. Developing an action plan	
Second Component: Survey Implementation	
11. Conducting a Community Health Assessment	<i>Promotores</i> shared decisions in delineating the community health assessment process.
12. Adapting BRFSS Survey Adapting the BRFSS into a culturally appropriately assessment tool	
13. Canvassing 424 Census Tract	
Third Component: Field Training	
14. Community Assessment Conducting a community health assessment and disseminating health information.	Partnership with <i>promotores</i> exercised their newly acquired skills and knowledge throughout their fieldwork. These activities helped us delineate logistics involved in the health needs assessment and troubleshoot barriers before implementing canvassing and health needs assessment.
15. Pilot Testing Identifying households from the 424census tract and pilot testing the survey	

Table 3

Participants' Health Care Utilization, Nutrition, Physical Activity, and Smoking

	Participants N=104
Health Care Utilization	
No Health Insurance	81 (78.6%)
General Health Self-Assessment	
Excellent	12 (11.5%)
Very Good	7 (6.7%)
Good	28 (26.9%)
Fair	38 (36.5%)
Poor	17 (16.3%)
Don't Know/ Not Sure	2 (1.9%)
Place of Last Health Visit	
Community Health Clinic	55 (52.9%)
Primary Care Physician	21 (20.2%)
Health Department	9 (8.7%)
Emergency Room	6 (5.8%)
Other	6 (5.8%)
Prefers to Not Respond	7 (6.7%)
Access to Single Health Care Provider and Medical Home	
Only One	14 (13.5%)
More Than One Within the <i>Same or Different</i> Clinics	79 (76%)
Never Goes to a Doctor	9 (8.7%)
Don't Know/ Not Sure	2 (1.9%)
Last Routine Checkup with a Doctor	
Never	7 (6.7%)
Less Than a Year	47 (45.2%)
1 to 2 Years	35 (33.7%)
2 to 5 Years	4 (3.8%)
5 or More Years	5 (4.8%)
Don't Know/ Not Sure/ Prefers to Not Respond	6 (5.8%)
Nutrition	
Fruit Consumption	
<i>Two or less</i> servings of fruit per day	72 (69.2%)
Fruit <i>always</i> available in household	50 (48.1%)
Vegetable Consumption	
<i>Two or less</i> servings of vegetables per day	70 (67.3%)
Vegetables <i>always</i> available in household	50 (48.1%)
Physical Activity	
Have <i>not</i> exercised during the past month	53 (51.5%)

	Participants N=104
Household Smoking	
No Smokers in Household	71 (68.3%)
One or More Smokers in Household	33 (31.8%)
Male Household Smokers	23 (69.7%)
Mean Age of Household Smokers	41.55 (SD 15.16)