HHS Public Access

Author manuscript

J Health Care Poor Underserved. Author manuscript; available in PMC 2019 August 19.

Published in final edited form as:

J Health Care Poor Underserved. 2016 ; 27(4): 1779–1793. doi:10.1353/hpu.2016.0162.

Sowing the Seeds of Health: Training of Community Health Advisors to Promote Breast and Cervical Cancer Screening among Latina Immigrants in Alabama

Isabel C. Scarinci, PhD, MPH,
The University of Alabama at Birmingham, Division of Preventive Medicine, Birmingham, AL.

Isabel C. Garcés-Palacio, DrPH, MPH,
The University of Antioquia, Facultad Nacional de Salud Pública, Grupo de Epidemiologia, Medellin, Colombia.

Mercedes M. Morales-Alemán, PhD,
The University of Alabama at Birmingham, Division of Preventive Medicine, Birmingham, AL.

Allison McGuire, MPH
The University of Alabama at Birmingham, Division of Preventive Medicine, Birmingham, AL.

Abstract

Latinas in the U.S. are disproportionately affected by breast and cervical cancer. This project sought to develop and evaluate a culturally relevant training for Community Health Advisors (CHA) to promote breast and cervical cancer screening among Latina immigrants in Alabama. The Empowerment Model guided training development and implementation supported by a formative evaluation and a Community Advisory Committee. The 16-hour CHA training included two intertwined components: knowledge and skills. Fifty-six (56) Latinas participated in the CHA training in six Alabama counties. The training increased the CHAs' (1) knowledge of cancer screening and other health topics and (2) their perceived confidence to communicate with women in their communities about cancer screening and to motivate them to attain cancer screenings. This work demonstrates the application of a transformative philosophical framework to promote capacity-building among CHAs toward the development and implementation of strategies to promote breast and cervical cancer screening among Latina immigrants.

Keywords

Latina immigrants; breast cancer; cervical cancer; community health advisors

Breast cancer is the leading cause of cancer death among Latinas in the United States (14.9 per 100,000) and Latinas are one and a half times more likely to die from cervical cancer than white women.[1] There has been a great decline in breast and cervical cancer incidence and mortality rates in the U.S.,[2] which is primarily a result of organized screening programs

Please address correspondence to Isabel Scarinci at The University of Alabama at Birmingham, Division of Preventive Medicine, 1717 11th Avenue South, MT 609, Birmingham, AL, 35205, scarinci@uab.edu, Phone: 205-996-2827. .

such as the National Breast and Cervical Cancer Early Detection Program.[3] However, certain populations in the U.S. still do not fully take part in these programs due to structural and intra/interpersonal barriers.[4–11] One such sub-group includes Latina immigrants, particularly in the South/Southeast.[4,6,12]

Currently, Latinos constitute the largest racial/ethnic minority group in the U.S., and nowhere is this more evident than in the Southeastern states.[13] Between 2000 and 2010, South Carolina experienced a 147.9% increase in the Latino population and Alabama experienced a 144.8% increase, the highest percentage increases of all states.[14] This rapid migration to areas of the country that are not prepared to accommodate the newcomers has presented various health care challenges, ranging from language barriers to new community members not knowing where to obtain health care.[10,11,15] In new immigrant destinations, such as the South and Midwest, studies also have found that neighborhoods with a high concentration of immigrants have low levels of social cohesion. [16–17] This may be due to high levels of residential instability as immigrants move in and out of these neighborhoods, which limits their ability to establish trusting relationships. [16, 18] Even when immigrants report having social ties to several residents in their neighborhood, these connections are not necessarily those in which immigrants have substantial trust and may be frequently strained by the demands and stresses associated with the migration experience. [16, 19–20] Other research indicates that new Latino immigrants do not feel like part of the destination community or feel isolated from the larger society because their limited English language skills interfere with their ability to interact effectively with social and administrative institutions and communicate with non-Spanish speaking residents. [21–22] This, in turn, makes it difficult for new immigrants to take advantage of community resources that may promote social connectedness and health.[22–23] Therefore, it is crucial that culturally-relevant, local, and sustainable interventions are developed to meet the health needs of Latino immigrants in these states.[24]

The Community Health Advisor (CHA) model has been used both nationally and internationally to address health issues and health care access in underserved communities. [6,25–34] This model is based on the premise that, with appropriate training and supervision, natural helpers from within a community can provide community members with culturally-relevant motivation strategies, education, social support and connection to health care services in their community.[28, 35–36] Unlike lay health educators, many CHAs work as volunteers.[35] This volunteer status can allow greater flexibility in terms of work schedule and intervention delivery and is well suited to meet community needs within specific program and community contexts.[35]

While the number of programs utilizing the CHA model for health promotion with Latino immigrants is growing, few documented studies have focused on specific recruitment and training strategies for CHAs.[25, 30, 32–34] This paper describes a participatory and culturally-relevant approach for recruiting and training volunteer CHAs to promote breast and cancer screenings among Latina immigrants in Alabama.

Methods

Development and theoretical foundation of Sowing the Seeds of Health program.

The Sowing the Seeds of Health program was developed and implemented using the guidance of the Empowerment Model[28] and supported by a formative evaluation[5,24] and a Community Advisory Committee (CAC). The Empowerment Model is based on the concept that social groups must first be structured appropriately to address issues within their community, prior to undertaking social modifications.[37] It begins with discussions that allow all involved parties to evenly contribute to the identification of problems and potential solutions. As the community needs, strengths and responsibilities are recognized, goals are formed allowing the group to work together for a common purpose.[37] When working in underserved/oppressed communities, it is critical to identify individuals who are actively involved in the community as they are able to engage their constituents in social change. With the opportunity of being trained to promote health and prevent disease within their communities (*promotoras)*, they become active partners in defining problems and solutions while the academic investigators become their external consultants in this process.[38–41]

The core curriculum also took into account the 12 principles of effective adult learning proposed by Vella:[42–43] (1) *Needs assessment*: participation of the learners in identifying what is going to be learned. Data from the formative assessments and CAC input guided the knowledge and skills to be addressed in the training; (2) *Safety*: Sessions were taught in an atmosphere of trust, which began with open discussions with the purpose of equalization of power within the group as proposed by Paulo Freire; [37] (3) *Sound relationships between the teacher and learner*: From the inception the message was that everyone involved were learners and "teachers" had a much to learn from the group as the group from the "teachers." In order to operationalize this, everyone completed an assessment of "knowledge and talents" outlining what experience and/or expertise each member had that they could share with the group. Throughout the training, group members were called on to share such experiences and expertise (which was sometimes referred to as *cross-capacity building*); (4) *Sequence of content and reinforcement*: The curriculum was organized in such a way that knowledge, skills and attitudes were built from simple to complex. In addition, every session began with a review of the previous session as well as a brief concluding statement (a *take home message*); (5) *Praxis*: learning by doing—participants were encouraged to participate in the sessions actively, and special emphasis was placed on self-efficacy; (6) *Respect for learners as decision makers*; (7) *Ideas, feelings, and actions*: the idea that the learning should involve cognitive, affective, and psychomotor aspects. As such, it is important to take into account the background and culture of learners. The relevant Latino cultural issues (e.g., *personalismo, fatalismo*) and established factors associated with cancer prevention were taken into consideration (explained below); (8) *Immediacy of learning*: Sessions and supporting materials were organized to provide the learner with immediate usefulness of the new acquired knowledge; (9) *Clear roles and role development*: Based on each individual's experience and/or expertise, the training promoted expansion and application of these knowledge and skills within the program. That is, at the end of the training each *promotora* had general responsibilities as well as specific responsibilities based on her experiences and/or expertise; (10) *Teamwork*: Since its inception the learning environment and process

emphasized that the program was only going to be successful if participants were actively involved in the learning process; (11) *Engagement*: This component was addressed throughout the program along with teamwork; (12) *Accountability*: This was accomplished by collectively setting expectations and responsibilities for each member.

Specific cultural values and concepts identified in the formative evaluation and considered fundamental to Latino culture were incorporated in the program development to assure cultural relevance.[5,24,44] It is important to note that Latino culture is extremely diverse and that cultural traditions, values and practices can range throughout and within countries. Therefore, input was received from the local Latino population and served as a critical component in developing the training content. The values of *familismo, personalismo* and collectivism were the primary cultural concepts incorporated into the training. The importance of family (*familismo*) plays a vital role in Latino values[45]; an individual strongly relies on both the nuclear and extended family as well as close friends when managing difficult situations. This is particularly true when dealing with immigrant populations, who tend to develop close ties within their respective communities.[46] As described above, throughout training process we promoted a sense of family within the group of *promotoras.* Also, their family members invited to their graduation when we celebrated their accomplishments and thanked the family for their support. Furthermore, Latinos are prone to favor personal relationships, individual attention and trust in people rather than in institutions, a trait known as *personalismo*.[26, 27] This was incorporated by valuing the personal ties among members of the group as described above. The concept of collectivism, which seeks to give priority to the needs of the group as a whole versus individual goals, is also important to Latino communities.[46–47] *Promotoras* were also encouraged to use these values in their day-to-day activities in the community. This is evidenced by the type of health promotion programs they developed as a result of the training.[6]

Curriculum development.

The development of the training curriculum was informed by several sources. As the curriculum was being developed, a CAC was established, which included community members and leaders from within and/or working directly with local Latino communities. The CAC served as a resource for input, advice, guidance and reassurance of cultural relevance of the curriculum. Further, the CAC supported recruitment and retention strategies as well as implementation and program dissemination efforts and sustainability. The training curriculum was also revised by health care professionals for accuracy. Finally, lay individuals from the local Latino community reviewed and offered feedback on each session. Translations were verified by at least two bilingual staff members to ensure accuracy. The University of Alabama at Birmingham institutional review board (IRB) translator provided additional validation for translation accuracy as, at the time of this study, the IRB employed a translator to assure accurate translations of study materials.

An extensive qualitative and quantitative evaluation and needs/assets assessment was conducted with Latina immigrants in which barriers, motivators to screening and health issues of interest were identified and the obtained results steered curriculum principles, health topics and training format. We first conducted focus groups and qualitative

interviews. Based on these findings, we developed quantitative assessments to confirm the qualitative findings followed by feedback from community members and CAB. [4, 5, 44, 48–49]

Additionally, prior to offering the program in a community, an analysis of the health care infrastructure in the area was conducted to determine its ability to support the educational efforts. Meetings were held with local hospital administration and health care providers to determine which area organizations would be available to provide screenings, follow-up for any abnormal breast or cervical cancer screening results and treatment.[6] Providers were identified based on our previous and ongoing efforts in underserved communities as well as providers who were already serving Latino immigrants and were willing to partner with us on this program. A local health care provider directory was also developed that referenced regional federally funded and not for profit clinics, hospitals and health care resources, which served as resources for the CHAs and a referral guide for community members seeking services. Once availability of services for the entire cancer continuum was assured, potential CHAs were recruited and trained.

CHA recruitment.

The identification and recruitment of the natural helpers from within the population required an extensive examination of the local Latino community. To enhance program retention and sustainability, it was essential to distinguish true natural leaders from self-identified community leaders. According to Eng and colleagues (2002), a natural helper is an individual that has been acknowledged by other members of their community as being trustworthy, compassionate and willing to help others in the community without expecting monetary compensation.[50] They are members from within the priority population that have the capacity to reach those who would otherwise be inaccessible. The natural helpers were identified by canvassing churches, non-profit groups, English as a Second Language (ESL) classes and community organizations within the local Latino community. Pastors, priests, ESL teachers and leaders of organizations and churches serving the Latino community were identified and contacted to aid in recruitment efforts. Individuals were carefully selected based on an examination of previous community work, health practices, interpersonal skills and a desire to serve the community. People who were mentioned repeatedly by different community members and leaders were contacted, interviewed and invited to attend an orientation meeting to discuss the overall program and procedures, as well as responsibilities, limitations (Table 1) and time commitment. Inclusion criteria included: a) Latina immigrant; b) at least 19 years of age, which was the legal age for consenting to participation in research in Alabama at the time of the study; c) have a telephone number; d) have transportation or the ability to attend sessions and monthly meetings; e) be a resident of the community where the program was being offered. Those that met the inclusion criteria and were interested in participating in the program were asked to attend all of training sessions as well as monthly booster sessions to be held following the training component.

Parallel to recruiting and training area CHAs, cultural competency training was conducted for local health care providers to narrow the gap between provider perceptions and patient expectations when seeking care. Characteristics of Latino culture that may interfere with patient-provider communication and care were at the forefront of the training curriculum.

Provider training presented information on how to provide culturally competent care as it relates to Latino immigrants, their expectations when seeking care and common cultural beliefs and practices.[15]

Training content and implementation.

The training content was divided into two key components: knowledge and skills. The knowledge component focused on health topics that were deemed relevant to local Latino immigrants based on the needs assessment,[4, 5, 44, 49–50] and the skills portion concentrated on the skills necessary to develop and implement outreach activities. Table 2 presents the knowledge and skills topics addressed in the training. Although family planning is not directly related to breast and cervical cancer screening, this was a topic of great relevance to Latina immigrants, and, therefore, included in the training.

The skills sessions were intertwined with the knowledge sessions. Specific skills were taught in the context of the previously learned knowledge topic. For example, after learning about the importance of breast cancer screening, the participants learned how to promote behavior change among participants in different stages of change. Additionally, the formative evaluation indicated that most of the local Latino population emigrated from agricultural areas in rural Mexico.[4, 5, 44, 48–49] Given this rural background and knowledge of plants and farming, the teaching tools and sessions incorporated analogies to plants to formulate content relevant to their own experiences. For this reason, the program was named Sowing the Seeds of Health.

The training sessions were delivered over an eight-week period and each class took approximately two hours. Health care professionals who were linguistically and culturally competent and had expertise in the specific topics were invited to address the knowledge topics (e.g., breast/cervical cancer, family planning, STIs). The initial training sessions were videotaped and compiled into a DVD for future efforts in rural counties if Spanish-speaking physicians or health care professionals were not available to conduct the training.

Upon approaching the final training sessions, the CHAs were asked to develop a plan of action to promote breast and cervical cancer screening among Latina immigrants. The purpose of the plan was to empower the group to develop their own ideas in promoting breast and cervical cancer screenings as well as create ownership in the planned activities (Empowerment Model). The plan of action focused on what, when, where and how activities would be implemented to improve and maintain the health of Latina immigrants in their community. A yearly budget was presented to the group with the amount of money available to spend on planned activities and events. Each group decided how, when and where the allocated funds would be spent. The plan of action consisted of measureable objectives including budget, activities, timeline, location and evaluation to assure aims could be achieved. By having a plan of action, the CHAs were able to accomplish their goals more effectively and evaluate whether they were having the desired impact in the community.

CHA retention.

Following the training phase, monthly booster sessions were held to report activities, address problems/questions, receive additional training, plan community activities and receive

feedback on implemented events. From the initiation of the recruitment phase and throughout training, the CHAs were reminded that their involvement in the program was vital to addressing health in their communities. Team-building activities took place early on to communicate that the success of the program was dependent on each of them.

Program management and staff maintained regular contact with the CHAs through frequent phone calls to follow up on any pending or needed items. Calls were also conducted as meeting reminders and to inform the CHAs of upcoming events and community activities. Birthday cards were sent and phone calls were made to each of the volunteers on their actual birthdays. Birthdays were also celebrated during the corresponding monthly boosters sessions. Each CHA received a $10.00 gift card for meeting attendance to assist with transportation expenses.

Based on the previously mentioned culture concept *personalismo*, retention efforts were focused on building a personal relationship between program staff and CHAs. The same program manager and coordinators who initially recruited the promoters were involved in every aspect of the training process and were also the same individuals that conducted follow up calls and maintenance meetings. This method allowed for trusting relationships to be built between the program staff and volunteers. Additionally, although the program focused on breast and cervical cancer screening, as the CHAs identified other topics of relevance to the community (e.g., nutrition, parenting skills), outreach activities were implemented to meet these needs.

Assessments.

Pre and post-test assessments were conducted to evaluate changes in knowledge regarding access to health care, breast and cervical cancer, sexually transmitted infections and family planning. In addition to demographic information, the assessments consisted of a set of 47 multiple-choice knowledge questions asked before and after the training sessions. Answers to the knowledge questions were coded as correct or incorrect. For the purpose of this analysis, the knowledge questions were divided into six categories: two questions assessing knowledge about access to health care; four questions assessing knowledge about sexually transmitted infections; six questions regarding breast cancer and screening, seven general knowledge questions about cervical cancer (e.g., screening and symptoms), 17 questions concerning cervical cancer risk factors and 11 questions measuring knowledge of reproduction and contraceptive methods.[25, 28] Summary scores were created using each set of questions, awarding a point for each correct answer. “Do not know” answers were assigned a score of 0. Therefore, in each knowledge category, participants could score from 0 to the maximum number of questions in the group. For instance, if asked about breast cancer, a participant could score 0 if they did not answer any of the questions correctly and a 6 if they answered all the questions correctly.

We also assessed self-perceived increase in knowledge, confidence communicating with community members and providing education and encouragement to others in regard to screening services. Participants were asked to rate themselves in each area (e.g., confidence communicating with others and motivating women to get cancer screenings) on a scale from 1 to 5, 1 being the lowest and 5 the highest. Paired t-tests were conducted to assess the

statistically significant differences between the baseline and post-training answers. The significance level was set at 0.05 and all statistical analyses were conducted using SPSS version 16.[51]

Participants were also asked about their community experience through a set of 11 questions. The questions assessed their experience helping and giving advice to others in the community and if they had experience working in a health care setting. Additionally, at the end of each session an anonymous survey of eight questions was conducted to assess satisfaction with each session. At the end of the training an anonymous survey of 10 questions was conducted to assess the satisfaction with the entire training. Five questions were open-ended (what was your favorite part of the training, what was your least favorite part of the training, how would you change the training, what other topics or skills would you like to know more about in future trainings like this and any additional comments). The remaining questions had multiple choice options.

Results

Demographic characteristics.

Between 2006 and 2009, 56 Latina immigrants participated in the CHA training in six counties within the state of Alabama. All participants completed a baseline assessment and 91% (51) completed the post-test assessment. They were all females, the mean age was 38.6 years and on average had been living in the U.S. for 11 years (Table 3). The majority was from Mexico (60.7%). Other countries of origin included Guatemala, Puerto Rico, Venezuela, Colombia and Argentina.

Only 23.6% of the participants had experience working in a health care setting. When asked why they decided to participate in the program the following options had more than 70% positive responses: to help the community and people; to learn more about health topics; to get involved in health issues; and to help friends who have health problems. Even before starting the training, participants reported helping family members, friends and people in the community. Participants reported that family members (94.3%), friends (80.8%) and people in the community (73.1%) had asked them for advice and that they helped family members (89.3%), friends (83.0%) and people in the community (68.0%) to go to the doctor.

Overall knowledge, perceived knowledge, and confidence assessments.

Overall knowledge increased significantly following the training as well as knowledge about the individual topics (breast and cervical cancer, sexually transmitted infections and family planning) ($p<0.0001$). At the end of the training, participants perceived themselves more knowledgeable about breast and cervical cancer, sexually transmitted infections and family planning than before the training. They also perceived themselves more confident communicating with others and motivating women to get breast and cervical cancer screening as well (Table 4).

All of the participants responded positively to training satisfaction questions. When asked about their favorite part of the program, 39% of the participants responded that they liked everything in the training and 17% reported the sexually transmitted infections section to be

their favorite. When asked what they disliked or would change about the program, some reported that they would have liked more training sessions. When asked their opinion on the duration of the training sessions, 82.5% reported that the duration was adequate and 17.5% answered that they were too short. Similarly, 65.9% indicated that the number of sessions was adequate and 34.1% thought the training should have more sessions. When asked about other topic of interest, nearly 60% of the sample mentioned that in the future they would like to learn more about nutrition related topics. All of the participants responded they would recommend the program to others.

Discussion

Few studies have described culturally-relevant approaches for recruiting and training volunteer CHAs.[30,32–33, 52] The purpose of this work was to characterize these aspects of a CHA model designed to promote breast and cancer screenings among Latina immigrants in Alabama. Results showed that although most CHAs did not have previous health care work experience, most of them expressed an interest in helping others in their communities and in learning about health topics. As did the work conducted by Luque and colleagues, results demonstrated that the participatory, culturally-relevant, training: (1) increased the CHAs knowledge of cancer screening and other health topics, (2) increased the CHAs perceived confidence to communicate with women in their communities about cancer screening access and to motivate them to attain cancer screenings and (3) achieved a high degree of training satisfaction.[33]

Throughout this collaborative process, we have learned at least three valuable lessons that we continue to apply toward the sustainability of this program as well as our efforts in other underserved populations both domestically and abroad: (1) *The importance of building the training based on the needs and wants of the target audience*. The ongoing participation from community members in the design and implementation of the training was crucial for its success. We have learned that only conducting formative assessments and obtaining community input at the inceptions are not sufficient for implementation of such community-based programs. There is a need for ongoing feedback throughout the entire program from CHA training to sustainability efforts; (2) *Selection of true natural leaders*. We spent considerable time in the community identifying individuals who were natural leaders and were already engaged in helping others. Although funding ended years ago, most of these volunteers are still active, which has resulted in sustainable breast and cervical cancer screening program through which we annually reach over 500 Latina immigrants in Alabama;[6] and (3) *Knowledge is not sufficient*. Although knowledge was an important component of the training, we strongly believe that the skills training was a critical component as it gave CHAs the confidence and self-efficacy to promote behavior change in their communities.

There are some limitations that deserve mention. First, this represents the first step toward a larger research and outreach agenda to address cancer prevention and control among Latina immigrants. The training was evaluated through a pre- and post-test design. Further studies are needed to assess the efficacy of such training using more rigorous research designs. Second, there is a need for longitudinal assessments on the long-term impact of such

training. Third, the training and program implementation was developed and tested based on the needs and expectations of Latina immigrants in Alabama. Future studies are needed to evaluate such training in other settings.

Overall, this work demonstrates the usefulness of a participatory, culturally-relevant approach to empower CHAs with the knowledge and skills to develop and implement a breast and cervical cancer screening intervention. CHA-based interventions have the potential of having a great impact in decreasing health disparities among Latinos, particularly Latino immigrants who face intrapersonal and structural barriers to health care access.[4,33]

Acknowledgments

This work was supported through an education grant from National Cancer Institute, R25106870.

References

1. American Cancer Society. Cancer Facts and Figures for Hispanics/Latinos, 2012–2014. Atlanta, GA: American Cancer Society, 2014 Available at: http://www.cancer.org/acs/groups/content/@epidemiologysurveilance/documents/document/acspc-034778.pdf.
2. Edwards BK, Ward E, Kohler BA, et al. Annual report to the nation on the status of cancer, 1975–2006, featuring colorectal cancer trends and impact of interventions (risk factors, screening and treatment) to reduce future rates. Cancer. 2010 2;116(3):544–73. [PubMed: 19998273]
3. Centers for Disease Control and Prevention. National Breast and Cervical Cancer Early Detection Progeram (NBCCEDP). Atlanta, GA: CDC, 2014
4. Hidalgo B, Garces-Palacio IC, Scarinci I. Preventive and curative care utilization among Mexican immigrant women in Birmingham, AL. J Immigr Minor Health. 2012;14(6):983–89. 10.1007/s10903-012-9594-6 PMid: [PubMed: 22370729]
5. Scarinci IC, Beech BM, Kovach KW, et al. An examination of sociocultural factors associated with cervical cancer screening among low-income Latina immigrants of reproductive age. J Immigr Health. 2003;5(3):119–28. 10.1023/A:1023939801991 PMid: [PubMed: 14512766]
6. White K, Garces IC, Bandura L, et al. Design and evaluation of a theory-based, culturally-relevant outreach model for breast and cervical cancer screening for Latina immigrants. Ethn Dis. 2012 Summer;22(3):274–80. [PubMed: 22870569]
7. Bazargan M, Bazargan SH, Farooq M, et al. Correlates of cervical cancer screening among underserved Hispanic and African-American women. Prev Med. 2004 9;39(3):465–73. [PubMed: 15313085]
8. Freeman HP, Wingrove BK. Excess cervical cancer mortality: a marker for low access to health care in poor communities: an analysis. Washington, DC: National Cancer Institute, Center to Reduce Cancer Health Disparities, 2005.
9. Scarinci IC, Garcia FA, Kobetz E, et al. Cervical cancer prevention: new tools and old barriers. Cancer. 2010 6 1;116(11):2531–42. [PubMed: 20310056]
10. Byrd TL, Chavez R, Wilson KM. Barriers and facilitators of cervical cancer screening among Hispanic women. Ethn Dis. 2007 Winter;17(1):129–34. [PubMed: 17274222]
11. Mack KP, Pavao J, Tabnak F, et al. Adherence to recent screening mammography among Latinas: findings from the California Women's Health Survey. J Womens Health (Larchmt). 2009 3;18(3):347–54. [PubMed: 19281318]
12. Mayo RM, Erwin DO, Spitler HD. Implications for breast and cervical cancer control for Latinas in the rural South: a review of the literature. Cancer Control. 2003 Sep-10;10(5 Suppl):60–8. [PubMed: 14581906]
13. United States Census Bureau. Facts for features: Hispanic Heritage Month. Washington, DC: United States Census Bureau, 2014.

14. Ennis SR, Rios-Vargas M, Albert NG. The Hispanic population 2010. Washington, DC: United States Census Bureau, 2011.
15. McGuire AA, Garces-Palacio IC, Scarinci IC. A successful guide in understanding Latino immigrant patients: an aid for health care professionals. Fam Community Health. 2012 Jan-3;35(1):76–84. [PubMed: 22143490]
16. Almeida J, Kawachi I, Molnar BE, et al. A multi-level analysis of social ties and social cohesion among Latinos and their neighborhoods: results from Chicago. J Urban Health. 2009 9;86(5):745–59. Epub 2009 Jun 19. [PubMed: 19543835]
17. Osypuk TL, Diez Roux AV, Hadley C, et al. Are immigrant enclaves health places to live? The Multi-Ethnic Study of Atherosclerosis. Soc Sci Med. 2009 7;69(1):110–20. Epub 2009 May 8. [PubMed: 19427731]
18. Parrado EA, Flippen C. Community attachment, neighborhood context and sex worker use among Hispanic migrants in Durham, North Carolina. Soc Sci Med. 2010 4;70(7):1059–69. Epub 2010 Feb 1. [PubMed: 20122769]
19. Viruell-Fuentes EA, Schulz AJ. Toward a dynamic conceptualization of social ties and context: implications for understanding immigrant and Latino health. Am J Public Health. 2009 12;99(12): 2167–75. Epub 2009 Oct 15. [PubMed: 19833986]
20. Hirsch J Que, pues, con el pinche NAFTA? Gender, power and migration between Western Mexico and Atlanta. Urban Anthro Stud Cultural Systems World Econ Dev. 2002;31(3–4):351–70.
21. Erwin DO. An ethnographic description of Latino immigration in rural Arkansas: intergroup relations and utilization of health care services. Southern Rural Soc. 2003;19(1):46–72.
22. Perreira KM, Chapman MV, Stein GL. Becoming an American parent: overcoming challenges and finding strength in a new immigrant Latino community. J Fam Issues. 2006;27(10):1383–1414. 10.1177/0192513X06290041
23. Harari N, Davis M, Heisler M. Strangers in a strange land: Health care experiences for recent Latino immigrants in Midwest communities. J Health Care Poor Underserved. 2008 11;19(4): 1350–67. [PubMed: 19029757]
24. Scarinci IC, Bandura L, Hidalgo B, et al. Development of a theory-based (PEN-3 and Health Belief Model), culturally-relevant intervention on cervical cancer prevention among Latina immigrants using intervention mapping. Health Promot Pract. 2012 1;13(1):29–40. Epub 2011 Mar 21. [PubMed: 21422254]
25. Sun CJ, Garcia M, Mann L, et al. Latino sexual and gender identity minorities promoting sexual health within their social networks: process evaluation findings from a Lay Health Advisor intervention. Health Promot Pract. 2015 5;16(3):329–37. Epub 2014 Nov 21. [PubMed: 25416309]
26. Byrd TL, Wilson KM, Smith L, et al. Using intervention mapping as a participatory strategy: development of a cervical cancer screening intervention for Hispanic women. Health Educ Behav. 2012 10;39(5):603–11. Epub 2012 Mar 1. [PubMed: 22388451]
27. Brawner BM, Baker JL, Voytek CD, et al. The development of a culturally-relevant, theorically driven HPV prevention intervention for urban adolescent females and their parents/guardians. Health Promot Pract. 2013 7;14(4):624–36. Epub 2012 Oct 24. [PubMed: 23099659]
28. Krantz MJ, Coronel SM, Whitley EM, et al. Effectiveness of a community health worker cardiovascular risk reduction program in public health and health care settings. Am J Public Health. 2013 1;103(1):e19–27. Epub 2012 Nov 15.
29. Feltner FJ, Ely GE, Whitler ET, et al. Effectiveness of community health workers in providing outreach and education for colorectal cancer screening in Appalachian Kentucky. Soc Work Health Care. 2012;51(5):430–40. 10.1080/00981389.2012.657296 PMid: [PubMed: 22583029]
30. Woodruff SI, Candelaria JI, Elder JP. Recruitment, training outcomes, retention and performance of community health advisors in two tobacco control interventions for Latinos. J Community Health. 2010 4;35(2):124–34. [PubMed: 20012475]
31. Perez LM, Martinez J. Community health workers: social justice and policy advocates for community health and well-being. Am J Public Health. 2008 1;98(1):11–4. Epub 2007 Nov 29. [PubMed: 18048789]

32. Erwin DO, Johnson VA, Feliciano-Libid L, et al. Incorporating cultural constructs and demographic diversity in the research and development of a Latina breast and cervical cancer education program. J Cancer Educ. 2005 Spring;20(1):39–44. [PubMed: 15876181]
33. Luque JS, Mason M, Reyes-Garcia C, et al. (2011). Salud es vida: development of a cervical cancer education curriculum for promotora outreach with Latina farmworkers in rural Southern Georgia. Am J Public Health. 2011 12;101(12):2233–5. Epub 2011 Oct 20. [PubMed: 22021295]
34. Watson-Johnson LC, Bhagatwala J, Reyes-Garcia C, et al. Refinement of an educational toolkit to promote cervical cancer screening among Hispanic immigrant women in rural southern Georgia. J Health Care Poor Underserved. 2012 11;23(4):1704–11. [PubMed: 23698684]
35. Cherrington A, Ayala GX, Elder JP, et al. Recognizing the diverse roles of community health workers in the elimination of health disparities: from paid staff to volunteers. Ethn Dis. 2010 Spring;20(2):189–94. [PubMed: 20503902]
36. Cherrington A, Ayala GX, Amick H, et al. Applying the community health worker model to diabetes management: using mixed methods to assess implementation and effectiveness. J Health Care Poor Underserved. 2008 11;19(4):1044–59. [PubMed: 19029736]
37. Freire P Pedagogy of the oppressed. Harmondsworth: Penguin, 1970.
38. Freire P Política e educação: ensaios. São Paulo: Cortez, 1993.
39. Stotz E, David HMSL, Wong Un JA. Educação popular e saúde: trajetória, expressões e desafios de um movimento social. Brazil: Federal University of Juiz de Fora, 2005.
40. Bornstein VJ, David HMSL, Araújo JWG. Community health agents: reconstruction of the risk concept at local level. Interface Comunic Saude Educ. 2010;14:93–101. 10.1590/S1414-32832010000100008
41. St John JA, Johnson CM, Sharkey JR, et al. Empowerment of promotoras as promotora-researchers in the Comidas Saludables & Gente Sana en las Colonias del Sur de Tejas (Healthy Food and Healthy People in South Texas Colonias) program. J Prim Prev. 2013 4;34(1–2):41–57 [PubMed: 23404423]
42. Vella J Learning to listen, learning to teach: the power of dialogue in educating adults. San Francisco, CA: Jossey-Bass, 2002.
43. Vella J Learning to listen, learning to teach. San Francisco, CA: Jossey-Bass, 1994.
44. Garces IC, Scarinci IC, Harrison L. An examination of sociocultural factors associated with health and health care seeking among Latina immigrants. J Immigr Minor Health. 2006 10;8(4):377–85. [PubMed: 16636902]
45. Mendoza M, Petersen MC. New Latino immigration to Tennessee: practicing culturally sensitive health care. Tenn Med. 2000 10;93(10):371–6. [PubMed: 11026813]
46. Marin G, Marin BV. Research with Hispanic populations. Washington, DC: Sage Publications, 1991.
47. Marín G, Triandis HC. Allocentrism as an important characteristic of the behavior of Latin American and Hispanics In Diaz R (Ed.) Cross-cultural and national studies in social psychology. Amsterdam: Elsevier Science Publishers, 1985.
48. Drewry J, Garces-Palacio IC, Scarinci I. Awareness and knowledge about human papillomavirus among Latina immigrants. Ethn Dis. 2010 Autumn;20(4):327–33. [PubMed: 21305817]
49. Garcés-Palacio IC, Scarinci IC. Factors associated with perceived susceptibility to cervical cancer among Latina immigrants in Alabama. Matern Child Health J. 2012 1;16(1):242–8. [PubMed: 21190071]
50. Eng E, Parker E. Natural helper models Emerging theories and models in health promotion research and practice. San Francisco, CA: Jossey-Bass, 2002.
51. SPSS Inc. SPSS for Windows, Version 16.0. Chicago, IL: SPSS Inc., 2007.
52. Johnson RE, Green BL, Anderson-Lewis C, et al. Community health advisors as research partners: an evaluation of the training and activities. Fam Community Health. 2005 Jan-3;28(1):41–50. [PubMed: 15625505]

Table 1:

CHA Responsibilities and Limitations

Responsibilities	Limitations
○ Be an example of healthy living for the Latino community	○ Cannot break confidentiality
○ Practice what you preach	○ Cannot provide diagnosis or opinion based on description of symptoms or signs
○ Attend all training sessions for duration of 8 weeks	○ Cannot make recommendation on medications and/or treatments
○ Attend all monthly booster sessions	○ Cannot make promises you cannot fulfill
○ Learn about healthcare services and health topics	○ Cannot make judgments about people's choices, lifestyle, religion, etc.
○ Share the information learned with other people in the community	○ Cannot receive payment for your services
○ Work with other CHAs on special health projects	○ Cannot distribute brochures, pamphlets or any other health information that is NOT provided or approved by the Program Manager
○ Strive for excellence in your service to the community	○ Cannot use the program to promote your business or other personal interest
○ Treat everyone with respect	
○ Maintain confidentiality	
○ Be available for individuals in the community	
○ Provide information and referrals as needed	
○ Keep records of all contacts made	
○ Follow up on requests, questions as well as recommendations	
○ Maintain regular contact with the Program Manager	

Table 2:

Program Structure and Training Components

KNOWLEDGE	SKILLS
Pre-test assessments	Team building
Overview of training program	Cooperation
Health care access in the US	Problem solving
Breast cancer and breast cancer screening	Asset identification
	Communication/listening skills
Reproductive system	Stages of change
Cervical cancer and screening	Public speaking
Sexually transmitted infections	Plan of action
Family planning & Post-assessments	Plan of action
	Responsibilities and limitations

Table 3.

Demographic Information at Baseline (n=56)

Age	38.6 (9.1)
Education (years)	8.8 (3.18)
Years in the US	11.1 (7.6)
Marital Status	
Single	9.1%
Married	58.2%
Living with partner	14.5%
Separated/divorced	7.3%
Widowed	10.9%
Employment status	
Full-time	23.3%
Part-time	24.2%
Unemployed	10.0%
Homemaker	41.4%
Other	1.1%
Having health insurance	36.4%
Experience working at a health care setting	23.6%
Speak English	
Yes	33.9%
No	19.6%
A little	46.4%

Table 4.

Overall Knowledge Assessments and Perceived Knowledge and Confidence (n=51)

Knowledge	Baseline (Mean)	Post-test (Mean)	P-value[a]
Knowledge Assessments			
Overall[b]	30.6 (7.87)	37.9 (4.69)	<0.0001
Cervical cancer screening[c]	5.1 (2.15)	6.7 (0.55)	<0.0001
Cervical cancer risk factors[d]	11.4 (1.85)	12.8 (1.98)	<0.0001
Breast cancer[e]	3.2 (1.88)	4.5 (1.08)	<0.0001
STIs[f]	2.7 (0.90)	3.3 (0.75)	<0.0001
Family planning[g]	7.1 (3.01)	9.2 (1.93)	<0.0001
Perceived Knowledge and Confidence			
Rank your knowledge about places where people can go for a medical visit in your county	2.7	4.0	<0.0001
Rank your knowledge about breast cancer	2.7	4.1	<0.0001
Rank your knowledge about breast cancer screenings for early detection	2.9	4.3	<0.0001
Rank your knowledge about cervical cancer	2.5	4.3	<0.0001
Rank your knowledge about cervical cancer screenings for early detection	2.6	4.4	<0.0001
Rank your knowledge about sexually transmitted infections	2.8	4.4	<0.0001
Rank your knowledge about family planning methods	3.2	4.4	<0.0001
Rank your ability to solve problems	3.1	3.9	<0.0001
Rank your ability to listen and communicate	3.7	4.2	0.001
Rank your level of confidence to speak in public	3.4	3.9	0.001
Rank your level of confidence to motivate immigrant Latinas to get an annual pap smear	3.6	4.6	<0.0001
Rank your level of confidence to motivate immigrant Latinas to get a clinical breast exam every three years	3.5	4.3	<0.0001
Rank your level of confidence to motivate immigrant Latinas older than 40 to get a mammogram annually	3.4	4.5	<0.0001
Rank your level of confidence to motivate immigrant Latinas to do a breast self-exam monthly	3.5	4.4	<0.0001

[a]Paired t-test

[b]47 questions

[c] 7 questions

[d] 17 questions

[e] 6 questions

[f] 4 questions

[g] 11 questions

[h] Paired t-test