Lay Health Advisor Interventions Among Hispanics/Latinos

A Qualitative Systematic Review

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Background: With an expanding Hispanic/Latino community in the United States, practitioners and researchers working to promote health and prevent disease have relied on lay health advisor (LHA) models to address a variety of health issues. The primary goal of this systematic review was to explore how LHA approaches have been used and evaluated within Hispanic/Latino communities in the U.S.

Methods: Ten literature databases were searched from their inception through July 2006, using keywords associated with LHA approaches. This review consisted of human studies that included adult Hispanics or Latinos of either gender, were conducted in the U.S., were published in English-language peer-reviewed journals, and contained enough abstractable information. Data abstraction was completed independently by three data abstractors using a standardized abstraction form that collected intervention characteristics and study results.

Results: A total of 172 studies were identified and 37 met the inclusion criteria. Of these, 28 included female LHAs exclusively and five included a small number of male as well as female LHAs. Training for LHAs ranged from 6 to 160 hours. Primary roles of LHAs included: supporting participant recruitment and data collection, serving as health advisors and referral sources, distributing materials, being role models, and advocating on behalf of community members. Fourteen studies found evidence of effectiveness.

Conclusions: Given the long history of using LHAs as an approach to health promotion and disease prevention and the current emphasis of LHA approaches as a potential solution to health disparities in general, and among Hispanics/Latinos in particular, few rigorous studies have been published that document the effectiveness of LHAs on a variety of public health concerns. A stronger empirical evidence base is clearly needed.

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Over the past quarter century, health promotion and disease prevention programs have relied on a number of approaches based on lay health advisors (LHAs) to address a variety of health issues, often in traditionally underserved or vulnerable communities.[1–6] In fact, because many causes of racial and ethnic health disparities have strong social etiologies, the use of LHAs has emerged as a strategy to reduce or eliminate health disparities.[1,2,5,6] LHAs are assumed to be effective because they are part of the communities in which they work, ethnically, socioeconomically, and experientially; possess an intimate understanding of community social networks, strengths, and health needs; understand what is meaningful to those communities; communicate in a similar language; and recognize and incorporate culture (e.g., cultural identity, spiritual coping, traditional health practices) to promote health and health outcomes within their communities.

Generally, LHAs are community members who work almost exclusively in community settings and serve to connect healthcare consumers to providers in order to promote health and prevent diseases among groups that have traditionally lacked access to adequate care.[7–10] LHAs also may connect community members to other services that they need. They are community members whom others naturally turn to for advice, emotional support, and tangible aid.[2] LHA approaches have been advocated for and initiated as an effective means to reach members of growing immigrant Hispanic/Latino communities in the United States because it is thought that lay community members

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will provide the most tailored and culturally relevant messages.[4,8,11–14]

Because the data about the use of LHAs remain largely unexamined, especially within Hispanic/Latino communities, the primary goal of this qualitative systematic review was to explore the scientific literature on the use of LHA interventions to promote health and prevent disease among Hispanic/Latino communities living in the U.S. The state of the science of using LHA approaches among Hispanics/Latinos is documented.

Methods

This qualitative systematic review of the literature included a search of the literature using online electronic databases.[15] The search was overseen by a team of researchers with extensive experience in health behavior intervention research and the use of LHA approaches. Ten literature databases were used, including: AgeLine, CINAHL, EBSCO Academic Search Elite and Premier, ERIC, Health Source Consumer and Nursing and Nursing/Academic Editions, pre-CINAHL, PsycINFO, and PubMed. Each database was searched from its inception through July 2006.

Terms for the search included keywords as defined by the Medical Subject Headings (MeSH). Keywords used in a Boolean search included: Hispanic or Latino and village health worker, natural helper, promoter, promotora, partera, volunteer health worker, allied health personnel, lay health advisor, lay health, community outreach worker, community health service volunteer, public health aide, peer health promoter, community health representative, community health advocate, or health advisor. In addition, citations from the bibliographies of identified papers were analyzed and relevant citations were selected for review.

The review consisted of human studies that included adult Hispanics or Latinos of either gender, were conducted in the U.S., and were published in English-language peer-reviewed journals. Articles that did not report sufficient information to be abstractable were excluded. Often, editorials, letters, book chapters, and commentaries have been excluded in systematic reviews[15]; however, when appropriate, such articles were included to supplement data about studies that had been identified. These inclusion and exclusion criteria were selected to ensure that findings could best inform future LHA intervention research among Hispanic/Latino communities within the U.S.

Because some studies included non-Hispanics and non-Latinos, these studies were included if at least half of the LHAs were Hispanic/Latino. Furthermore, because studies may have had multiple articles published, this analysis explored LHA approaches by study.

Data Collection and Abstraction

Data were abstracted using an instrument that allowed both quantitative and qualitative documentation of the study, documenting study name; health focus; components of the LHA training and intervention; the number of LHAs trained, their recruitment, selection, and retention; LHA characteristics, including sociodemographics (e.g., age, gender, race/ethnicity, languages spoken, and country of origin); LHA compensation; characteristics of the community intervened upon; characteristics of the intervention and roles of LHAs; and study design, evaluative data collection modes, and study outcomes.

Results

A total of 172 articles were identified. Of these, 37 studies met the inclusion criteria. LHA studies were divided into 11 health intervention priorities, including cancer prevention and screening (n=14)[12,16–35]; prenatal health (n=5)[36–42]; general health promotion and disease prevention (n=4)[43–46]; cardiovascular disease prevention (n=4)[14,47–52]; HIV (n=3)[13,53–58]; access to healthcare services (n=2)[59,60]; diabetes (n=2)[61,62]; eye safety (n=1)[63]; environmental health (n=1)[64,65]; and asthma management (n=1).[66]

Table 1 provides a summary of the studies, including health issue target(s), number of LHAs and their characteristics, length of their training, study design and number of study participants, and main community outcomes.

Of the 37 abstracted studies, 28 included female LHAs exclusively, five included a few men in addition to women as LHAs, and four interventions did not specify the gender of the LHAs. Of the 28 studies that reported the number of LHAs trained, the number ranged from 2 to 85.

All studies indicated that the LHAs matched the target population in their communities in terms of countries of origin and current geographic location. For example, McQuiston and colleagues recruited 15 LHAs who lived in the same apartment complexes as the target population. Like their neighbors, these LHAs were originally from rural Mexico and reflected the same age distribution as the apartment community.[13,56,57]

Of the 22 studies that described LHA training, the length of training ranged from 6 to 160 hours. Training included increasing LHA level of knowledge using didactic techniques, skills practice through role playing, and ongoing evaluation and reinforcement to ensure adherence to the intervention. Training models included completing the entire training prior to beginning their work as LHAs (e.g., Proyecto Sol[35] and La Diabetes y La Unión Familiar[62]) to ongoing training, further skills development, and booster sessions (e.g., En Acción Contra El Cáncer[16,30] and Salud para Su Corazon.[48,49]).

Finally, 12 studies did not describe the theoretical foundations of the LHA intervention. However, the interventions that described the theoretical foundations incorporated one or more of the following theories into the training and/or the activities of the LHAs: social support, social influence, and social networks; social learning theory; empowerment education; diffusion of innovations; transtheoretical model of change;

Table 1. Review of lay health advisor (LHA) interventions among Hispanics/Latinos in the United States

Study	Health issue target(s)	LHA number and characteristics	Length and type of training	Study design and number of participants	Main outcomes
Baker (1997)[59]	↑ healthcare service access	2 ND	ND	Feasibility study (N=50)	ND
Balcázar (2006)[48]; Balcázar (2005)[49]	↓ cardiovascular disease risk	29 Latinas	50-hour training in "Your Heart, Your Life" curriculum + 2-day promotora training at National Promotoras Conference + continuing education at NCLR + monthly conference calls	Single-group with pre- and post-test for promotoras only (N=320)	ND
Bird (1996)[16]; Perez-Stable (1996)[30]	↑ cancer screening	85 Latinas	4-hour training + 3 booster sessions and ongoing individual meetings with the LHAs	Experimental control group with pre- and post-test (N=1600)	ND
Bray (1994)[36]	↑ prenatal care	3 bilingual Hispanic women	3 weeks of training	Single-group descriptive	↑ prenatal visits, referrals, and clinic appointment attendance; ↓ school absences (qualitative)
Carrillo (1986)[37]	↑ prenatal care	Bilingual Hispanic women	ND	Single-group descriptive (N=274)	ND
Castro (1995)[17]	↓ risk of breast, cervical, and diet-related cancers	28 monolingual Spanish-speaking women, aged 27–67 years	ND	Experimental-comparison with pre- and post-test (N=668)	ND
Conway (2004)[18]; Rodriguez (2003)[32]	↓ exposure to environmental tobacco smoke	11 bilingual Latinas	20 hours delivered over 8 sessions during 1 month	Experimental-comparison design with pre- and post-test (N=286)	Null effects
Corkery (1997)[61]	↑ completion of diabetes education	Bilingual Hispanic women	ND	Quasi-experimental-comparison group (N=64)	↓ Dropout ($p<0.05$)
Davis (1994)[19]	↑ cervical cancer screening	30 African-American and Hispanic female congregants, aged ≥21 years	2 training sessions of 30–45 minutes each	Single-group descriptive (N=943)	ND
Elder (2005)[20]	↑ cancer control	4 Spanish-language dominant women, aged 47–59 years	12 weeks of training	3-group comparison with pre- and post-test (N=357)	↓ energy, total fat, total saturated fat, total carbohydrate, and fructose intake ($p<0.05$)
Fernandez-Esquer (2003)[21]; McAlister (1995)[26]; Ramirez (1995)[31]	↑ breast and cervical cancer screening	82 female and 3 male, mean age=49 years, and educational levels of 7th and 8th grade	Monthly	Quasi-experimental-control group with pre- and post-test (N=1800)	Among women aged <40 years, ↑ Pap screening ($p<0.05$)

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Table 1. *(continued)*

Study	Health issue target(s)	LHA number and characteristics	Length and type of training	Study design and number of participants	Main outcomes
Flaskerud (2000)[53]; Flasherud (1997)[54]; Nyamathi (2001)[58]	↑ HIV counseling and testing	Bilingual Latinas	ND	Experimental 3-group (N=325)	↑ knowledge, condom-use skills, and condom use ($p<0.05$)
Forst (2004)[63]	↓ eye injuries and illnesses	16 ND	20 hours over 2 weeks	Experimental 3-group (N=786)	↑ self-reported use of eyewear
Giarratano (2005)[22]	↑ breast and cervical cancer screening	Bilingual and bicultural Latinas with high school diplomas and legal residency status	ND	Single-group descriptive (N=1490)	Reached low-income minority women for education and screening
Hansen (2005)[23]	↑ breast and cervical cancer screening	5 Spanish- and/or English-speaking women affected by cancer, aged 40–57 years	12 classes	Single-group descriptive (N=141)	ND
Hanson (1998)[66]	↑ parental self-efficacy to manage child's asthma	ND	ND	Quasi-experimental-comparison group with pre- and post-test (N=303)	Null effects
Hunter (2004)[43]	↑ preventive chronic disease screening	Bilingual Latinas	ND	Experimental-comparison group with pre- and post-test (N=101)	Null effects
Kiger (2003)[24]	↑ breast cancer screening	Spanish-speaking Hispanic women	ND	Single-group descriptive	ND
Kim (2004)[50]; Kim (2005)[51]	↓ cardiovascular disease risk	11 Spanish-speaking Latina women and 1 Spanish-speaking Latino man	13 3-hour sessions	Single-group with pre- and post-test (N=256)	↑ healthy eating, physical activity, engagement in smoke-free behavior ($p<0.05$)
Koval (2006)[12]	↑ breast and cervical cancer screening	2 Spanish-speaking Hispanic women	2 training sessions	Single-group descriptive (N=70)	ND
Larkey (2002)[44]	↑ recruitment into the Women's Health Initiative (WHI)	56 Hispanic women	6 hours	Experimental 3-group design (N=96)	↑ Hispanic referral and enrollment ($p<0.01$)
Martin (2005)[55]	↑ HIV knowledge and perceived risk	26 Spanish-speaking Latinos ("mostly women") with high school education	40-hour American Red Cross HIV/AIDS training plus 13-session LHA training	Single-group with pre- and post-test (N=704)	↑ knowledge and perceived risk ($p<0.05$)
May (1995)[45]	General health promotion and disease prevention	2 bilingual Mexican-American female high school graduates	ND	Single-group descriptive (N=532)	ND

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Table 1. Review of lay health advisor (LHA) interventions among Hispanics/Latinos in the United States *(continued)*

Study	Health issue target(s)	LHA number and characteristics	Length and type of training	Study design and number of participants	Main outcomes
May (2003)[64]; Ramos (2001)[65]	↓ environmental exposures associated with human illness	Latinas	ND	ND	ND
Mayo (2004)[25]	↑ breast cancer screening	45 Spanish- and/or English-speaking women	ND	Single-group descriptive (N=2458)	Reached low-income minority women for education and screening
McElmurry (2003)[60]	↑ healthcare service access	Bilingual women with a high school education	100 hours over 6 weeks	Single-group with pre- and post-test	↓ self-reported barriers to healthcare services
McFarlane (1994)[38]	↑ prenatal care	14 Hispanic mothers, aged 19–68 years	8 hours	Single-group descriptive	↑ self-esteem, empowerment, and community involvement (qualitative)
McQuiston (2001)[13]; McQuiston (2003)[56]; McQuiston (2001)[57]	↓ HIV risk behaviors	15 Spanish-speaking Latino women (n=13) and men (n=2) originally from Mexico, aged 19–39 years	21 hours over 7 weeks	Single-group descriptive	ND
Meister (1992)[39]; Warrick (1992)[40]	↑ prenatal care	5 bilingual Hispanic farmworker women	4 hours per week for 2 months	Single-group descriptive	↑ self-esteem, empowerment, sense of wellbeing, diffusion of information; easier labors (qualitative)
Navarro (2000)[27]; Navarro (1998)[28]; Navarro (1995)[29]	↑ cancer screening	36 Spanish-speaking Latinas	ND	Experimental-comparison group with pre- and post-test (N=512)	Among all intervention women, ↑ Pap screening ($p<0.05$) and among women aged ≥40 years, ↑ mammography ($p<0.05$)
Nies (2004)[14]; Artinian (2004)[47]	↓ cardiovascular disease risk	12 bilingual Hispanic women	8 2-hour sessions	Single-group with pre- and post-test (N=127)	↑ physical activity ($p<0.05$)
Sherrill (2005)[46]	Use of health promotion and disease prevention clinical services	10 Latinas	ND	Single-group descriptive	Reached low-income medically underserved women
Suarez (1993)[33]; Suarez (1993)[34]	↑ breast and cervical cancer screening	9 ND	ND	Single-group with pre- and post-test (N=189)	Among all women, ↑ mammography use ($p<0.05$)

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Table 1. *(continued)*

Study	Health issue target(s)	LHA number and characteristics	Length and type of training	Study design and number of participants	Main outcomes
Teufel-Shone (2005)[62]	↑ family support for those with diabetes and prevent diabetes among family members	4 Hispanic women	1 day-long training	Single-group with pre- and post-test (N=249)	↑ knowledge, family physical activity, family support, and self-efficacy; ↓ consumption of sweetened drinks ($p<0.05$)
Watkins (1990)[41]; Watkins (1994)[42]	↑ prenatal care	40 Latinas, aged 15–52 years	24 hours	Quasi-experimental-control group (N=470)	↑ knowledge, # of women initiating prenatal care visits, # of prenatal visits ($p<0.05$)
Whitehorse (1999)[52]	↑ physical activity	20 Latinas	8.5 hours	Single-group descriptive (N=487)	ND
Woodruff (2002)[35]	↓ cancer risk through smoking cessation	14 women and 2 men from Mexico, Argentina, and U.S., aged 31–56 years	25 hours of training in 9 sessions during 5 weeks	Experimental-comparison group with pre- and post-test (N=313)	↑ abstinence from cigarette smoking by self-report and carbon monoxide concentrations; ↓ number of cigarettes smoked ($p<0.05$)

LHA, lay health advisors; NCLR, National Council of la Raza; ND, not described.

and/or the health belief model. One study focused on Latino cultural competency and traditional Latino values.

Evaluation and Community-Level Outcomes

A range of study designs was represented, from program descriptions to quasi-experimental studies and randomized experiments with pre- and post-test and follow-up. Statistically significant community outcomes were identified in 14 studies; topics included: decreased energy, fat, and carbohydrate intake[20]; increased use of cancer screening[21,26–29,31,33,34]; smoking cessation[35]; increased initiation and number of prenatal care visits[41–42]; increased referral and enrollment of Hispanics/Latinos[44,67]; increased behaviors promoting cardiovascular health[14,47,50,51]; reduced perceived barriers to healthcare[60]; decreased dropout in diabetes prevention intervention[61]; increased family support and self care for patients with diabetes[62]; increased condom use[53,54,58]; increased HIV knowledge and perceptions about sexual risk[55]; and increased use of protective eyewear among farmworkers.[63]

Using qualitative analyses, three additional studies identified potentially positive effects of LHA interventions to promote prenatal visits, clinic appointment attendance, and easier labors.[36,38–40] Qualitative evaluation has led to conclusions about the secondary effects of LHA interventions, including reducing school absences[36] and increasing self-esteem, sense of empowerment, and perceived well-being.[38–40] These effects were not part of the original foci of the studies, but were proposed as potential changes resulting from the intervention, identified qualitatively.

Besides changes among community members within the LHA's social network, changes among the LHAs themselves have been identified as an important outcome of LHA strategies.[2] In this review, outcomes associated with being trained as an LHA and serving as an LHA were infrequently measured, either qualitatively or quantitatively, and reported. Specific studies that reported this level of analysis included Protegiendo Nuestra Comunidad[13,56,57] and Salud Para Su Corazán.[48–49]

Identified Roles of Lay Health Advisors

The studies described six primary roles for LHAs: (1) supporting participant recruitment and data collection, (2) serving as health advisors and referral sources, (3) distributing materials, (4) being role models, (5) advocating on behalf of community members, and (6) serving as co-researchers in participatory research models. First, LHAs were involved in participant recruitment and data collection.[12,14,19,21,26,31,43,45,47,52,55,60,63,65,67] The high level of trust that LHAs had or were able to establish with community members was identified as key to the re-

cruitment of community members in service provision, intervention research, and data collection. Frequently, community members viewed researchers, health education practitioners, and healthcare providers as "community outsiders," not trusting the outsiders or feeling uncomfortable disclosing fears, hesitations, or worries. Community outsiders and community members might not share a common language and cultural norms and understandings, which in turn might pose barriers to communication and interactions.

Second, LHAs were identified as serving as traditional health advisors who offered advice and guidance on a narrowly defined health focus and could refer community members to available services. Through their understanding of community needs and norms and their language skills, including idioms and slang, LHAs educated their community, individually and in groups, about the health topic for which they were trained, and referred community members to available services. LHAs also served as paraprofessionals, working with community members one-on-one,[59] and provided community outreach through formal and informal activities (e.g., offering health education classes, making presentations, organizing health fairs, and offering advice and referrals to friends and family).[13,14,16–18,20,22,23,27–30,33–36,38–40,43,45–47,50,52–59,62,63,65,66,68]

Third, LHAs distributed health-related materials such as educational photo-novels, condoms, and recipes for a healthy diet as well as information about available healthcare and social services, eligibility requirements, hours of service provision, and transportation options.[13,14,16,17,20,23,27–30,33–35,38–40,45,47,52–54,56–58,62,63,65,68]

Fourth, LHAs served as community role models.[21,26,31,33,34,68] As role models, LHAs imparted skills and guided peers by their own example. They were not paid professionals or celebrities; rather, they were members of the community, knowledgeable and successful, good mentors and teachers, and known within their networks to be caring and understanding. They were charged with reframing community expectations and sociocultural norms. For example, although condom use might be affected by access to condoms, information about how to use a condom, and skills to initiate and negotiate use, sociocultural expectations about what it meant to be a man in terms of risk and protective behaviors might be important factors that LHAs were trained to address.[4] As role models, LHAs are in a unique position to reframe negative and to bolster positive sociocultural expectations.

Lay health advisors also advocated on behalf of their community. With intimate appreciation of their communities, including needs, expectations, and norms, LHAs served as community advocates to educate and raise the consciousness of providers, practitioners, and researchers to contribute to ensuring that interventions and services were culturally appropriate, responsive, and effective.[37,45,61,65]

Finally, in some studies LHAs served as co-researchers.[4,12,13,21,26,31,45,56,57] LHAs were not necessarily viewed as an intervening group by study teams (e.g., university researchers or health promotion and disease prevention practitioners). Instead, they were integral members of the research team and participated in some or all phases of the research process, including defining priorities; developing the research questions; designing intervention approaches; developing research and data collection methodologies; collecting, analyzing, and interpreting data; and disseminating findings. LHA approaches could be especially important to understand and harness, given the current emphasis on community-based participatory research (CBPR) as a means to improve the health and wellbeing of community members.

Discussion

Although the use of LHAs is widely advocated, the empirical evidence to support their use with Hispanics/Latinos living in the U.S. should be strengthened. Given the long history of using LHAs as an approach to health promotion and disease prevention[10,69,70] and the current emphasis of LHA approaches as a potential solution to health disparities in general and among Hispanics/Latinos in particular,[8,71] rigorous studies should be initiated to test the effectiveness of LHAs in a variety of public health concerns.

In this review, 14 studies were identified that offered some positive evidence of effectiveness, although only 12 of these studies used a control or comparison group. Uniformly, follow-up was limited.

This review found that interventions with evidence of effectiveness fell within most of the health intervention priority areas, suggesting that the use of LHAs among Hispanics/Latinos need not be limited to less-sensitive topics. LHAs were used for education on topics ranging from diet to more sensitive topics such as mammography screening and HIV. It has been asserted that Hispanics/Latinos are less inclined to discuss personal issues such as sexual health with one another, but these limitations might be overcome through the careful selection of LHAs and their thorough training.[4]

Although five identified interventions included a few men as LHAs, none specifically targeted Hispanic/Latino men. The paucity of male-focused LHA interventions is not unique to Hispanic/Latino LHA interventions. Overall, few interventions have involved men as LHAs.[2,72] The absence of such programs is not easily explained. In a review of gender differences in the link between social support and physical health, prospective studies investigating the effect of social relationships on mortality found a stronger health-protective effect of social support for men than for women.[73] In other words, an LHA approach may effectively affect the health of men, perhaps even

more so than among women. Furthermore, male-focused LHA interventions may begin to address the health of vulnerable men in the U.S., where men who make up a substantial portion of the population most in need of health promotion and disease prevention have been neglected.[74–77]

Although the studies did not explore the effects of female versus male LHAs, of the five studies that included men as LHAs, four had evidence for effectiveness. One intervention included Hispanic/Latino men serving as LHAs in an intervention designed to increase breast and cervical cancer screening among Hispanic/Latina women.[21,26,31] More research is needed to explore how female and male LHAs interact with and affect the health of community members of the opposite gender, especially with health issues that are assumed to be more sensitive and discussion among members of the opposite gender may be viewed as taboo.

Besides the increased evidence base needed to determine the effectiveness of LHA interventions, the review also identified the need to systematically report the characteristics of LHA interventions. Greater detail is needed in the research literature on the selection process of LHAs, their training and its components, their activities, and the evaluation processes.

Distinctions between how LHAs are trained and the activities they implement in the community (after their training) were not well defined. Often, the description of what an LHA did was limited to the generalized role and relationships they had with members of their social networks. An assumption might exist that being trained to serve as an LHA implies how an LHA will affect members of his/her communities. In the interventions identified in this review, little focus was placed on the actual activities that LHAs were expected to accomplish or how the LHAs were to accomplish them. This is a challenge in general[2,4–7] and is not unique to Hispanic/Latino LHA interventions; there is a need to link the training of LHAs to the actual activities implemented by LHAs. Research is needed to move from the theoretical to the actions and potential impacts that LHAs make. Process evaluations of LHA interventions may capture some reach but to date have not captured dose.[4,78,79]

Evaluations of LHA interventions often do not report effect sizes, describing only statistical significance but not corresponding odds ratios or test statistics. This may reflect a bias toward reporting the process of LHA interventions, not the outcomes. It also may reflect the challenges inherent in rigorously assessing community-level change. Research also should explore the relative cost effectiveness of LHA interventions. For example, the efforts of LHAs are often complemented by parallel social marketing activities.[20,21,26,31] Teasing out the individual contributions of multifaceted and multilevel approaches to health promotion and disease prevention would advance prevention science.

Conclusion

Lay health advisor approaches have been promoted as a strategy to address health disparities experienced by Hispanic/Latino communities in the U.S. However, the findings of this review suggest that a stronger empirical basis is needed for LHA interventions.

Future reports of LHA studies would be most informative if they included more detail in the selection, training, and maintenance of LHAs; community educational and outreach activities undertaken by the LHAs after training; greater clarity about the community in which LHAs are trained to work (e.g., whether geographic or based on some other similarity or sense of identity); measures of reach and dose; and longer-term follow-up. Finally, LHA evaluation studies should apply statistical methods that address the inherent relationships that exist among community members.

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