

The HoMBReS and HoMBReS Por un Cambio Interventions to Reduce HIV Disparities Among Immigrant Hispanic/Latino Men

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Summary

Hispanics/Latinos in the United States are affected disproportionately by human immunodeficiency virus (HIV) infection, acquired immunodeficiency syndrome (AIDS), and other sexually transmitted diseases (STDs); however, few effective evidence-based prevention interventions for this population exist. This report describes the Hombres Manteniendo Bienestar y Relaciones Saludables (Men Maintaining Wellbeing and Healthy Relationships) (HoMBReS) intervention, which was developed by a community-based, participatory research partnership in North Carolina and initially implemented during 2005–2009. HoMBReS is an example of an effective intervention that uses lay health advisors (known as Navegantes [navigators]) in the context of existing social networks (i.e., recreational soccer teams) to promote consistent condom use and HIV and STD testing among Hispanic/Latino men. In 2012, HoMBReS was classified as a best-evidence community-level HIV prevention intervention (CDC. Compendium of evidence-based behavioral interventions and best practices for HIV prevention. Atlanta, GA: US Department of Health and Human Services, CDC; 2015). The intervention has been implemented elsewhere, enhanced, and further evaluated in longitudinal intervention and implementation studies. HoMBReS has been adapted for other populations, including men who have sex with men and transgender persons. Additional evaluation has found that Navegantes continue in their roles as health advisors, opinion leaders, and community advocates after study support ends. Hispanic/Latino men's social networks can be leveraged to promote sexual health within the community by decreasing HIV risk behaviors among Hispanics/Latinos in the United States.

Introduction

Hispanics/Latinos in the United States are disproportionately affected by human immunodeficiency virus (HIV) infection, acquired immunodeficiency syndrome (AIDS), and other sexually transmitted diseases (STDs). Hispanics/Latinos have the second highest rate of AIDS diagnoses of all racial/ethnic groups and three times the rate for non-Hispanic whites (1). Reported rates of gonorrhea, chlamydia, and syphilis are two to four times higher among Hispanics/Latinos than among non-Hispanic whites (2). Despite the risks for both exposure and transmission among Hispanics/Latinos, few effective evidence-based prevention interventions for this population exist. Although health promotion and disease prevention strategies that use lay health advisors have been promoted by researchers and practitioners, more rigorous studies are needed to build the evidence base that strategies involving lay health advisors can change community health outcomes (3). Lay health advisors are informal community leaders trained to work with other community members within their social networks to access hard-to-reach populations, bridge gaps in health care access, and extend health services.

This report summarizes published and unpublished findings from an ongoing effort to develop, test, and enhance community-level behavioral social network interventions for HIV prevention among Hispanic/Latino men. Intervention development, implementation, evaluation, and ongoing enhancement were initiated and continue to be led by a community-based participatory research (CBPR) partnership in North Carolina. This partnership includes lay community members, including Hispanic/Latino men and women, representatives from community-based organizations, public health department personnel, and research scientists from universities and federal agencies.

CDC's Office of Minority Health and Health Equity selected the intervention analysis and discussion that follows to provide an example of a program that might be effective in reducing HIV-related disparities in the United States. Criteria for selecting this program are described in the Background and Rationale for this supplement (4).

Growth of the Hispanic/Latino Community in the Southern United States

The proportion of the U.S. population that identifies as Hispanic/Latino has expanded substantially since 1990. Between the 2000 and 2010 censuses, the Hispanic/Latino population in the United States grew by 43% and is projected to account for 31% of the U.S. population by 2060 (5–7). Approximately one of 11 immigrants in the United States lived in a new Hispanic/Latino settlement state, compared with one of 25 in 1990. New Hispanic/Latino settlement states are defined as those that had small numbers of Hispanics/Latinos before 1990 but have experienced rapid Hispanic/Latino population growth since that time (5–7). In North Carolina, the number of Hispanics/Latinos increased 111%, representing one of the fastest-growing Hispanic/Latino populations in the United States (8).

Much of this new growth has occurred in rural communities. Jobs in farm work, construction, and factories, combined with dissatisfaction with the quality of life in traditional settlement states with substantial Hispanic/Latino immigration (e.g., Arizona, California, and Texas), have led many immigrant Hispanics/Latinos to leave the more densely populated regions of the United States and relocate to the southern United States and to North Carolina in particular (9). However, immigrant Hispanics/Latinos increasingly are arriving in the South directly from their countries of origin, bypassing traditional Hispanic/Latino settlement states. Compared with Hispanics/Latinos in traditional settlement states, immigrant Hispanics/Latinos in North Carolina and the South overall tend to be younger and disproportionately male, come from rural communities in southern Mexico and Central America, have lower levels of educational attainment, and settle in communities without substantial histories of Hispanic/Latino immigration. These communities also lack the infrastructure to meet their needs (e.g., limited bilingual and bicultural services) (9).

Methods

Intervention Methods

HoMBReS: Hombres Manteniendo Bienestar y Relaciones Saludables (Men Maintaining Wellbeing and Healthy Relationships) is a community-level intervention that was developed in Spanish by a CBPR partnership in North Carolina in response to a need for culturally congruent, effective interventions to reduce the disproportionate effects of HIV and other STDs among Hispanics/Latinos. HoMBReS

promotes consistent condom use and HIV and other STD testing among Hispanic/Latino men by using the existing social networks of recreational soccer teams and incorporating lay health advisors. These advisors are chosen because they are natural helpers. They are persons to whom other community members naturally turn for advice, emotional support, and tangible aid; they become sources of reliable information within their social networks (3).

This report includes the first published description of the HoMBReS program characteristics and implementation, as well as the subsequent enhancements and revisions of the program. Each soccer team selects one teammate to serve as the team lay health advisor, or *Navegante* (navigator). Potential *Navegantes* are assessed on the basis of personal, performance, and situational characteristics. Personal characteristics should include a sense of humor, self-esteem, and being dedicated, respectful, and realistic. In addition, potential *Navegantes* are assessed to determine whether they are or have the potential to be trained to be comfortable discussing and offering sound advice regarding sensitive issues such as sexual behavior, HIV, and condoms, and maintaining confidentiality. Performance characteristics should include the ability to read low-literacy Spanish-language materials, collect data describing the intervention implementation process, and communicate clearly, as well as a willingness to participate in meetings and work with their social networks. Situational characteristics should include having enough time to be an advisor and access to reliable transportation. Potential *Navegantes* with these characteristics are trained by two Hispanic/Latino men in four sequential sessions (lasting a total of 16 hours) to fulfill three primary roles: health advisor, opinion leader, and community advocate. The theoretical underpinnings include social cognitive and empowerment theories. Intervention training sessions include group discussions, games, and other activities to teach factual information and role plays to enhance skill building, including how to effectively assist others (10). *Navegantes* received a meal and \$50 for each training session; after training was complete, *Navegantes* received \$50 monthly for process data collection. The Wake Forest School of Medicine Institutional Review Board provided study human subject protection and oversight.

As health advisors, *Navegantes* increase awareness and provide information about prevention, care, and treatment for HIV and other STDs; distribute resources, including condoms; and develop specific skills among the teammates, including condom use, condom negotiation skills (i.e., strategies to increase condom use with sexual partners), and how to overcome barriers to accessing health department clinical services. As opinion leaders, *Navegantes* bolster positive and reframe negative sociocultural values and expectations such as

fatalism, which might lead some Hispanics/Latinos to believe that they have limited control over what happens to them and that HIV infection is driven by fate, and machismo, which might lead some Hispanic/Latino men to use risky sexual behaviors to prove their masculinity (11,12). As community advocates, Navegantes work toward positive social and environmental change.

Data Collection and Analysis

In the original HoMBReS study in North Carolina during 2005–2009, Navegantes worked with their teammates for 18 months (10). Self-reported data were collected before and 18 months after lay health advisor training using an interviewer-administered Spanish-language questionnaire from a random sample of teammates from 15 intervention and 15 control teams. Intervention teams conducted the HoMBReS intervention; each Navegante was selected, trained, and served as the lay health advisor for his team. The control teams comprised the delayed-intervention group and received the intervention after follow-up data were collected. Data were collected by trained study staff members, not by the Navegantes. The entire soccer league had 89 teams, for a total of 1,600–1,800 men. These 30 teams comprised approximately 570 men; however, the number of members per team fluctuated as men decided not to play, transferred among teams, and moved out of the area (e.g., for jobs).

The intervention teams included teams from the southern region of the league, and the control teams included teams from the northern region of the league because 1) formative data already existed on local resources, referral procedures, and health care service delivery in the southern region and 2) intervention and control teams needed to be geographically and socially distinct to minimize contamination (i.e., the potential that intervention participants would interact with the delay-intervention participants and skew study findings). Data were collected longitudinally from a random sample of 222 teammates (mean age: 29 years) who participated in one of the 30 teams. A standard random numbers table was used for randomization (13). All were immigrants, with 60% from Mexico and 40% from Central America. All self-identified as heterosexual; six reported having had sex with men in the past year.

Process evaluation data also were collected by using a low-literacy activity log that each of the 15 Navegantes completed and submitted monthly throughout the 18 months to document his informal helping activities (e.g., one-on-one advice about HIV and STD testing at public health departments) and formal activities (e.g., leading a planned

condom demonstration with his soccer team). Individual in-depth interviews with the Navegantes were conducted after the study was completed to understand the intervention and their roles as lay health advisors from their perspectives.

Potential differences between the intervention and delayed-intervention groups were assessed using t-tests and chi-square analyses. A multivariable logistic regression model using generalized linear mixed modeling was used to test whether the intervention increased condom use and HIV testing, while adjusting for baseline scores, relationship status, and within-team clustering. Adjusted odds ratios (AORs) and confidence intervals were calculated.

Results

As reported previously (10), the mean age of the participants was 29.8 (standard deviation [SD]: 8.3) years; 60.8% reported being originally from Mexico, 14.0% from El Salvador, 6.8% from Guatemala, 5.9% from Honduras, 1.8% from Colombia, and 6.4% from other areas. Approximately half (52.7%) reported educational attainment of ≤ 8 years. Mean length of time in the United States was 8.8 (SD: 7.6) years, 70.4% reported year-round employment, and 69.1% reported estimated annual salaries $\leq \$21,999$. All self-identified as heterosexual; six reported having had sex with men within the past year. No statistically significant differences in sociodemographic characteristics were found between the intervention and delayed-intervention groups.

Intervention participants reported more consistent condom use (i.e., always used condoms) (65.6%) during sex in the 30 days before the follow-up questionnaire than control participants (41.3%; unadjusted analysis, $p < 0.001$) (10). Intervention participants also reported a higher level of HIV testing since baseline (64.4%) than control participants (41.8%) (unadjusted analysis, $p < 0.001$). After adjustments were made for baseline scores, relationship status, and within-team clustering, participants in the intervention were more likely to report consistent condom use in the past 30 days (AOR: 2.3; 95% confidence interval [CI]: 1.2–4.3) and HIV testing since baseline (AOR: 2.5; 95% CI: 1.5–4.3) (10).

Process evaluation findings indicated that the intervention Navegantes conducted 2,364 activities, with a mean of 8.8 activities per Navegante per month. The most common activity was condom distribution. Most activities were conducted with men; approximately 2% were conducted with Hispanic/Latina women within the social networks of the Navegantes. Among activities conducted with men, half were conducted with soccer teammates and half with nonteammates. Postimplementation interviews with Navegantes indicated that Navegantes also

provided resources and distributed condoms to a few female sex workers and Hispanic/Latino men who have sex with men (MSM). Thus, the influence of Navegantes extended beyond the soccer team; they served as lay health advisors to numerous men and some women who were not part of the soccer league (14).

Discussion

HoMBReS is a Spanish-language community-level intervention that extended beyond the initially intended social network. In addition to delivering the intervention to their soccer teammates, Navegantes reported engaging in informal and formal helping activities with other men and a few women within the community who were not part of their teams. Although the intervention is likely to be successful with these nonteammates, the effectiveness in nonteammate populations was not evaluated; therefore, the impact of trained Navegantes on nonteammates within and outside of their social networks deserves exploration in future studies.

Furthermore, Navegantes continued to serve in their roles as health advisors, opinion leaders, and community advocates even when the study ended, serving as resources to promote community health. Because of the approximately 50,000 new HIV infections per year and the high numbers of STD infections in the United States (1,2), sustainable strategies are needed and essential to reach numerous persons with ongoing resources to reduce infection rates and promote access to existing health care services, including testing, care, and treatment.

On the basis of these positive outcomes, in 2012, HoMBReS was included as a best-evidence community-level HIV prevention intervention in the CDC *Compendium of Evidence-Based Behavioral Interventions and Best Practices for HIV Prevention* (<http://www.cdc.gov/hiv/prevention/research/compendium/rr/index.html>). During 2011–2013, HoMBReS was implemented successfully in Indianapolis, Indiana, by an AIDS service organization; new HIV and STD cases were identified, resulting in linkages to care and treatment (15). This intervention is commercially available in English from a company that sells program kits (with user's guides and curricula) for many of the evidence-based interventions (<http://www.socio.com>).

Enhanced Intervention: HoMBReS Por un Cambio

The CBPR partnership that developed HoMBReS is committed to ongoing quality improvement, maintaining materials that are responsive to changes in the community,

and learning from past experiences (16), including the postimplementation interviews with Navegantes. As such, the intervention has been enhanced and subsequently implemented and evaluated. The enhanced intervention is known as HoMBReS Por un Cambio (Men for Change). Two main enhancements include 1) DVD segments designed to supplement Navegante training and to be used by Navegantes with their teammates and 2) temas del mes (themes of the month) designed to help guide Navegante activities.

The DVD segments reinforce intervention messages and serve as triggers for group discussions during Navegante training. Some of these segments, which are based on local formative data and were developed to represent reliably the perspectives and experiences of Hispanic/Latino men, are also used by Navegantes as they work with their teammates. Segments include the impact of the HIV pandemic worldwide and within Latin America, the United States, and North Carolina; guidance on how to access and overcome barriers associated with accessing public health department HIV and STD testing services; and what life is like as a Hispanic/Latino man living with HIV. One segment uses role models to show ways that men can support other men to reduce risky sexual behaviors, promote sexual health, and initiate condom use with a female partner.

Themes of the month include topics that Navegantes focus on each month. For example, in the first month, an inauguration ceremony is held for each Navegante with his team to celebrate his training and affirm his availability to assist his teammates. In subsequent months, Navegantes focus on various topics with their teammates including HIV, chlamydia and gonorrhea, syphilis, and herpes. Navegantes also use the DVD segments, which include guidance on how to access public health department HIV and STD testing services, what life is like living with HIV, and how to initiate condom use with a female partner.

Although lay health advisors are assumed to stay in their roles after a project has ended, this is not well established through evidence (3). The CBPR partnership collected data from former Navegantes of HoMBReS Por un Cambio (n = 20) and their retained teammates (n = 202) 1 year after the study ended to assess whether Navegantes continued to serve as lay health advisors and, if so, which roles they continued to maintain. All Navegantes reported engaging in intervention-related activities (e.g., talking about sexual health and risk reduction with individual persons and groups, providing informational materials, demonstrating how to use condoms correctly, offering referrals to public health departments, and using the DVDs). Some Navegantes continued to provide referrals to community-based organization partners; however, this was less frequent, perhaps because they no longer were as connected to

these organizations through the CBPR partnership and study. These findings suggest that training of lay health advisors might have a long-term effect on the community, an outcome that might be particularly important as HIV infection rates continue to increase among some populations such as certain subgroups of MSM. Larger numbers of persons need to be reached through sustained strategies, such as those that involve lay health advisors.

Implementation Study

A better understanding of how to implement HIV and STD prevention interventions in the community outside a research study is important. Thus, the CBPR partnership is conducting an ongoing study by helping organizations that commonly implement HIV prevention interventions (e.g., AIDS service organizations, organizations that serve Hispanics/Latinos, and public health departments) to implement HoMBReS Por un Cambio, providing an opportunity to compare implementation challenges and successes. This implementation study includes the development of a comprehensive, online toolkit designed to facilitate and sustain implementation of the intervention with fidelity. For example, staff at AIDS service organizations might need training on Hispanic/Latino cultures and the relation between immigration and HIV and STD risk, whereas staff at organizations that serve Hispanics/Latinos might need more information about HIV and STDs. The toolkit includes sections on the theoretical and scientific bases of and the evidence supporting HoMBReS Por un Cambio; staffing and budgeting for intervention implementation; HIV and STD knowledge; soccer leagues, their structures, and how to connect with them; selecting the best Navegantes; using cross-cultural strategies; and the immigration experience.

Hispanic/Latino MSM and Transgender Persons

The CBPR partnership also revised HoMBReS to make the intervention relevant for Hispanic/Latino MSM and transgender persons. Although the revised intervention, known as HOLA, remains focused on lay health advising (17), rather than using the social networks of soccer teams, HOLA involves the naturally existing informal social networks of Hispanic/Latino MSM and transgender persons. One Navegante from each social network is trained to 1) promote awareness of the magnitude of HIV and STD infection; 2) increase knowledge of the types of infections, modes of transmission, signs, symptoms, and prevention strategies; 3) provide information about and offer guidance on accessing local counseling, testing, care, and treatment services, eligibility requirements,

and what to expect during health care encounters; 4) increase condom-use skills (e.g., how to communicate effectively and how to properly select, use, and dispose of condoms); 5) change health-compromising norms associated with the sociocultural environment (e.g., machismo, fatalism, homophobia and transphobia, and discrimination) and perceptions of Hispanic/Latino men; 6) develop and bolster supportive relationships and sense of community; and 7) assist with developing the skills to successfully help others. This study is underway in North Carolina (2011–2016). The CBPR partnership is using an intervention-delayed intervention design with randomization at the network level.

Limitations

The findings in this report are subject to at least two limitations. First, the population of Hispanics/Latinos in North Carolina might not be representative of Hispanics/Latinos in other U.S. regions. Although the demographics of Hispanics/Latinos immigrating to North Carolina tend to be similar to the demographics of Hispanics/Latinos immigrating to the other parts of the United States more broadly (9), the assumption that they are representative of this population has not been well tested, which might be particularly relevant given the heterogeneity within Hispanic/Latino communities. This intervention might need to be modified for use in other U.S. regions. Second, because all outcome data were self-reported, condom use might be underestimated and HIV testing might be overestimated as a result of social desirability bias; however, self-reported data have been found to highly valid when carefully measured (18).

Conclusion

The HoMBReS study provides evidence that strategies involving lay health advisors can increase condom use and HIV testing among Hispanic/Latino men. Social networks among Hispanic/Latino men can be used to promote sexual health within the community. Because the populations disproportionately affected by HIV and STDs often lack needed prevention resources, wide implementation of interventions that harness community social networks, such as HoMBReS, HoMBReS Por un Cambio, and HOLA, could decrease behaviors that increase risk for HIV infection among Hispanics/Latinos in the United States, including MSM and transgender persons. In addition, the strategy might be effective among other populations and applicable to other health issues.

Because Navegantes continued to serve in their roles as health advisors, opinion leaders, and community advocates,

they promoted community health after study support ended. Approximately 50,000 new HIV infections occur per year in the United States, and numbers of STD infections are high (1,2); sustainable strategies are needed to reach large numbers of persons with ongoing resources to reduce infection rates and promote linkages to existing health care services, including testing, care, and treatment.

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