

CANYON RANCH CENTER FOR PREVENTION AND HEALTH
PROMOTION

Community Action Board

Membership Orientation

July 1, 2009

Community Action Board

Canyon Ranch Center for Prevention & Health Promotion Community Action Board 2000-2009

What is the Canyon Ranch Center?

The CRCPHP is a Prevention Research Center funded by the Centers for Disease Control and Prevention. The CDC funds 33 centers in the U.S. that are housed within schools of public health (such as the Mel and Enid Zuckerman College of Public Health) or medicine throughout the country. All centers share a **common goal of addressing behaviors and environmental factors that contribute to chronic diseases** such as cancer, heart disease, and diabetes. The PRCs are founded on the philosophy that collaboration with communities is necessary to conduct meaningful research to communities. Each center conducts at least **one core research project** with an underserved population that has a disproportionately large burden of disease and disability. The centers also work with partners on other research projects, **training, evaluation/surveillance, community outreach and communication.**

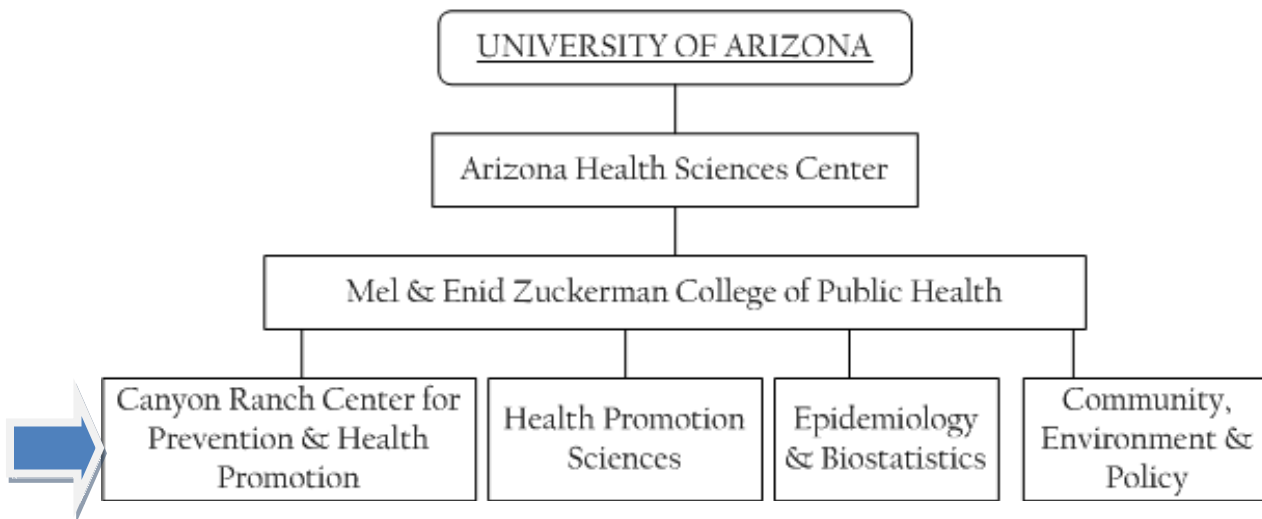
What is the mission of the Canyon Ranch Center for Prevention and Health Promotion?

To partner with communities to improve the health and well-being of people living in US-Mexico Border States through research, training, advocacy and policy change.

Where is the CRCPHP within the College of Public Health and the University?

The center has an important place within the structure of the college. This means that it can have faculty members associated with it and that it can receive and manage funds.

UNIVERSITY ORGANIZATIONAL CHART



Community Action Board

Canyon Ranch Center for Prevention & Health Promotion Community Action Board History 2000-2009

What is the CRCPHP Community Action Board?*

Each PRC is required to obtain guidance from a community board comprised of community organizations, health care providers, health departments, education agencies and the private sector. The CRCPHP is committed to maintaining a long term partnership between researchers and community organizations. (See Appendix I for a list of current organizations and members.)

How was the CRCPHP Community Action Board formed?

The CAB was formed by the CRCPHP in 2000 in the realization that if the PRC was going to serve the needs of border communities, then border communities needed to give guidance to the Center. Initial Board members were individuals and agencies involved in various projects with PRC staff and faculty. Since that time, Board members have invited new partners in order to better address the Center's mission. Over the past three years, the CAB has taken a more central role in guiding CRCPHP activities.

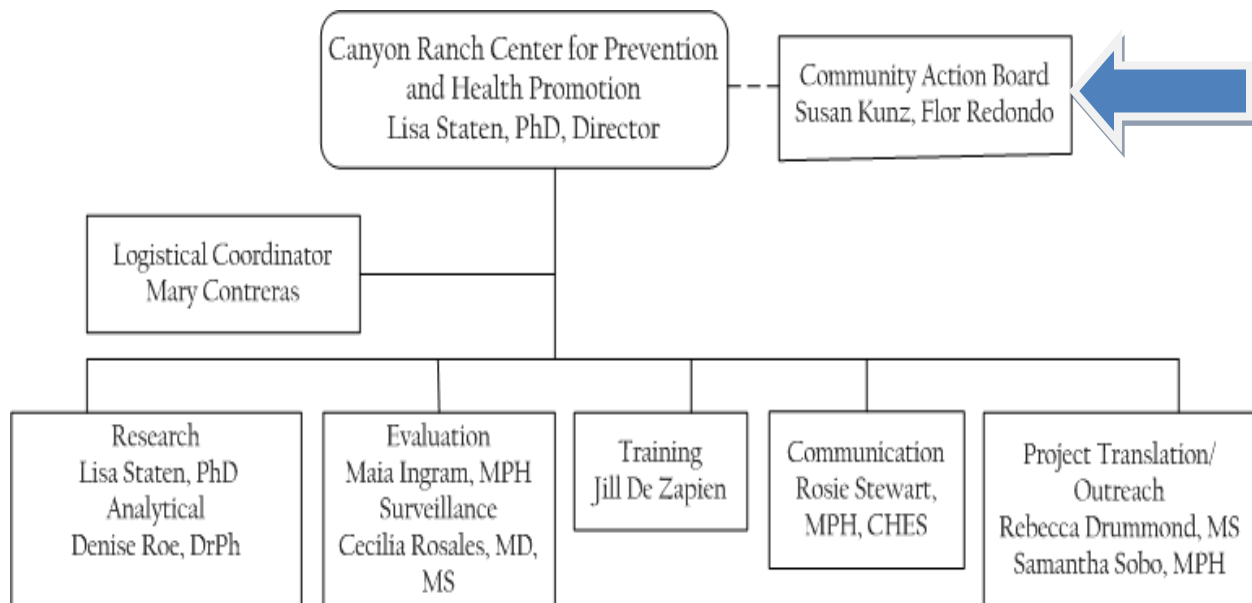
What is the Mission of the Community Action Board?

To champion for optimal health and wellbeing in our diverse communities of the US/Mexico border region.

Where is the CAB within the structure of the CRCPHP?

The CAB has an important advisory role within the center. CAB members provide guidance, not only to the **core research project**, but to all other CRCPHP activities including **evaluation, training, communication, and project translation/outreach**. Based on its mission, the CAB also has a role in promoting health along the U.S.-Mexico Border region on a policy level.

CANYON RANCH CENTER FOR PREVENTION AND HEALTH PROMOTION ORGANIZATIONAL CHART



Community Action Board

What is the benefit of my participation in the CRCPHP for my organization?

CRCPHP CAB members have said that the CAB has:

- ❖ “Facilitated the network of public health providers along the U.S. Mexico Border by providing a venue to discuss how we were addressing issues that pertain to our communities.”
- ❖ “Laid the groundwork for collaborative projects such as Steps to a Healthier Arizona.”
- ❖ “Contributed to stronger networking between health and human services, community agencies and the university”
- ❖ “Research is a very positive thing. It has given us fuel to push policy in the schools. It has also given confidence to members.”

How does the CAB operate?*

CAB members meet quarterly, four times a year, at the University of Arizona. The CRCPHP pays travel expenses for members traveling to the meeting.

1. Membership

Membership is open to all organizations and individuals who express interest in health issues along the border including but not limited to: representatives from four border counties, Tohono O’odham Nation, Pascua Yaqui Nation, Cocopah Nation, the Arizona Department of Health Services and local health departments, U.S. representatives from the U.S. Border Health Commission, and members from local Special Action Groups. Members are expected to:

- Act as a representative for your target population and/or community;
- Attend meetings quarterly;
- Conduct the work of the Center through involvement in at least one subcommittee (Research, Training, Communications, Policy/Advocacy, Membership);
- Recommend and participate in the identification of new members.

2. Organizational Structure

The Community Action Board had two co- chairs that serve a two-year term. The outgoing co-chairs serve as past chairs. The CAB will solicit volunteers or nominees for the co-chair-elect position once that position is vacant. The group will then vote to select the co-chairs elect. The current co-chairs are Susan Kunz and Floribella Redondo.

3. Subcommittees **

- Communications: Meets at the CAB meetings.
- Membership: Meets on an as-needed basis to discuss gaps in representation from sectors of the border communities.
- Policy/Advocacy: Meets at the CAB meetings. Identifies issues affecting the health of the border region that can be addressed through policy and advocacy activities.
- Research: Meets monthly through teleconference and in scheduled face-to-face meetings. This committee guides the activities of the CRCPHP **core research project**.
- Training : Meeting schedules are still being determined. Responsible for developing formal CHW advocacy training for the core research project as well as for identifying other training priorities for the CAB.

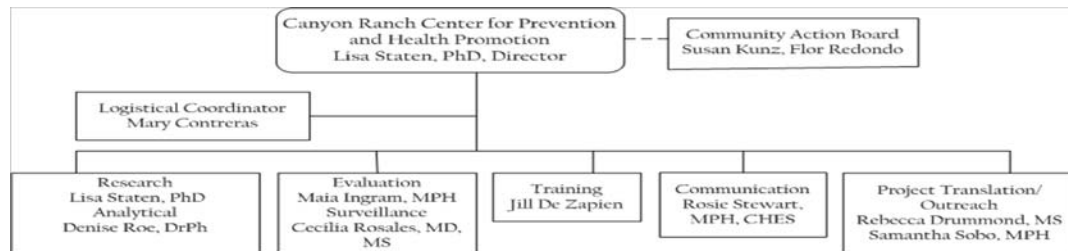
*CAB Guiding Principles can be found in Appendix II

** Current subcommittees and members can be found in Appendix III.

Community Action Board

Canyon Ranch Center for Prevention and Health Promotion

RESEARCH



Core Research Projects along the US Mexico Border

The CRCPHP has been awarded its third cycle of CDC funding. Each cycle has included a core research project relevant to the health of U.S.-Mexico Border communities and implemented in collaboration with community partners:

The Impact of a Promotora on Increasing Routine Chronic Disease Prevention (2001-2005)*

Goal: To increase rates of routine chronic disease screening and promote disease prevention strategies among older women at the US Mexico border through the implementation of culturally competent health promotion activities.

Partners: Chiricahua Community Health Center (CAB member Ginger Ryan)
Colegio de Sonora
Secretaria de Salud

A Multicomponent Approach to Diabetes Prevention and Control (2005-2009)*

To determine the effectiveness of a diabetes prevention and control model targeting multiple risk factors and domains (patient education, patient family education and community-based promotion of physical activity and nutrition), implemented in concert with a public health policy component.

Partners: Chiricahua Community Health Center (CAB member, Susan Lange)
Southeast Arizona Medical Center

Acción Para La Salud (2009-2014)*

To determine the effectiveness of integrating community advocacy into community health worker (CHW) outreach and education activities in increasing community-driven policy change related to chronic disease prevention.

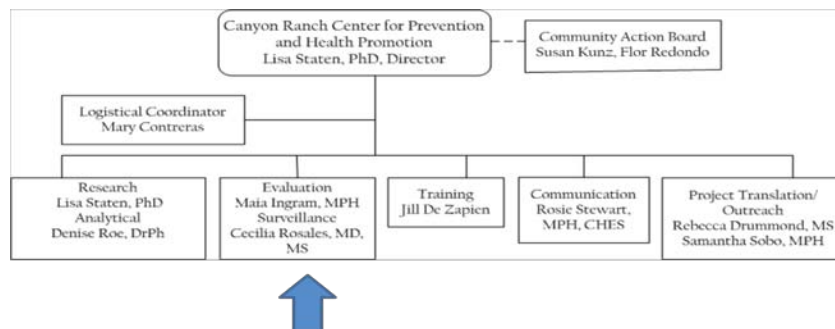
Partners: Sunset Community Health Center (CAB member, Lucy Murrieta)
Mariposa Community Health Center (CAB member, Susan Kunz)
Regional Center for Border Health (CAB member, Frances Herrera)
Campesinos Sin Fronteras (CAB Co-Chair, Floribella Redondo)
Santa Cruz County Cooperative Extension (CAB member, Darcy Dixon)
Cochise County Cooperative Extension (CAB member, Evelyn Whitmer)

* More information CRCPHP Research Projects can be found in Appendix IV.

Community Action Board

Canyon Ranch Center for Prevention and Health Promotion

PARTICIPATORY EVALUATION/SURVEILLANCE



Participatory evaluation is a mutual learning process which relies upon community expertise to define and refine program indicators and outcomes and thus ensures that evaluation findings are integrated into ongoing program planning and sustainability.

Current Evaluation Partners

- ADHS, Diabetes Program (CAB member, Patricia Hermann)
- Arizona Department of Education (CAB member, Miranda Graves)
- Campesinos Sin Fronteras (CAB Co-Chair, Floribella Redondo)
- Canyon Ranch Institute
- Mariposa Community Health Center (CAB Co-Chair, Susan Kunz)
- Yuma County Health Department
- Mt. Graham Regional Medical Center

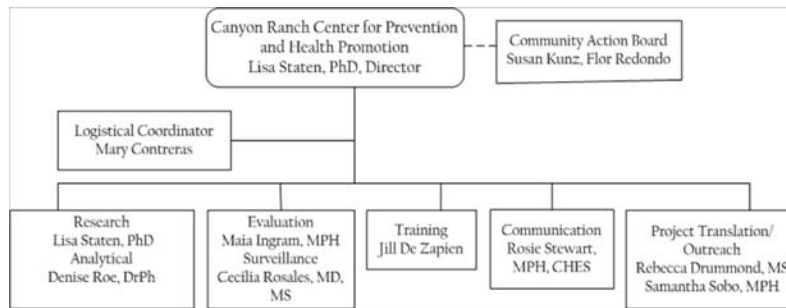
Proposed Surveillance Activities:

- Conducting follow-up of 1996 Douglas Household Survey on Diabetes

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Canyon Ranch Center for Prevention and Health Promotion

TRAINING

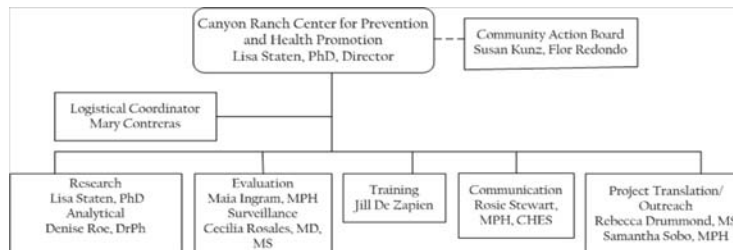


Current Training Activities

- Teaching and Training Students at UA (Undergraduate, Graduate)
- Public Health Advocacy
- Community Based Participatory Research
- Border Health Service Learning Institute (community/university partnerships)

Canyon Ranch Center for Prevention and Health Promotion

COMMUNICATION



Current Communication Activities

- Website
- Center brochures*
- Collaborative publications and presentations

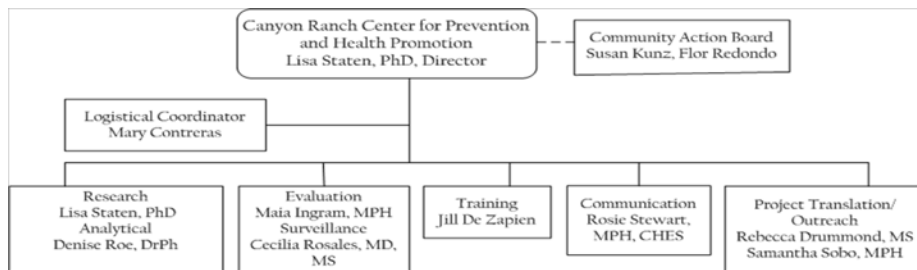
Proposed Communication Activities

- Policy Communications

*See Appendix V for Center Brochure

Community Action Board

Canyon Ranch Center for Prevention and Health Promotion PROJECT TRANSLATION AND OUTREACH



Current Outreach Activities

- Douglas Special Action Group
- Santa Cruz Health Advocate Group
- Yuma South County Special Action Group

Current Translation Activities

- Pasos Adelante (nutrition and physical activity curriculum)
- Project HeadStart
 - Canyon Ranch Institute
 - Child Parent Resources, Inc.
 - Pima County Family Headstart
 - Jacinto, Santa Rosa, Liberty, Southside and Walter Douglas Head Start programs

Community Action Board

**Canyon Ranch Center for Prevention & Health Promotion
Community Action Board
Membership Orientation
Appendices**

- I. CRCPHP Community Action Board Members**
- II. CRCPHP Guiding Principles**
- III. CRCPHP Community Action Board Subcommittee Members**
- IV. CRCPHP Research Project Publications**
 - a. The Impact of a Promotora on Increasing Routine Chronic Disease Prevention among Women Aged 40 and Older at the U.S.-Mexico Border
 - b. Building a Successful Community Coalition–University Partnership at the Arizona–Sonora Border
 - c. Community Health Workers and Community Advocacy: Addressing Health Disparities
- V. CRCPHP Flyer**

CANYON RANCH CENTER FOR HEALTH PROMOTION

Appendix I

Community Action Board Members

Canyon Ranch Center for Prevention and Health Promotion

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Appendix II

Community Action Board Guiding Principles



Mel and Enid Zuckerman
College of Public Health

CANYON RANCH CENTER FOR
PREVENTION AND HEALTH PROMOTION

Community Action Board (CAB) Guiding Principles

Mission: To champion for optimal health and wellbeing in our diverse communities of the US/Mexico border region.

Roles and Responsibilities

1. Research

Participate in community based participatory research through involvement in all phases of the research model including prioritization of current and future research topic, research design, data collection, analysis, interpretation, and dissemination.

2. Program Development

Assist with the identification and securing of resources to fund the research priorities, to include team development of grant applications and partnering to share in-kind resources.

3. Program Implementation and Evaluation

Advise the Center on program implementation, to include assessment of progress, evaluation of outcomes, identification of challenges, and development of corrective actions.

4. Program Dissemination

Assist the Center with efforts to share results with the broader PRC and public health community through meeting presentations, publications and electronic format.

5. PRC Support

The Center is committed to identifying resources for travel to CAB meetings and representation at National Community Committee.

Membership and Leadership

1. Membership

Membership is open to all organizations and individuals who express interest in health issues along the border including but not limited to: representatives from four border counties, Tohono O'odham Nation, Pasqua Yaqui Nation, Cocopah Nation, the Arizona Department of Health Services and local health departments, U.S. representatives from the U.S. Border Health Commission, and members from Local SAGs. Expectations of members are:

- Act as a representation for your target population and/or community;
- Attend meetings quarterly;
- Conduct the work of the Center through involvement in at least one subcommittee;
- Recommend and participate in the identification of new members.

2. Organizational Structure

The committee shall include two co- chairs. The co-chairs will serve a two-year term. The outgoing co-chairs serve as past chairs. The CAB will solicit volunteers or nominees for the co-chair-elect position once that position is vacant. The group will then vote to select the co-chairs elect.

3. National Community Committee Representation

Any member of the CAB, including the co-chairs, and past chairs are eligible to serve as representatives on the CDC PRC National Community Committee. At least two CAB members will serve as primary representatives for a term of three consecutive years. If any of these individuals are unable to attend, they will designate an alternate from the CAB to attend in their place.

Meeting Logistics

1. Frequency of meetings

CAB meetings will be held quarterly.

2. Meeting Attendance

CAB members are expected to attend three of the four meetings or send an alternate.

3. Meeting Location

CAB meetings will be held in Tucson. There may be opportunities to link with the Information for Action Conference. When this occurs, advance notice will be provided. Working Groups will meet on an ad hoc basis.

4. Meeting Format

Meeting format and content will be agreed upon jointly by CAB membership prior to each meeting.

Communications

1. CAB list serve

Center staff will maintain a Center list serve for direct communication with CAB members.

2. CAB and working group meeting minutes

Center staff will take minutes at all CAB related meetings. The minutes will be distributed to the Center liaison, the chair, chair-elect, and past chair for review. Once approved, the minutes will be sent electronically to all the CAB members, will also be posted on the Center's website, and will be mailed to those without a web connection within three months.

3. Frontiers in Health/Fronteras en la Salud Newsletter

The Center publishes a regional newsletter periodically. Downloadable copies of the newsletters are available on the Center website.

4. Center brochure

CAB membership will be listed in the Center brochure which will be updated annually and is available on the Center distributed to all Regional CAB members.

All resources are available on the Center website: <http://crcphp.publichealth.arizona.edu/>

Procedures

Procedure to modify Regional CAB Guiding Principles

The CAB will formally review the Guiding Principles once every five years. Members can suggest changes at any time. Agreement to make changes to the Guiding Principles will be done through consensus at a CAB meeting.

Center Staff Roles:

Center staff will coordinate the activities of the Regional CAB and be resources for the CAB activities.

Appendix III

Community Action Board Committees and Members

Appendix III

Community Action Board

Committees and Members

Research Committee Members

Campeños Sin Fronteras

Floribella Redondo

Carondelet Holy Cross Hospital

Marlene Wade

Cochise County Health Department

Robin Falconer

Mariposa Community Health Center

Rosie Piper

Susan Kunz

Southeast Arizona Health Education Center

Gail Emrick

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Jill Guernsey de Zapien

Lourdes Fernandez

Maia Ingram

Kerstin Reinschmidt

Ken Schachter

Lisa Staten

Rosie Stewart

Hannah Heffner

Appendix III

Community Action Board

Committees and Members

Training Committee Members

Arizona Department of Health Services

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Arizona Association of Community Health Workers

Cynthia Thomas

Cochise County Cooperative Extension

Evelyn Whitmer

Santa Cruz County Cooperative Extension

Darcy Dixon

Carondelet Health Network

Gwen Gallegos

Chiricahua Community Health Center

Susan Lange

Southeast Arizona Health Education Center

Lourdes Paez-Badii

Gail Emerick

Regional Center for Border Health

Kei Blake

Mel and Enid Zuckerman College of Public Health

Jill Guernsey de Zapien

Lisa Staten

Ken Schachter

Maia Ingram

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Lourdes Fernandez

Laurel Jacobs

Appendix III

Community Action Board

Committees and Members

Policy Committee Members

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ADHS

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Mariposa Community Health Center

Susan Kunz

Carondelet Holy Cross Hospital

Marlene Wade

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Penny Marshall

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Lisa Staten

Maia Ingram

Ken Schachter

Jill Guernsey de Zapien

Appendix III

Community Action Board

Committees and Members

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Mariposa Community Health Center

Patty Molina

Regional Center for Border Health

Frances Herrera

Mel and Enid Zuckerman College of Public Health

Rosie Stewart

Lourdes Fernandez

Appendix IV

Core Research Publications

- a. The Impact of a Promotora on Increasing Routine Chronic Disease Prevention among Women Aged 40 and Older at the U.S.-Mexico Border
- b. Building a Successful Community Coalition–University Partnership at the Arizona–Sonora Border
- c. Community Health Workers and Community Advocacy: Addressing Health Disparities

Health Education & Behavior

<http://heb.sagepub.com>

The Impact of a Promotora on Increasing Routine Chronic Disease Prevention among Women Aged 40 and Older at the U.S.-Mexico Border

Jennifer B. Hunter, Jill Guernsey de Zapien, Mary Papenfuss, Maria Lourdes Fernandez, Joel Meister and Anna R. Giuliano

Health Educ Behav 2004; 31; 18S
DOI: 10.1177/1090198104266004

The online version of this article can be found at:
http://heb.sagepub.com/cgi/content/abstract/31/4_suppl/18S

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The Impact of a *Promotora* on Increasing Routine Chronic Disease Prevention Among Women Aged 40 and Older at the U.S.-Mexico Border

Jennifer B. Hunter, MPH, MA
Jill Guernsey de Zapien, BA
Mary Papenfuss, MS
Maria Lourdes Fernandez
Joel Meister, PhD
Anna R. Giuliano, PhD

A randomized controlled intervention tested the effectiveness of a community health worker (CHW) program in increasing compliance with annual preventive exams among uninsured Hispanic women living in a rural U.S.-Mexico border area. During 1999-2000, household surveys were administered to women aged 40 and older. Uninsured women not receiving routine comprehensive preventive care were invited to participate in a free comprehensive clinical exam. Participants in the initial exam were eligible to participate in the CHW (*promotora*) intervention. Women were randomized to one of two intervention arms. One arm received a postcard reminder for an annual preventive exam, the other a postcard reminder and follow-up visit by a *promotora*. Receiving the *promotora* intervention was associated with a 35% increase in rescreening over the postcard-only reminder (risk ratio [RR] = 1.35, 95% confidence interval 0.95-1.92). Using *promotoras* to increase compliance with routine screening exams is an effective strategy for reaching this female population.

Keywords: *women's health; community health; promotora; disease prevention; comprehensive preventive exam*

Hispanics are the fastest growing minority group in the United States, comprising 12% of the U.S. population in 2000.^{1,2} They are also disproportionately affected by barriers that decrease access to, and utilization of, health care services. Hispanics are the least likely of all ethnic groups to have health insurance and are more likely than non-Hispanic Whites to live below the poverty level.²⁻⁴ As a consequence, they are less likely than the

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general population to visit physicians, to have preventive health examinations, or to have regular sources of care.^{4,6} Compounding this problem, Hispanics are disproportionately affected by chronic diseases such as diabetes, hypertension, and certain cancers.^{1,7}

Lower utilization of preventive exams is clearly seen with regard to Hispanic women and certain cancer screening exams. Compared with non-Hispanic White women, fewer Hispanic women have received either a mammogram in the previous 2 years among women aged 40 and older or a Pap smear within the last 3 years among women aged 18 and older.⁸ A greater risk for various chronic diseases combined with lower screening rates can lead to serious complications associated with certain diseases, such as diabetes. One method of reaching and promoting preventive exams among this population may be through the use of community health workers (CHWs).

CHWs are known by many names. In fact, 31 alternative terms have been identified in the literature.⁹ Witmer et al. define CHWs as “community members who work almost exclusively in community settings and who serve as connectors between health care consumers and providers to promote health among groups that have traditionally lacked access to adequate care.”¹⁰ CHW programs have been used nationally and internationally to reach a variety of populations, including migrant and seasonal farmworkers, mothers and infants, African Americans, Mexican American and Chinese American women, adolescents, and the elderly.¹¹⁻¹⁹ These programs have focused on prenatal care and breast and cervical cancer screening, as well as on diabetes, asthma, and tuberculosis management.^{11,14,15,19-22}

The efficacy of CHWs has been tested in randomized controlled intervention trials,^{17,20,23-25} however, only one study was found that focused on a female Hispanic population along the U.S.-Mexico border.²⁶ Furthermore, previous studies have focused on specific health issues, not multiple chronic conditions.

Here we describe a randomized controlled intervention designed to test the effectiveness of a CHW (*promotora*) program to increase compliance with annual preventive exams among uninsured Hispanic women, aged 40 and older, living at the U.S.-Mexico border. The CHW intervention was combined with a comprehensive one-stop-shopping clinical exam as a strategy for increasing the number of chronic diseases screened for when women visited the clinic for routine care. This article reports results from an intervention among U.S. women only.

METHOD

Study Population and Setting

From August 1999 to September 2000, a cross-sectional population-based survey was conducted in the contiguous border communities of Agua Prieta, Sonora, Mexico, and Douglas, Arizona, United States. The population of Douglas is approximately 16,500 people; Agua Prieta has 120,000 residents. The two communities share an interdependent economy and culture. Border crossings are routinely made in both directions for work; shopping; medical, dental, and pharmaceutical services; and visits to family and friends.

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Households were randomly selected from maps of each community. The final study sample included 456 completed face-to-face interviews. A full description of these methods and the health care access and utilization characteristics of this population has been reported.²⁷

Eligibility Criteria

Briefly, all women who were (1) aged 40 or older, (2) residents of the household, (3) not pregnant, and (4) at least 2 months postpartum were invited to participate in the study by completing a questionnaire.

Study participants completed an interviewer-administered questionnaire in their preferred language—English or Spanish. The questionnaire assessed health care access and utilization, orientation toward prevention, personal history of chronic disease, participation in chronic disease screening exams, and sociodemographic information. Interviewers made three attempts, on different days of the week at different times, to contact a potentially eligible woman from each selected household before excluding the household from the study. If the interviewer found more than one eligible woman in the household, the woman whose birthday (day and month) was nearest the date of the interviewer's visit was invited to participate. Before beginning the interview, each participant completed an informed-consent form that had been approved by the Institutional Review Boards of either the University of Arizona or the Colegio de Sonora, depending on the woman's country of residence.

Women residing in the Arizona community were offered a free comprehensive clinical exam at a nearby community health center if they were uninsured by self-report and had not received one of the following clinical exams during the previous 12 months: a Pap smear, a clinical breast exam, a mammogram, a blood pressure check, a test for glucose, or a cholesterol test. Eligibility criteria for the comprehensive clinical exam included participation in recent preventive screening exams to effectively capture women who were not receiving routine comprehensive health care checkups. The free comprehensive clinical exam included a Pap smear, a clinical breast exam, human papillomavirus (HPV) testing, blood draw for total cholesterol and blood glucose, and a blood pressure measurement. Women also received a referral to another location for a mammogram because the collaborating clinic did not have an on-site mammography unit. Transportation to the clinic was available. The comprehensive one-stop-shopping clinical exam was designed to increase access to screenings for a variety of chronic diseases during a single visit for a population with poor access to, and utilization of, health care services. A total of 151 U.S. women were eligible for this portion of the study.

All participating women from the Mexican community ($N = 204$) were offered free comprehensive exams at a local clinic. Mexican women were offered the same screening exams as U.S. women, with the exception of a mammogram because mammography was not available to the public sector for screening purposes.

If a woman was eligible for a clinical exam, the interviewer helped schedule an appointment before leaving the woman's home and documented the appointment date and time so study personnel could track whether the woman kept her clinical appointment.

Only U.S. women who participated in an initial comprehensive clinical exam were eligible to participate in the randomized intervention that tested the effectiveness of CHWs. All data reported in this article are for U.S. women only.

INTERVENTION

During the initial project phase, 151 U.S. women were eligible for the free comprehensive clinical exam. Twenty-seven eligible women (18%) refused the clinical exam, and another 21 (14%) failed to appear for their appointments, even after three attempts to schedule new appointments. Of those who were eligible, 103 (68%) were seen at a nearby community health center for an initial comprehensive exam.

Of the 103 women who participated in the first clinical visit, 101 (98%) were randomized to the intervention. Two eligible women moved out of the community before participants were randomized and were lost to follow-up. Prior to randomization, participants were categorized according to test results from their first clinic visit—either all tests normal or one or more abnormal tests. Participants from each test-result category were then randomly assigned to one of

two intervention arms, either the postcard arm (control group) or the promotora arm (intervention group). Three women moved away from the community after randomization to the intervention, resulting in a total of 98 women (97%) available for evaluation.

The comprehensive exam offered by the community health center was modified during the intervention phase to meet national screening guidelines for breast and cervical cancer, cardiovascular disease, and diabetes. The second comprehensive exam included a blood pressure test; a blood glucose test; a mammogram; a clinical breast exam; an HPV test; and, for all women except those who had had hysterectomies and were HPV negative at first exam, a Pap smear. The intervention took place from September 2000 through December 2001.

The Postcard Arm

Women in the postcard arm received postcards in the mail 2 weeks before the month their annual exams were due, reminding them that it was time for their annual comprehensive preventive exam at the community health center. The postcard was mailed from the University of Arizona and included the project name; a reminder that it was time for the woman's yearly checkup; the clinic name, address, and phone number; and a notice that transportation to the clinic was available. Each postcard was printed in the language that was used to complete the original household questionnaire—either Spanish or English. Study personnel worked with staff from the participating clinic to document whether women had returned for a second annual comprehensive exam.

The Promotora Arm

Women in the promotora arm received postcard reminders and were visited by a promotora 2 weeks after the postcard had been mailed. The promotora was a bilingual woman from the community who had experience working in community-based breast and cervical cancer education programs, as well as in adolescent and maternal and child health programs. Already familiar with national guidelines for female preventive exams, the promotora received training in issues relevant to implementing the intervention. These factors included the intervention's purpose, participant consent and confidentiality, data collection, documenting activities, and coordinating efforts with community health center staff.

The promotora visited the women in their homes and asked if they had received the postcard reminder and if they had scheduled an appointment at the clinic. If a woman had

not yet scheduled an appointment, the promotora discussed any barriers that prevented the woman from going to the clinic and facilitated the scheduling of an appointment.

Appointment dates and times were documented and tracked to determine whether participants who received postcard reminders and initial visits from the promotora had been to the clinic for a second annual comprehensive exam. For women in the promotora arm who scheduled appointments but were unable to keep them, the promotora attempted to contact them three times to facilitate rescheduling of appointments.

The promotora made a final visit to *all* participants from both intervention arms 8 weeks after the postcard was mailed to provide educational materials about chronic disease and information about other local resources. For women who had not been able to schedule or keep appointments, the promotora discussed the importance of routine preventive exams and encouraged the women to make clinic appointments.

Data Analysis

We used Fisher's exact test to assess differences in the distribution of selected characteristics and potential risk-factor variables among participants randomized to the intervention and control groups. The variables presented were selected due to their association with preventive health behavior among Hispanics. To ensure that randomization worked and that the groups were similar, we compared the intervention and control groups on these variables.

An intent-to-treat analysis was performed in an effort to account for all factors that might affect the intervention outcome and to more precisely estimate the intervention's effectiveness. Of the 101 women randomized, three moved out of the area after randomization and were treated as "no returns" because excluding randomized participants can lead to biased results. In addition, five women in the promotora arm had completed clinic visits after receiving the postcard reminder but prior to the promotora contact. To preserve the power of randomization, they were treated as "no returns" because the promotora visit did not influence their decision to return to the clinic. We estimated the risk ratio (RR) and confidence interval (95% CI) to determine the likelihood that the women would return to the clinic in response to the intervention. The Stata/SE 7.0 statistical application was used for all analyses (Stata statistical software: Release 7.0, 2001; Stata Corp., College Station, Texas).

RESULTS

Results are presented for 101 randomized study participants, including three women who moved out of the area after randomization (two from the intervention arm and one from the control group). Participants in the postcard arm were comparable with those in the promotora arm on relevant baseline characteristics. Selected sociodemographic characteristics and potential risk factors are presented in Table 1. The mean age of participants was 50.3 (\pm 7.5) years, with a range of 40 to 70 years. The majority of participants were Hispanic (96%), were born in Mexico (86%), lived below the federal poverty level (76%), had less than a high school education (77%), and were married (72%). Approximately two-thirds (63%) of the women had spent less than 50% of their lives in the United States (mean 22.5 \pm 14.3 years). Almost all participants (94%) described their health as good or average, and most reported going to the doctor only when ill (89%).

Table 1. Selected Sociodemographic Characteristics and Health Behaviors of Participants by Arm of Intervention, Chronic Disease Screening Project, Arizona, United States, 2000-2001

Characteristic	Postcard Arm		Promotora Arm		<i>p</i> Value ^a
	(n = 50)		(n = 51)		
	No.	%	No.	%	
Age (years)					.137
40-49	32	64.0	23	45.1	
50-59	12	24.0	20	39.2	
60+	6	12.0	8	15.7	
<i>M</i> (<i>SD</i>)	49.6	(7.1)	51.1	(7.9)	
Ethnicity					.061
Non-Hispanic	0	0.0	4	7.8	
Hispanic	50	100.0	47	92.2	
Country of birth					.389
U.S./other	5	10.0	9	17.6	
Mexico	45	90.0	42	82.4	
Percentage of lifetime in the United States					.404
< 25	15	30.0	15	29.4	
25-49	18	36.0	16	31.4	
50-74	13	26.0	10	19.6	
75-100	4	8.0	10	19.6	
<i>M</i> (<i>SD</i>)	21.0	(13.3)	23.9	(15.3)	
Educational level					.376
< Primary	4	8.0	9	17.6	
< Middle school	17	34.0	19	37.3	
< High school	15	30.0	14	27.5	
≥ High school	14	28.0	9	17.6	
Marital status					.619
Married/cohabiting	37	74.0	36	70.6	
Single/divorced/separated	11	22.0	10	19.6	
Widowed	2	4.0	5	9.8	
Usual lifetime occupation					.715
Housewife	28	56.0	29	56.9	
Factory/farm	6	12.0	8	15.7	
Service	11	22.0	7	13.7	
Office/aide/professional	5	10.0	7	13.7	
Living below poverty level					1.000
Yes	36	76.6	36	75.0	
No	11	23.4	12	25.0	
Self-described health					.447
Excellent	2	4.0	2	3.9	
Good	29	58.0	22	43.1	
Average	18	36.0	26	51.0	
Poor	1	2.0	1	2.0	
Clinical results at first exam					1.000
All normal	28	56.0	29	56.9	
One or more abnormal	22	44.0	22	43.1	

Table 1 (continued)

Characteristic	Postcard Arm		<i>Promotora</i> Arm		<i>p</i> Value ^a
	(n = 50)		(n = 51)		
	No.	%	No.	%	
ER visits in past 12 months					.678
Yes	3	6.0	2	3.9	
No	47	94.0	49	96.1	
See doctor only if ill					.200
Yes	42	84.0	47	94.0	
No	8	16.0	3	6.0	

NOTE: *n* varies due to missing data. *Promotora* = community health worker.

a. Fisher's exact test.

Table 2 shows the results of the promotora intervention. Fifty-six percent ($n = 57$) of total participants returned to the clinic for a second comprehensive clinical exam. Among participants in the postcard arm, 48% ($n = 24$) returned for a second annual exam, in contrast to 65% ($n = 33$) of women in the intervention group. The CHW intervention was associated with a 35% increase in rescreening over the postcard-only reminder (RR = 1.35, 95% CI 0.95-1.92).

DISCUSSION

This randomized controlled intervention used promotora visits as a strategy to increase participation in routine preventive chronic disease screening exams by uninsured Hispanic women aged 40 and older who lived at the U.S.-Mexico border. Using a randomized clinical trial design, we demonstrate here that the strategy was successful. Women in the promotora (intervention) arm were 35% more likely to go for rescreening than those who received a postcard reminder only.

A comprehensive one-stop-shopping clinical exam was also developed with providers at the participating community health center as part of the intervention. The comprehensive exam was designed to meet the health care needs of this underscreened population during a single clinical visit.

The effectiveness of patient-reminder interventions in improving adherence to scheduled medical appointments and preventive health care activities, such as vaccinations and screening exams, has been documented.²⁸⁻³² Specifically, mail reminders have been found to be effective in increasing adherence to vaccinations, cervical cancer screening, and scheduled medical appointments.^{28,30,33} An alternative strategy, home visits, has also been shown to positively affect patient adherence to medical services by decreasing the number of hypertensive patients who drop out of treatment and by improving vaccination coverage among children and adults.^{30,34}

The use of CHWs to increase compliance with clinical appointments and follow-up visits through telephone reminders or personal contact has been effective among individuals with chronic conditions such as high blood pressure and diabetes.^{20,24,35} Our results support these findings.

Table 2. Percentage of Participants Returning for Second Comprehensive Screening Exam by Intervention Group, Chronic Disease Screening Project, Arizona, United States, 2000-2001

Arm of Intervention	No Return		Return		Total		RR (95% CI)
	(n = 44)		(n = 57)		(N = 101)		
	No.	%	No.	%	No.	%	
Postcard arm (control)	26	52.0	24	48.0	50	49.5	1.00
<i>Promotora</i> arm (intervention)	18	35.3	33	64.7	51	50.5	1.35 (0.95-1.92)

NOTE: *Promotora* = community health worker.

An intervention to promote medical follow-up among hypertensive individuals by using CHWs to provide enhanced tracking and follow-up services resulted in a twofold increase in follow-up care among individuals in the intervention group, in contrast to the usual-care group.²⁴ Another intervention used CHWs to supplement staff efforts at detection, referral, and follow-up for hypertensive patients who visited the emergency department and improve follow-up for high blood pressure among high-risk groups. Results indicated that a telephone appointment reminder by CHWs improved follow-up visits among patients with high blood pressure by 19%, in contrast to patients who did not have contact with a CHW.³⁵

The results of this intervention are from uninsured Hispanic women aged 40 and older who lived in a rural area at the U.S.-Mexico border; generalizability to other populations may be limited. The number of women randomized to the intervention was small. Despite the low numbers, however, we were able to demonstrate an increase in rescreening among women in the *promotora* (intervention) arm of the study. Although it is possible that women from the two study groups discussed the intervention, this type of contamination would likely have led more women in the control group to go to the clinic for preventive exams, reduced the difference between the two groups, and rendered our reported outcome an underestimation of the true effect of a CHW in this intervention.

The CHW literature notes that the rationale for using CHWs in primary health care is the "important influence of an individual's and a community's peer network in health decision making."³⁶ Our results from a controlled randomized intervention trial demonstrate that a CHW can successfully support and encourage women to return to a clinic for routine chronic disease screenings.

Results from other randomized CHW interventions are mixed. A randomized study of inner-city Hispanic diabetic patients reported the successful use of a CHW in increasing the number of patients who completed a diabetes education program.²⁰ Another study reported that among a randomized sample of elderly people living alone, a CHW intervention was successful in improving self-perceived health status but not changes in physical status, morale, or the demand for medical and social services.¹⁷

The importance of trust and confidentiality in community settings must be respected. Future CHW interventions should focus on the cultural and personal characteristics necessary to build a strong, trusting relationship between CHWs and the population they serve. It is important that the CHW is someone from the community, but it is also necessary to understand the characteristics or elements of relationships that can significantly influence the outcomes of interventions aimed at behavior change and reducing morbidity and mortality. Understanding how and why CHWs are successful is a necessary next step.

As part of the current study, follow-up in-depth interviews were conducted with intervention participants to collect information about the promotora-client relationship and women's participation in the comprehensive clinical exam. The data are currently under analysis. Responses to the interview should elicit useful information about both the comprehensive one-stop-shopping clinical exam and how and why the promotora was successful in reaching women and promoting routine preventive screening exams among this population. Such qualitative data are necessary to successfully replicate and disseminate effective intervention models to other environments.

IMPLICATIONS FOR PRACTICE

This study demonstrates that a promotora or CHW can make a significant difference in women's routine preventive health care-seeking behavior. Thus, it strengthens the rationale for incorporating promotoras into the primary health care team of any health care clinic or agency serving populations that experience difficulties with, or barriers to, access. Whether these barriers involve language, culture, socioeconomic status, immigration status, or something else, it is highly likely that promotoras can help surmount them. That these populations are frequently at greater risk than the general population for chronic and other diseases makes the rationale even stronger and the need to provide promotora services more compelling.

If it makes sense to routinely incorporate CHWs into preventive and primary health care teams in a meaningful way, however, then several other practice and organizational issues will have to be addressed. These issues include the recognition of CHWs by their employers and coworkers as experts in their own right, meriting equitable and sustainable compensation. For example, many CHWs are employed by community and migrant health centers. Almost all the funding for CHW services derives from short-term grants, whereas in the same clinics other providers' services are reimbursed by ongoing federal funding that keeps the clinics operational.

CHWs should receive careful training in the health issues being addressed, the structure and organization of the local health care delivery system, techniques for providing social support, client advocacy (if indicated), and, not least, the skills of maintaining confidentiality and sustaining trust.

CHWs, who may once have been viewed as an expendable add-on to disease prevention, health promotion, and primary care efforts, appear more and more convincingly to be a highly effective bridge between those who give and those who receive health care. Important questions to be fully addressed include the cost-effectiveness of CHWs, conditions affecting cost-effectiveness, and how cost-effectiveness can be optimized.

References

1. Council on Scientific Affairs: Hispanic health in the United States. *JAMA* 265:248-252, 1991.
2. Therrien M, Ramirez RR: The Hispanic population in the United States: March 2000, in *Current Population Reports*. Washington, DC, U.S. Census Bureau, 2001, pp. 1-7.
3. Treviño RP, Treviño FM, Medina R, Ramirez G, Ramirez RR: Health care access among Mexican Americans with different health insurance coverage. *J Health Care Poor Underserved* 7(2):112-121, 1996.

4. Hubbell FA, Waitzkin H, Mishra SI, Dombrink J, Chavez LR: Access to medical care for documented and undocumented Latinos in a southern California county. *West J Med* 154:414-417, 1991.
5. Solis JM, Marks G, Garcia M, Shelton D: Acculturation, access to care, and use of preventive services by Hispanics: Findings from HHANES 1982-84. *Am J Public Health* 80(suppl):11-19, 1990.
6. Andersen R, Zelman Lewis S, Giachello AL, Aday LA, Chiu G: Access to medical care among the Hispanic population of the southwestern United States. *J Health Soc Behav* 22:78-89, 1981.
7. Centers for Disease Control and Prevention: Self-reported prevalence of diabetes among Hispanics—United States, 1994-1997. *MMWR* 48(1):8-12, 1999.
8. American Cancer Society: *Cancer Prevention and Early Detection: Facts and Figures 2002*. Atlanta, GA, American Cancer Society, 2002.
9. Eng E, Young R: Lay health advisors as community change agents. *Fam Community Health* 15(1):24-40, 1992.
10. Witmer A, Seifer SD, Finocchio L, Leslie J, O'Neil EH: Community health workers: Integral members of the health care work force. *Am J Public Health* 85(8):1055-1058, 1995.
11. Meister JS, Warrick LH, Guernsey de Zapien J, Wood AH: Using lay health workers: Case study of a community-based prenatal intervention. *J Community Health* 17(1):37-51, 1992.
12. Poland ML, Giblin PT, Waller JB, Bayer IS: Development of a paraprofessional home visiting program for low-income mothers and infants. *Am J Prev Med* 7(4):204-207, 1991.
13. Jackson EJ, Parks CP: Recruitment and training issues from selected lay health advisor programs among African Americans: A 20-year perspective. *Health Educ Behav* 24(4):418-431, 1997.
14. Suarez L, Roche RA, Pulley LV, Weiss NS, Goldman D, Simpson DM: Why a peer intervention program for Mexican-American women failed to modify the secular trend in cancer screening. *Am J Prev Med* 13(6):411-417, 1997.
15. Hiatt RA, Pasick RJ, Stewart S, Bloom J, Davis P, Gardiner P, et al: Community-based cancer screening for underserved women: Design and baseline findings from the breast and cervical cancer intervention study. *Prev Med* 33:190-203, 2001.
16. Perino S: Nike-footed health workers deal with the problems of adolescent pregnancy. *Public Health Rep* 107(2):208-212, 1992.
17. Clarke M, Clarke SJ, Jagger C: Social intervention and the elderly: A randomized controlled trial. *Am J Epidemiol* 136(12):1517-1523, 1992.
18. Watkins EL, Harlan C, Eng E, Gansky SA, Gehan D, Larson K: Assessing the effectiveness of lay health advisors with migrant farmworkers. *Fam Community Health* 16(4):72-87, 1994.
19. Earp JAL, Viadro CI, Vincus AA, Altpeter M, Flax V, Mayne L, et al: Lay health advisors: A strategy for getting the word out about breast cancer. *Health Educ Behav* 24(4):432-451, 1997.
20. Corkery E, Palmer C, Foley ME, Schechter CB, Frisher L, Roman SH: Effect of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care* 20(3):254-257, 1997.
21. Stout JW, White LC, Rogers LT, McRorie T, Morray B, Miller-Ratcliffe M, et al: The asthma outreach project: A promising approach to comprehensive asthma management. *J Asthma* 35(1):119-127, 1998.
22. Dick J, Clarke M, Tibbs J, Schoeman H: Combating tuberculosis—Lessons learnt from a rural community project in the Klein Drakenstein area of the Western Cape. *S Afr Med J* 87:1042-1047, 1997.
23. Sung JFC, Blumenthal DS, Coates RJ, Williams JE, Alema-Mensah E, Liff JM: Effect of a cancer screening intervention conducted by lay health workers among inner-city women. *Am J Prev Med* 13(1):51-57, 1997.
24. Krieger J, Collier C, Song L, Martin D: Linking community-based blood pressure measurement to clinical care: A randomized controlled trial of outreach and tracking by community health workers. *Am J Public Health* 89(6):47-52, 1999.

25. Meister JS, Giuliano AR, Saltzman S, Abrahamsen M, Stephan J, de la Ossa E, et al: Community health workers at the U.S.-Mexico border: Effectiveness of a cancer prevention/education intervention. *Women & Cancer* 1(5):25-34, 1999.
26. Navarro AM, Senn KL, McNicholas LJ, Kaplan RM, Roppe B, Campo MC: Por la vida model intervention enhances use of cancer screening tests among Latinas. *Am J Prev Med* 15(1):32-41, 1998.
27. Hunter J, Guernsey de Zapien J, Denman CA, Moncada E, Papenfuss M, Wallace D, et al: Health care access and utilization among women 40 and older at the U.S.-Mexico border: Predictors of a routine check-up. *J Community Health* 28(5):317-333, 2003.
28. Macharia W, Gladys L, Rowe B, Stephenson B, Haynes B: An overview of interventions to improve compliance with appointment keeping for medical services. *JAMA* 267(13):1813-1817, 1992.
29. Roter D, Hall J, Merisca R, Nordstrom B, Cretin D, Svarstad B: Effectiveness of interventions to improve patient compliance: A meta-analysis. *Med Care* 36(8):1138-1161, 1998.
30. Shefer A, Briss P, Rodewald L, Bernier R, Strikas R, Yusuf H, et al: Improving immunization coverage rates: An evidence-based review of the literature. *Epidemiol Rev* 21(1):96-142, 1999.
31. Stone E, Morton S, Hulscher M, Maglione M, Roth E, Grimshaw J, et al: Interventions that increase use of adult immunization and cancer screening services: A meta-analysis. *Ann Intern Med* 136(9):641-651, 2002.
32. Szilagyi P, Gordley C, Vann J, Chelminski A, Kraus R, Margolis P, et al: Effect of patient reminder/recall interventions on immunization rates: A review. *JAMA* 284(14):1820-1827, 2000.
33. Tseng D, Cox E, Plane MB, Hla KM: Efficacy of patient letter reminders on cervical cancer screening: A meta-analysis. *J Gen Intern Med* 16:563-568, 2001.
34. Strogatz D, Earp JA: The determinants of dropping out of care among hypertensive patients receiving a behavioral intervention. *Med Care* 21(10):970-980, 1983.
35. Bone LR, Mamon J, Levine DM, Walrath JM, Nanda J, Gurley HT, et al: Emergency department detection and follow-up of high blood pressure: Use and effectiveness of community health workers. *Am J of Emerg Med* 7(1):16-20, 1989.
36. Love MB, Gardner K, Legion V: Community health workers: Who they are and what they do. *Health Educ Behav* 24(4):510-522, 1997.



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Building a Successful Community Coalition–University Partnership at the Arizona–Sonora Border

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Abstract

Purpose: The purpose of the case study is to explore a successful community–university partnership through community-based participatory action and to examine the partnership's ability to make policy changes toward improving health behaviors.

Background: Diabetes mortality at the U.S.–Mexico Border is twice the national average. Poor health care access is also a concern. These factors prompted Douglas community members to form a community coalition and invite university participation.

Historical Overview: Douglas coalition members and University of Arizona (UA) partners worked together to improve chronic disease prevention and control in Douglas, Arizona, by engaging programmatic and policy activities and working with the local schools and government.

Coalition/Partnership Effectiveness, Strengths, and Weaknesses: Data were collected from multiple sources, including key informant interviews, the Wilder Collaboration Factors Inventory, and annual evaluations to document effectiveness, strengths, and weaknesses.

Conclusion: A successful community coalition–university partnership is the result of long-term collaboration, equal participation, and acknowledgement that policy work takes time. The Douglas partnership, through policy, has effected local health behavior changes.

Keywords

Health care coalitions, community health partnerships, chronic disease, diabetes mellitus type 2

The rise in obesity and diabetes-related complications remains a public health problem at the U.S.–Mexico border.^{1,2} Poor access to care and an increased incidence of chronic disease in the region serve as catalysts for the creation of community-based coalitions focused on improving residents' health. To expand available resources, community coalitions partner with local universities and colleges.

Historically, community interactions with universities centered on participation in research projects. Many communities did not receive direct benefits or feedback from these interactions.³ Disregard for community needs caused mistrust

and suspicion of researchers and universities. Community-based participatory research is necessary for making real changes in underserved communities by ensuring community health needs and program sustainability.⁴ Community–university partnerships benefit both the community and university through a collaborative process that uses research outcomes to create positive changes. At the Arizona–Mexico border, coalitions are increasingly collaborating with university partners to make substantial changes to community health behaviors.

This case study of the Douglas, Arizona Special Action Group (SAG) explores a community–university partnership

through community-based participatory action and examines the partnership's ability to make substantial policy changes toward improving diabetes prevention and control in the community.

Douglas is a small, rural town of 17,106 residents located in the southeast corner of Arizona, bordering Mexico.⁵ The majority of residents are poor; 32% of families live below the federal poverty line and most are Hispanic or Latino (86%). Fifty-five percent have attained a high school degree, but only 9.2% have attained a bachelor's degree or higher.⁵ Douglas is characteristic of many small U.S. border towns with dedicated individuals who work together to improve social and economic disparities, such as unemployment and lack of quality health care services.

HISTORICAL OVERVIEW

In 1997, leaders from Douglas, Arizona, approached UA faculty from the College of Public Health with concerns about the health of their community, specifically increasing rates of diabetes. Douglas community leaders asked UA faculty for assistance in creating a diabetes survey. These two groups shared a long-standing relationship, having collaborated on other health projects for many years. UA faculty agreed to help design a questionnaire, train community members in survey techniques, and analyze the results.

Soon after, the Douglas Diabetes Working Group was formed to include local community organizations, the Arizona Department of Health Services, and the UA Rural Health Office. The Working Group supported the implementation of the survey and became a repository of information. Meetings began in March 1998 with discussions on survey methodology and implementation. By October 1998, community-trained surveyors finished 915 face-to-face interviews. Douglas had a diabetes prevalence rate of more than double the national average, 13.6% versus 5.8%, respectively, for those over the age of 18. The results highlighted the urgent need to reduce diabetes risk factors.^{6,7}

The Working Group's first priority was to disseminate study results and inform community residents about available resources. Ten to 25 members assembled every two to three months in Douglas to discuss next steps. The Working Group consisted of local health care providers, health and social service programs, the state health department, schools, local

government, community activists, and the UA.

By December 1998, members publicized survey results to the community through bilingual radio and newspaper announcements and made formal presentations to city council, Chamber of Commerce, the hospital board, local school nurses and administrators, as well as Parent, Teacher, and Student Organizations (PTSOs). In addition, the Working Group focused its efforts on writing grants and bringing resources into the community. University partners participated with the Working Group to attract resources and engage in community-based work.

The premise of bringing grants into the community was to improve diabetes prevention and control by local organizations. The Douglas Area Food Bank received funds from the U.S. Department of Agriculture to remodel their building and provide cooking and nutrition classes. These resources complemented the work of the Diabetes Working Group and contributed to the expansion of health related projects in the community. The Southeast Arizona Health Education Center received \$25,000 from the Health Resources and Services Administration to focus on medical and psychological aspects of diabetes. Chiricahua Community Health Centers, Inc., received the Rural Health Outreach Grant (\$200,000 for 3 years) to provide education in diabetes best practices, intensive case management of individuals with diabetes, and coordination of care in Cochise County. These grants served as the impetus for many group members to advocate for improved eye screenings and a reduction in the costs of diabetes-associated medications.

Interactions with schools solidified the Working Group's interest to improve the physical activity and nutrition of children. Members voiced concerns to the Douglas Unified School District superintendent and School Board about rising rates of type 2 diabetes among teenagers. With the assistance of the local county health department and a program to increase physical activity, Douglas schools began to make changes toward improving physical education and nutrition.

By 2001, local health providers encouraged the Douglas High School to participate in a diabetes screening and a follow-up questionnaire with students. With assistance from the UA, community volunteers began glucometer reading trainings. Screenings took place in English classes and follow-up

occurred with students who exhibited a glucose spike of more than 110 mg/dL. Volunteers surveyed more than 1,132 high school students. Results showed that 22 students had a glucose spike between 110 and 140 mg/dL and 9 students tested with a glucose spike of more than 140 mg/dL. Within Douglas High School, 18% of students tested as obese and 21% as overweight—rates higher than the 2003–2004 National Health and Nutrition Educational Survey data on overweight in youth ages 12 to 19 at 13.9%.⁸

In January 2002, UA partners presented on the Border Health Strategic Initiative to Douglas Working Group members. The Border Health Strategic Initiative model was a successful, comprehensive, community-based diabetes prevention and control model implemented in Somerton/San Luis and Nogales, Arizona, two border communities similar to Douglas.⁹ The model went beyond direct services and education with patients and community prevention to also focus on policy change. Encouraged by the success of the Nogales and Somerton/San Luis coalitions, the Douglas Working Group decided to become more focused on policy change. Members recognized that with a policy focus, they would need to broaden and diversify their membership, specifically recruiting key players outside the public health field to make a sustainable impact in the community.

Armed with the diabetes prevalence study and the Douglas High School diabetes survey, the Working Group was at a critical juncture to focus on policy. With funding from the Centers for Disease Control and Prevention (CDC) Prevention Research Center from the UA College of Public Health, Working Group members began implementing the School Health Index (SHI), a CDC tool, being used among schools nationwide to identify the strengths and weaknesses of the school's health promotion policies and programs.¹⁰

In Douglas, the SHI assisted school faculty, teachers, and students to work together, learn, and create healthier nutrition and physical activity action plans for schools.¹¹ Outcomes from the SHI demonstrated needed policy changes in physical education, vending machine foods, and meals in schools. In Douglas, health education was reintroduced into the schools' curriculum and specific time was scheduled for physical education in the elementary schools. In addition, the Food Services Director made changes to the cafeteria food that was served to Douglas Unified School District students.

Over the following months, the Douglas Diabetes Working Group changed its name to the Douglas SAG and recruited additional key community leaders. In quarterly meetings, the SAG agreed that the school environment would remain the main arena where they wanted to use policy to make an impact.

Developing a policy-based agenda from a program-based coalition was a gradual shift. Most members were comfortable with a program-oriented model and had not considered the potential of a coalition to focus on policy and advocacy. To better grasp the concept of policy change in Douglas, UA partners assisted coalition members by discussing the definition of “policy and advocacy” in a community context. Coalition members agreed that impacting “policy” could encompass a wide range, including changes to local agency/organization budgets or regulations and shifting the local political climate, for example, altering the mindset among community members and elected officials with regards to supporting health-related programs.¹²

As a policy focus became clearer, coalition members voiced different community issues to be addressed. As a group, policy ideas were prioritized and selected. The SAG then drafted these ideas into an action plan, which was shared and disseminated among community groups in Douglas for feedback.

The SAG was instrumental in driving change among Douglas schools' vending machines after taking an inventory of their contents. By 2004 to 2005, the Douglas Unified School District Governing Board, administration, and staff reached a consensus to remove junk food from the school vending machines, and replaced sugary drinks with water, Powerade, or juice. To dissuade candy sales, the SAG recommended alternative fundraising efforts, including wrapping paper sales and the School Tax Credit, an Arizona-specific credit that allows donors to give funds to a school of their choice and receive a direct tax credit.

Coalition members also presented to the local PTSOs of elementary, middle, and high schools with the hope of building support from parents to encourage the Douglas Unified School District to amend its nutrition policy. The SAG reached over 100 participants.¹³

Motivated by the changes in the Douglas public school system and response from parents, teachers, and students,

coalition members researched various nutrition and wellness policies from other successful school nutrition programs. The timing was ideal. While researching, Federal Mandate PL 108-265 mandated that all public schools that participated in the Federal School Lunch Program, develop nutrition standards as well as education and physical activity goals to promote student wellness with a deadline of June 30, 2006.¹⁴

To fulfill the federal nutrition mandate, a collaborative ad hoc nutrition committee was formed consisting of one representative from each school in the Douglas Unified School District, the Food Service Director, Director of Athletics, a representative from administration and nursing, one parent, one student, and members of the SAG. The committee reviewed three nutrition policies from other states that SAG members researched and recommended. After reviewing these policies and several others, the nutrition committee drafted the nutrition policy for Douglas Unified Schools. The policy was unanimously passed by the school administration and members of the Douglas Unified School District Governing Board and was adopted in March 2005, a full year in advance of the deadline.^{13,14} The nutrition policy set standards for elementary through high school and included no deep-fried foods, no candy incentives or sales, and appropriate portion sizes.¹⁵ In addition, the coalition was perceived as an important resource to the schools by the superintendent because of its dedication to and involvement in the process.

Implementation of the nutrition policy also allowed other direct health-related changes to occur in the school district. A wellness committee consisting of school administration and faculty and community and SAG members was established to comply with the Federal Mandate and meet state board regulations.

VIEWPOINTS OF A COMMUNITY COALITION—UNIVERSITY PARTNERSHIP

Information was gathered to examine the Douglas, Arizona, community coalition–university partnership and its ability to impact policy. These data included key informant interviews and group and individual evaluations of the SAG.

Discussions were conducted with two coalition members from the community and two UA faculty affiliated with the

coalition to provide a historical perspective of the Douglas coalition–university collaboration. The coalition’s contributions to creating a healthier community were assessed by reviewing a second set of key informant interviews, which were conducted in 2004 with 9 Douglas community leaders and 13 coalition members using an instrument called the Culture of Health. The purpose of the Culture of Health interviews was to examine community leadership, partnership, trust, and change and see how these themes related to the actions of the SAG over a 5-year period (Culture of Health Interviews, August–November 2004. Douglas, Arizona, unpublished data).

Coalition members evaluated themselves as a group through annual evaluations, called Critical Reflections. These reflections were cofacilitated by SAG members and UA partners in September 2003, October 2004, and September 2006 (Douglas SAG members, October 2004 and September 2006. Critical reflections. Douglas, AZ, unpublished data). The Wilder Collaboration Factors Inventory (Wilder Inventory) was utilized to assess individual perceptions of the groups’ strengths and weaknesses. Coalition members administered the survey in September 2003 and May 2006. Results from the Wilder Inventory were reviewed to determine the coalition’s perceived strengths and weaknesses (Wilder Factors Collaboration Inventory. Amherst H. Wilder Foundation. Saint Paul, MN, unpublished data).

The accomplishments of this coalition should be understood through the viewpoints of all coalition members, including community and university members. Information was gathered through the Culture of Health Interviews, Critical Reflections, and the Wilder Inventory. The partnership’s success is illustrated in the Culture of Health interviews. Key leaders and coalition members noted that the community had many strengths and assets that allowed them to work together and address shared concerns. They also stated that Douglas had improved over the last 5 years (1999 to 2004) through increased awareness of health issues, including diabetes, and improved understanding of the risk factors linked to diabetes and other chronic diseases (Culture of Health Interviews, August–November 2004. Douglas, Arizona, unpublished data). In addition, formal and informal leaders showed a strong commitment to health and well-being in the community, a testament to the work of the coalition partnership

(Culture of Health Interviews, August–November 2004. Douglas, Arizona, unpublished data).

Interviewees stated the importance of the partnership with the university and the increase of local organizations collaborating together on various projects. Other community organizations also recognized a health link within their organization, such as the connection between health and the Parks and Recreation Departments. These groups now saw health as integral to their mission, making it a priority, and wanting to work collaboratively to improve the community's health (Culture of Health Interviews, August–November 2004. Douglas, Arizona, unpublished data).

More information on the success of the Douglas coalition–university partnership can be gleaned from the Wilder Inventory. Results show that the Douglas SAG maintained high scores on coalition functioning and collaboration between 2003 and 2006. The SAG's only challenge was a lack of adequate resources and funding. Results from the Wilder Inventory demonstrated that the Douglas SAG began as a strong coalition with good communication and collaboration (Douglas SAG members, October 2004 and September 2006. Critical reflections. Douglas, AZ, unpublished data).

Coalition members recognized the contributions of all members toward creating a successful community coalition–university partnership in the annual Critical Reflections. From 2003 to 2006, SAG accomplishments shifted from organizational and capacity building needs of the coalition to making policy changes and environmental shifts at the local level. In 2003, coalition members mentioned their accomplishments as creating subcommittees, drafting an action plan, and incorporating new members into the coalition. These accomplishments can be described as building blocks to a strong and successful community coalition–university partnership. By 2006, members stated that the coalition's achievements were doubling the School Tax Credit, drafting the Douglas nutrition policy, and witnessing people walking and buying more nutritious foods—thereby, contributing to health behavior changes in the community (Wilder Factors Collaboration Inventory. Amherst H. Wilder Foundation. Saint Paul, MN, unpublished data).

CONCLUSION

As seen in this case study, successful community–university partnerships are the result of long-term collaboration, equal

participation among all coalition members, broad membership, recognition of coalition efforts by insiders and outsiders, timing, and acknowledgment that policy changes take time.

The university participating as a full partner, beyond the role of the external technical expert or evaluator, contributed to successful community-based participatory action work. The partnership provided the framework for empowering coalition members, UA partners, and the community to voice their opinions on how to make the collaboration successful. All members of the partnership share equal power, which motivates and empowers all coalition members to be active and share opinions. Lastly, positive outcomes result when coalitions build upon collaboration and a shared vision, and when power is not dominated by one organization or individual.

A critical element to having a successful community coalition–university partnership is having agencies and organizations whose central focus is not “health” participate, resulting in the recognition by these organizations that health is integral to their mission. These organizations, in turn, want to work collaboratively to make changes in the community. With such factors in place, a community-based participatory action partnership has the potential to impact and influence health policy at the local level. In addition, coalition members recognized that community involvement is important for sustaining long-term projects because of local ownership of programs and policies.¹²

Another element that contributed to the success of the community coalition–university partnerships is the understanding that timing and persistence are important to coalition work because each policy or project has its own time frame or “window of opportunity.”¹⁶ In Douglas, coalition members recognized that working on a particular policy issue, such as the nutrition policy, was timely and salient to discussions and interests in the community, the local news media, and potential funders. For example, coalition members took advantage of Federal Mandate PL 108-265 to ensure that a nutrition policy would be implemented into the Douglas school system.¹²

The Douglas, Arizona community coalition–university partnership is a community-based participatory action model for success beginning with the fact that the community set the agenda by approaching UA partners to assist with a diabetes survey. Positive results can be achieved if a coalition's

agenda is identified by the community, thus setting the tone and dynamic of the partnership from the beginning. A history of community-based work at the U.S.–Mexico border by the university also assisted in making this partnership an example of a natural progression rather than a new project.

In Douglas, the community coalition–university partnership contributed to changing policy that has impacted local health behavior changes over the last 10 years. We see the policy significance of the coalition’s involvement in the local schools to improve physical education and nutrition. The most important policy change was the development and implementation of the Douglas Unified School District’s nutrition policy. In addition, with the participation of UA and community partners, the coalition encouraged collaboration and brought resources for diabetes prevention and control into the community.

The Douglas, Arizona, SAG has a promising future. Today,

the SAG has identified the need to recruit new members from other areas of the community as it focuses on new policy issues of community importance. The community coalition–university partnership’s history of working together and fostering teamwork and confidence point to important programmatic and policy work in the years to come.

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REFERENCES

- Homedes N, Guernsey de Zapien J, Denman C, Haro JA, Moore-Monroy M, La Brec P, et al. From division to coalition: building bridges across the Arizona–Sonora border. *Border Health*. 1992 Jul/Aug/Sep;8(3):23-31.
- Binational Technical Team Working Group. Douglas, Arizona community health survey of 1998. Final report. Phoenix, AZ: Arizona Department of Health Services, Office of Prevention and Health Promotion, Diabetes Control Program; 1999.
- Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173-202.
- Sullivan M, Kone A, Senturia KD, Chrisman NJ, Ciske SJ, Krieger JW. Researcher and researched-community perspectives: toward bridging the gap. *Health Educ Behav*. 2001 April;28(2):130-149.
- U.S. Census Bureau. Douglas, AZ fact finder: census 2000 demographic profile highlights [cited 2008 Mar 25]. Available from: <http://factfinder.census.gov>
- Arizona Department of Health Services. Douglas community health survey report: Douglas, AZ-1998. Phoenix: Office of Prevention and Health Promotion Diabetes
- Centers for Disease Control and Prevention (CDC). 2007. Diagnosed diabetes (data for 1998) [updated 2007; cited 2007 Oct 29]. Available from: http://www.cdc.gov/nchs/data/nhis/earlyrelease/200709_14.pdf
- Centers for Disease Control and Prevention (CDC). Overweight prevalence [updated 2007 May 22; cited 2007 July 23]. Available from: <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/prevalence.htm>
- Meister JS, de Zapien JG. Bringing health policy issues front and center in the community: expanding the role of community health coalitions. *Prev Chronic Dis*. 2005 Jan;2(1):A16.
- Centers for Disease Control and Prevention (CDC). December 6, 2006. School Health Index: healthy youth! [updated 2006 Dec 6; cited 2007 Oct 29]. Available from: <http://www.cdc.gov/HealthyYouth/SHI/FAQ.htm>
- Staten LK, Teufel-Shone NI, Steinfelt VE, Ortega N, Halverson K, Flores C, et al. The school health index as an impetus for change. *Prev Chronic Dis*. 2005 Jan;2(1):A19.
- Hill A, Guernsey De Zapien J, Staten LK, McClelland DJ, Garza R, Moore-Monroy M, et al. From program to policy: expanding the role of community coalitions. *Prev Chronic Dis*. 2007;4(4):A103.
- Arizona Cooperative Extension—Cochise County [homepage on the Internet]. Sierra Vista: Special Action Group; c2004 [updated 2005 May 5; cited 2007 May 21]. Special Action Group: SAG About. Available from: <http://cals.arizona.edu/cochise/fcs/sag/about.html>
- Douglas Unified School District. Douglas Unified School District nutrition policy. Douglas, AZ: Douglas Unified School District #27.
- The Southwest Center for Community Health Promotion (SWCCHP), Mel & End Zuckerman College of Public Health, University of Arizona. Cochise County, special action group: collaboration survey, executive summary. Tucson: SWCCHP; 2006.
- Kingdon JW. *Agendas, alternatives, and public policies*. New York: Harper Collins; 1995.

Community Health Workers and Community Advocacy: Addressing Health Disparities

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Abstract The Community Health Worker model is recognized nationally as a means to address glaring inequities in the burden of adverse health conditions that exist among specific population groups in the United States. This study explored Arizona CHW involvement in advocacy beyond the individual patient level into the realm of advocating for community level change as a mechanism to reduce the structural underpinnings of health disparities. A survey of CHWs in Arizona found that CHWs advocate at local, state and federal political levels as well as within health and social service agencies and business. Characteristics significantly associated with advocacy include employment in a not for profit organization, previous leadership training, and a work environment that allows flexible work hours and the autonomy to start new projects at work. Intrinsic characteristics of CHWs associated with advocacy include their belief that they can influence community decisions, self perception that they are leaders in the community, and knowledge of who to talk to in their community to make change. Community-level advocacy has been identified as a core CHW function and has the potential to address structural issues such as poverty, employment, housing, and discrimination. Agencies utilizing the CHW model could encourage community advocacy by providing a flexible working environment, ongoing leadership training, and opportunities to collaborate with both veteran CHWs and local community leaders. Further research is needed to understand the nature and impact of CHW community

advocacy activities on both systems change and health outcomes.

Keywords Community Health Worker · Policy · Advocacy · Leadership · Health disparities

Introduction

The Community Health Worker model is recognized nationally as a means to address glaring inequities in the burden of adverse health conditions that exist among specific population groups in the United States. Community Health Workers (CHWs), also known as *promotores de salud*, community health advisors, community health representatives, lay health advisors, outreach workers, and community health advocates have been working with marginalized populations since the 1960s. CHWs are characterized as community leaders who share the language, socioeconomic status and life experiences of the community members they serve [1]. The use of CHWs has become almost obligatory in programs that address health disparities because of their proven effectiveness in increasing healthcare utilization, providing health education, and advocating for individual patient needs [2–7]. Research shows that CHWs have successfully increased health knowledge and/or health service utilization in many areas including nutrition, diabetes, chronic disease screening, and cancer screening [8–12]. CHWs have also been attributed with individual changes in health behavior and health status [13–15].

What current research has not adequately considered, however, is the extent to which CHWs address the root causes of health disparities. The tendency, and in many cases necessity, of health programs to focus on individual

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health outcomes has resulted in a failure to investigate or promote the role of CHWs in affecting social change. CHWs have an intimate knowledge of community needs, extensive awareness of community resources, and are considered leaders among their peers. These qualities place CHWs in a unique position to represent their communities and advocate on a community level by pressuring lawmakers to pursue structural changes that will address health inequities. Literature on community development offers support for the idea of the CHW as an advocate for community-level change. Wakefield & Poland suggest that in order to achieve larger-scale change such as improvement in the service delivery system, CHWs must mobilize the members of their community to become activists for social justice [16]. However, there is scant reference in public health literature regarding the potential of CHWs to conduct advocacy on a community level.

The few examples of CHW involvement in social change efforts justify further research. Williams describes the importance of the CHW model in addressing organizational changes within a community clinic that increased access to care for a Latino community in Texas [17]. A program entitled “People Improving the Community’s Health” stresses the need to improve social connections as a means to build social capital and improve community health [18]. In this program, CHWs mobilized community members to become civic participants and problem solvers, resulting in the delivery of health services directly in neighborhoods, development of a farmer’s market, and decreased use of emergency rooms for primary care. Another program recruited well-respected residents of a public housing development to serve as advocates on health and community issues and provided training on advocacy and leadership skills. Residents of the housing development demonstrated higher levels of community engagement and participation following the intervention [19]. The Poder es Salud/Power for Health intervention in Multnomath County, Oregon provided leadership training to CHWs in local politics and governance structure, advocacy, and community organizing. Preliminary evidence suggests that CHWs engaged in community advocacy by forming racially/ethnically diverse groups of community members to address important issues such as police and gang violence [20].

There are also efforts on a national level to capture CHW roles and activities. In 2007, the Health Resources and Services Administration (HRSA) completed the Community Health Workers National Workforce Study [21]. The study provides a comprehensive snapshot of the field with a focus is on service delivery. To the extent that the study investigates the involvement of CHWs in initiating community level change, it was documented that

nationally CHW training may not currently prepare CHWs for this role. The study found that 38% of CHWs received leadership training from their employer compared to 79% receiving training on health issues and 64% on specific diseases. It is noteworthy that the study found that 14.2% of the organizations hiring CHWs are social advocacy organizations, suggesting a role of CHWs that is not being fully captured by this survey. Furthermore, 53.0% of employers reported that community advocacy was a work activity of CHWs, while 34.9% cited increasing community capacity as one of their activities. However, these activities were not described.

Since the launch of *Comienzo Sano* in 1987, a prenatal outreach and education intervention in Yuma County, researchers in Southern Arizona have collaborated with Latino communities to develop, implement and evaluate programs utilizing the CHW model. This public health intervention was eventually sustained as a line item of the Arizona Department of Health Services budget and is now implemented in rural and underserved communities throughout Arizona [22, 23]. The pressure to sustain grant initiated programs influenced partners to focus evaluation efforts on documenting the effectiveness of CHW programs in improving health outcomes, in spite of the fact that CHW activities often included efforts to mobilize the community in creating an environment more conducive to health. One example is the Border Health Strategic Initiative funded by the Centers for Disease Control and Prevention from 2000 to 2003. Border Health ¡SI! was a comprehensive diabetes prevention and control program which centered around the use of CHWs to work across multiple domains of the community [24]. CHWs were crucial both in engaging the community to address environmental changes and in successfully mobilizing program participants to lobby local politicians for increased funding for recreational areas [25]. In Arizona, as CHWs have become increasingly recognized as an effective means to conduct community outreach, health care providers such as community health centers have incorporated the use of CHWs in their clinical programs. While clearly positive from the standpoint of sustainability for CHW programs and improving the cultural competence of clinical services, there is some question as to whether the role of the CHW has been limited in the context of specific program delivery.

This study is an investigation of how CHWs in Arizona view their role in representing community health needs and to what extent they communicate with elected officials and political bodies as well as with health and social service agencies about making changes in their community. In addition, the study seeks to identify attributes of CHWs and their working environment that are associated with community advocacy.

Methods

For the purposes of this study, cross-sectional survey data were collected from CHWs affiliated with the Arizona Community Health Outreach Worker Network (AzCHOW). AzCHOW is a statewide organization designed to provide an opportunity for CHWs to develop a collective voice in addressing relevant policy and sustainability issues, as well as the expansion of the CHW field. AzCHOW provided researchers with a cumulative mailing list of all active and inactive CHW members as well as organizations known to employ CHWs and/or support the CHW field. A 43-question, bilingual (English and Spanish) self addressed survey was mailed directly to the home addresses of affiliated CHWs ($N = 97$) and a packet of surveys with self addressed, paid envelopes were sent to agency directors ($N = 118$). A cover letter endorsing the study and signed by the current AzCHOW president was included which explained the components of the study and encouraged participation. Also included was the human subject protection disclaimer form which gave greater details of the purpose of the study and the confidentiality of shared information. Of the total 86 completed surveys returned, 34 (39.5%) came from mailings to organizations, and 33 (38.4%) were from individuals, and 19 (22%) are unknown.

Socio-demographic measures included age, gender, race/ethnicity, employment status, annual family income, education level and access to health care. Independent variables included CHW specific training, job description, leadership activities, and perceived role as a CHW. Outcome variables included ever having talked with or written a letter to an elected official, political governing body, a clinic/hospital, social service agency, law enforcement agency or local business about making changes in the community. For the purpose of analysis, outcome variables were collapsed into the following domains: locally elected government (school board, city council, county board of supervisors, planning and zoning commission); state/federal elected government (State or U.S. representative/senator or governor) clinic/hospitals, social services agencies (Department of Economic Security, Housing Authority), law enforcement agencies, and local businesses. In addition, all dependent variables were collapsed into a total community advocacy variable for which results are presented. Logistic regression assesses CHW characteristics associated with community advocacy at all levels. A two-tailed alpha level of 0.05 was used to define statistical significance for statistical tests.

Results

There were a total of 86 CHW participants. The majority of respondents were Hispanic (44.6%) women (87%) with a

mean age of 45 years (range 21–71 years) (Table 1). Two-thirds had some college education (74.4%) and worked full time as a CHW (83.7) with access to private health insurance (58.1%). Annual family income varied with 28% earning less than \$25,000, one-third \$25,001–\$50,000 and the remaining 23% more than 50,000. The mean years of employment as a Community Health Worker for the sample was 8.86 years ($SD = 9.0$). Place of employment was somewhat evenly distributed among clinic/hospital settings (37.3%), health departments (31.3%) and non-profit (25.3%). When compared to the corresponding variables of the HRSA workforce study, the AzCHOW sample is similar to the national population of CHWs in gender (87% vs. 81.5% female), but has a higher representation of Hispanics and American Indian CHWs than was documented in the HRSA Study (44.5% vs. 35.2% and 20.5% vs. 5.0%, respectively). The AzCHOW sample also had a higher percentage of respondents with some college education (74.4% vs. 51%).

The majority of CHWs had received specialized CHW training or had shadowed or been mentored by another

Table 1 Selected demographic characteristics of Arizona Community Health Workers

Total	86 (%)
<i>Gender</i>	
Female	75 (87%)
Male	9 (10.5%)
<i>Age</i>	
Range, y	21–71
Current age, mean (SD)	45 (12)
<i>Ethnicity, no. (%)</i>	
White, Non-Hispanic	24 (28.9)
Hispanic	37 (44.6)
American Indian	17 (20.5)
Other	3 (3.6)
<i>Highest level of education no. (%)</i>	
<High school	10 (11.6)
High school graduate	11 (12.8)
College	31 (63.9)
<i>Annual family income, no. (%)</i>	
<25 000	33 (38.4)
26 000–50 000	29 (33.7)
>50 001	20 (23.3)
<i>Place of work no. (%)</i>	
Clinic/hospital	31 (37.3)
Health Department	26 (31.3)
Not for profit	21 (25.3)
Tribal program	3 (3.6)
Other	2 (2.4)
<i>Years employed, y mean (SD)</i>	8.86 (9.0)

CHW (79.5% and 68.6% respectively), while a third (32.9%) had attended a community college CHW certification program. Nearly all of the CHWs (84.9%) worked with both individuals and groups and two-thirds (66.3%) reported working with community leaders. With respect to the work environment, 69.7% reported having flexible hours, 58.3% reported the flexibility to start new projects, and 63.3% the autonomy to start new projects. In terms of self perception of leadership, 68.6% of respondents said they know who to talk to in terms of community leaders, 47.6% believe they can influence community decisions, and 52.4% consider themselves to be a leader in the community.

Engagement in Community Advocacy

Sixty-two percent (62.8%) of CHWs reported that they had participated in community advocacy, which was defined as talking with and/or writing a letter to an elected official, a governing body, a clinic or hospital, a social service or law enforcement agency or a local business about making a change in their community. (Table 2) CHWs most frequently advocated for community change on a local level with an elected official or governing body (43%), a clinic/hospital (43%), a social service agency (40.7%) or local businesses (40%). Advocacy with state elected officials (i.e. Governor, Senator, Congress person) was less frequent (24%).

Community Advocacy and CHW Characteristics

Tables 3 and 4 provide a comparison of all types of community advocacy (local, state, clinic/hospital, social survives and business) by selected socio-demographic variables, work characteristics, CHW training experiences, and leadership qualities. The percentage of CHWs engaged

Table 2 Arizona Community Health Worker advocacy with elected and non-elected individuals and agencies

Total	83 (%)
Total Advocacy, all levels, no. (%)	54 (62.8)
Locally elected governmental official or body*	37 (43.0)
State/Federal elected governmental official or body**	21 (24.0)
Clinic/hospital	37 (43.0)
Social service agencies***	30 (40.7)
Law enforcement agency	17 (19.8)

* Local government is defined by school board, city council, county board of supervisors, planning and zoning

** State/Federal government is defined as State Representative, US Representative, Governor

*** Social service agencies include Department of Housing and Urban Development, Department of Economic Security

Table 3 Comparison of advocacy participation* rates by selected demographic characteristics among Arizona Community Health Workers

	Advocacy participation		
	Frequency (%)	OR (95% CI)	P-value
<i>Sex</i>			
Female	47/75 (62.6)	(ref)	–
Male	6/9 (66.6)	1.2 (0.2, 5.1)	0.814
<i>Ethnicity</i>			
White, Non-Hispanic	17/24 (70.8)	(ref)	–
Hispanic	21/37 (56.7)	0.5 (0.1, 1.6)	0.270
American Indian	11/17 (64.7)	0.8 (0.2, 2.8)	0.678
Other	0/3 (0.0)	–	–
<i>Family Income</i>			
≤25,000	23/33 (69.7)	(ref)	–
26,000–50,000	17/29 (58.6)	0.6 (0.2, 1.7)	0.365
≤50,000	12/20 (60.0)	0.6 (0.2, 2.0)	0.471
<i>Education</i>			
≤High school graduate	10/21 (47.6)	(ref)	–
Some college	21/31 (67.7)	2.3 (0.7, 7.2)	0.150
≤College graduate	22/33 (66.7)	2.2 (0.7, 6.7)	0.168

* Advocacy participation rates includes having talked with or written a letter to the following people/organizations about making changes in the community: school board, city council, county board of supervisors, planning and zoning (local government); State Representative, US Representative, Governor (State/Federal Government); Social service agencies, Clinic or Hospital, Business and Law enforcement agencies

in any type of community advocacy varied slightly across socio-demographic variables. (Table 3). For ethnicity, 70.8% of Whites reported engaging in community advocacy, versus 56.7% of Hispanics and 64.7% of Native Americans. A greater percentage of those earning less than \$25,000 were engaged in community advocacy compared to 58.6% of those earning between \$25,000 and \$50,000 and 60% of those earning more than \$50,000. Almost half of CHWs with a high school education demonstrated advocacy engagement (47.6%) compared to those CHWs with some college (67.7%) or a diploma college (67.7%). However, none of these differences demonstrated statistical significance. However, for every year increase in age a significant increase in advocacy was observed for both state government and social service agencies (OR 1.06, $P = 0.017$ and OR 1.04, $P = 0.045$, respectively).

CHWs working in non-profit organizations were significantly more likely to engage in community advocacy than those working in health departments (OR 6.9, $P = 0.021$). CHWs working in clinic/hospital and/or employed in a tribal program were no more likely to advocate than health department workers. Experience was associated with community advocacy; for every increase in

Table 4 Comparison of advocacy participation* rates by selected characteristics among Arizona Community Health Workers

	Advocacy participation		
	Frequency (%)	OR (95% CI)	P-value
<i>Employment type</i>			
Health Department	15/26 (57.7)	(ref)	–
Non for profit organization	19/21 (90.5)	6.9 (1.3, 36.3)	0.021
Clinic/hospital	15/31 (48.4)	0.7 (0.2, 1.9)	0.484
Tribal program/other	3/5 (60.0)	1.1 (0.1, 7.7)	0.924
<i>CHW training experience</i>			
Attended a CHW certificate course offered at a Community College			
No	36/55 (65.6)	(ref)	–
Yes	14/27 (51.9)	0.6 (0.2, 1.4)	0.238
Attended a training designed for CHWs			
No	9/17 (52.9)	(ref)	–
Yes	43/66 (65.2)	1.7 (0.5, 4.8)	0.356
Mentored or shadowed by a CHW			
No	16/27 (59.3)	(ref)	–
Yes	38/59 (64.4)	1.2 (0.4, 3.1)	0.647
Attended a leadership training			
No	12/34 (35.3)	(ref)	–
Yes	40/50 (80.0)	7.3 (2.7, 19.6)	<0.001
<i>Work environment</i>			
Works with individuals and groups			
No	4/13 (30.8)	(ref)	–
Yes	50/73 (68.5)	4.9 (1.3, 17.5)	0.015
Works with community leaders			
No	10/28 (35.7)	(ref)	–
Yes	43/55 (78.2)	6.4 (2.3, 17.5)	<0.001
Works on projects with other CHWs			
No	5/14 (35.7)	(ref)	–
Yes	48/71 (67.6)	3.8 (1.1, 12.4)	0.031
Flexible work hours			
No	11/26 (42.3)	(ref)	–
Yes	43/60 (71.7)	3.4 (1.3, 9.0)	0.011
Flexibility at work to start new projects			
No	16/35 (45.7)	(ref)	–
Yes	38/49 (77.6)	4.1 (1.5, 10.5)	0.003
Autonomously initiates new projects			
No	11/29 (37.9)	(ref)	–
Yes	40/50 (80.0)	6.5 (2.3, 18.1)	<0.001
<i>Leadership</i>			
Knows who to talk to in community			
No	9/27 (33.3)	(ref)	–
Yes	45/59 (73.6)	6.4 (2.3, 17.1)	<0.001
Believes he or she influences community decisions			
No	20/43 (46.5)	(ref)	–
Yes	32/39 (82.1)	5.2 (1.9, 14.4)	0.001
Considers self a leader			
No	16/40 (40.0)	(ref)	–
Yes	38/44 (86.4)	9.5 (3.2, 27.6)	<0.001

* Advocacy participation rates includes having talked with or written a letter to the following people/organizations about making changes in the community: school board, city council, county board of supervisors, planning and zoning (local government); State Representative, US Representative, Governor (State/Federal Government); Social service agencies, Clinic or Hospital, Business and Law enforcement agencies

years of CHW employment, CHWs were significantly more likely to advocate at the levels of local government (OR 1.07, $P = 0.023$), clinic/hospital (OR 1.10, 0.005), social service agency (OR 1.12, $P = 0.002$), business (OR 1.07, $P = 0.018$) and law enforcement (1.06, 0.044). CHWs who reported more flexible working hours, flexibility to start new projects, and autonomy to initiate new projects at work were all significantly more likely to participate in community advocacy than those who did not. CHWs who stated that they work with community leaders were significantly more likely to participate in community advocacy, as were those who reported working on projects with other CHWs. CHWs who identified with leadership characteristics were more likely to engage in community advocacy, specifically, those CHWs who expressed knowing who to talk to in the community, believing they can influence their communities' decisions, and considering themselves leaders. In terms of job training, CHWs who attended leadership training were significantly more likely to participate in community advocacy than were CHWs who received no leadership training or were unsure. A significant trend for leadership training and advocacy participation rates held constant for local, state, clinic/hospital, social service and business. There was no significant relationship between advocacy participation and having attended a training specifically designed for CHWs, mentoring or shadowing an experienced CHW or attending a CHW course offered at a community college.

Discussion

There is a growing body of literature examining the role of CHWs in addressing health disparities by improving individual health outcomes, particularly in chronic disease, HIV/Aids, and maternal and child health. While improving individual health among populations suffering health disparities is essential, this singular focus fails to recognize that these efforts have made little progress in closing the gap. Community-level advocacy is considered a CHW core function and has the potential to address structural issues such as poverty, employment, housing, and discrimination. However, extensive review of the literature reveals very little about the role of CHWs as community representatives with either institutions and lawmakers. This study investigates the existence and extent of CHW advocacy efforts on both a local and state level in Arizona, and identifies those CHW characteristics that are associated with engagement in community advocacy. As members of a professional CHW organization such as AzCHOW and with an average 9 years of work experience, it is possible that CHWs responding to this survey are more likely to be engaged in advocacy activities, resulting in over-reporting

compared to the all CHWs in the state. In fact, many of the respondents may have received leadership training through AzCHOW. However, as leaders in their field, they provide an appropriate role model in considering the future direction of the profession.

Results of the survey demonstrate that more than half of CHWs are engaged in some type of community advocacy. They are more often involved on a local than state level, and have actively advocated for health-related policy change with local health and service providers, as well as local school board, city council, or county board of supervisors. While fewer CHWs have contacted state legislators, one-fourth of the respondents have written a letter or telephoned a State Senator or Governor, a substantially greater proportion than seen in the general population. It is evident from this survey, that experienced CHWs in Arizona are engaged in community level advocacy.

Analysis of CHW characteristics reveal that the work setting, the level of autonomy experienced in the work environment, and self perception of leadership have a greater influence on the likelihood that CHWs will participate in community advocacy than do socio-demographic variables of ethnicity, income, or education. Place of work had a strong influence on likelihood of participation, with 90% of those working in not-for-profit organizations reporting community advocacy versus approximately half of those working in health care agencies or health departments. The reason for this difference might be explained by attributes of the work environment that are also highly associated with engagement in community advocacy, such as flexible work hours, flexibility and autonomy to start projects, and working with community leaders. When compared with health care agencies that tend to focus on individual clinical care, and health departments which are often supported by categorical funding with strict reporting requirements, non-profit organizations may be providing environments in which CHWs can engage in a broader range of activities in response to community needs.

With the exception of the Indian Health Service training for Community Health Representatives, there is currently no standardized training curriculum or program for CHWs, and this reflects the grassroots nature of the CHW profession and the fact that it responds to diverse needs of communities, organizations, and tribes. Given the entrenched nature of health inequities and growing recognition of and reliance on CHWs as a means to close the gap, training designed to build their capacity to engage in community mobilization and development and to represent the needs and rights of their communities in the public sphere is essential. Leadership training was the only type of training significantly associated with participation in community advocacy identified in this study. Yet, both age and years of experience were associated with community advocacy and

community advocacy was high among CHW who had mentored or shadowed other CHWs (64.4%) as well among CHWs who had participated in a training designed specifically for CHWs (65.2%). A training combining mentorship/shadowing with experienced CHWs in conjunction with ongoing leadership training and broader CHW-specific education could provide the opportunities and situations necessary to model community level advocacy. Potential training venues include national conferences or training forums and through professional organizations such as AzCHOW. The inclusion of information on community advocacy is also important to include in CHW certificate programs, not only as an education component, but also to validate the activities that many of these natural leaders are already engaging in when they enter a certificate program. Finally, it is important to recognize that many organizations, such as clinics and health department, are not designed to engage in community advocacy, but are utilizing the CHW model to address equally important issues related to health care access and cultural sensitivity of services. Administrators of these programs would benefit from education about the diverse strengths of the CHW model.

Findings from this study have implications for the areas of CHW research, practice and job preparation. This study is limited in that it documents the extent of community advocacy but does not describe actual effort or impact in addressing structural change. However, the finding that nearly two-thirds of this sample of CHWs is engaged in community advocacy provides the impetus for CHW research to broaden its scope to include the nature of advocacy activities and their influence on systems change on a local and state level with both organizations and legislators. One example would be an investigation of the extent to which CHW programs located in community health centers impact how clinical care is delivered and whether those changes impact use of the health care delivery system. Another would be to understand if CHWs in non-profits actually mobilize the community to speak out for improvements in the city infrastructure and whether this results in increased opportunity for physical activity. While the long term implications of policy and environmental change on health disparities would be difficult to isolate and verify, this type of study is also warranted given the need for research to focus on the social determinants of health in order to fundamentally address inequities.

Conclusion

Experienced CHWs in Arizona are engaged in advocating for community change at multiple levels. Agencies utilizing the CHW model could encourage community advocacy

by providing a flexible working environment, ongoing CHWs leadership training, and opportunities to collaborate with both veteran CHWs and local community leaders. Further research is needed to understand the nature and impact of CHW community advocacy activities on both systems change and health outcomes.

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References

- Rosenthal, E. L., Wiggins, N., Brownstein, N., & Johnson, S. (1998). *The final report of the National Community Health Advisor Study*. Tucson, AZ: University of Arizona.
- Van Duyn, M. A., Reuben, S. H., & Macario, E. (2006). Special populations networks: Themes and lessons learned. *Cancer*, *107*(8 Suppl.), 1945–1954.
- Kaufman, A., Derksen, D., Alfero, C., DeFelice, R., Sava, S., Tomedi, A., et al. (2006). The Health Commons and care of New Mexico's uninsured. *Annals of Family Medicine*, *4*(Suppl. 1), S22–S27.
- Kuhajda, M. C., Cornell, C. E., Brownstein, J. N., Littleton, M., Stalker, V. G., Bittner, V. A., et al. (2006). Training community health workers to reduce health disparities in Alabama's Black Belt: The Pine Apple Heart Disease and Stroke Project. *Family & Community Health*, *29*, 89–102.
- Sheppard, V. B., Zambrana, R. E., & O'Malley, A. S. (2004). Providing health care to low-income women: A matter of trust. *Family Practice*, *21*, 484–491.
- Nemcek, M. A., & Sabatier, R. (2003). State of evaluation: Community health workers. *Public Health Nursing*, *20*, 260–270.
- Brach, C., & Fraser, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical Care Research & Review*, *57*, 181–217.
- Elder, J. P., Ayala, G. X., Campbell, N. R., Slymen, D., Lopez-Madurga, E. T., & Engelberg, M. (2005). Interpersonal and print nutrition communication for a Spanish-dominant Latino population: Secretos de la buena vida. *Health Psychology*, *24*, 49–57.
- Corkery, E., Palmer, C., Foley, M. E., Schechter, C. B., Frisher, L., & Roman, S. H. (2005). Effect of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care*, *20*, 254–257.
- Hunter, J., Guernsey de Zapien, J., Papenfuss, M., Fernandez, M., Meister, J., & Giuliano, A. (2004). The impact of a *promotora* on increasing routine chronic disease prevention among women aged 40 and older at the U.S.-Mexico border. *Health Education & Behavior*, *31*(4 Suppl.), 18S–28S.
- Hansen, L. K., Feigl, P., Modiano, M. R., Lopez, J. A., Sluder, E., & Moinpour, C. M. (2005). An educational program to increase cervical and breast cancer screening in Hispanic women: A Southwest oncology group study. *Cancer Nursing*, *28*, 47–53.
- Navarro, A., Senn, K., McNicholas, L., Kaplan, R., Roppe, B., & Campo, M. (1998). Por la vida model intervention enhances use of cancer screening tests among Latinas. *American Journal of Preventive Medicine*, *15*, 32–41.
- Swider, M. (2004). Outcome Effectiveness of Community Health Workers: An Integrative Literature Review. *Public Health Nursing*, *19*, 11–20.
- Ingram, M., Torres, E., Redondo, F., Bradford, G., Wang, C., & O'Toole, M. (2007). The impact of *promotoras* on social support

- and glycemic control. *Diabetes Educator*, 33(Suppl. 6), 172S–178S.
15. Lorig, K., Sobel, D. S., & Stewart, A. L. (1998). Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. *Medical Care*, 37, 5–14.
 16. Wakefield, S., & Poland, B. (2005). Family, friend or foe? Critical reflections on the relevance and role of social capital in health promotion and community development. *Social Science and Medicine*, 60, 2819–2832.
 17. Williams, D. M. (2001). La Promotora. Linking disenfranchised residents along the border to the U.S. health care system. *Health Affairs*, 20, 212–218.
 18. Mack, M., Uken, R., & Powers, J. (2006). People improving the community's health: Community Health Workers as agents of change. *Journal of Health Care for the Poor and Underserved*, 17, 16–25.
 19. Wolff, M., Young, S., Beck, B., Maurana, C. A., Murphy, M., & Holifield, J. (2004). Leadership in a public housing community. *Journal of Health Communication*, 92(2), 119–126.
 20. Health Resources and Services Administration, Bureau of Health Professions. (2007). Community Health Worker National Workforce Study. Accessed on-line at <http://bhpr.hrsa.gov/healthworkforce/chw>.
 21. Farquhar, S. A., Michael, Y. L., & Wiggins, N. (2005). Building on Leadership and Social Capital to create change in 2 urban communities. *American Journal of Public Health*, 95, 596–601.
 22. Meister, J. S., Warrick, L. H., Guernsey de Zapien, J. G., & Wood, A. H. (1992). Using lay health workers: Case study of a community-based prenatal intervention. *Journal of Community Health*, 17(1), 37–51.
 23. Meister, J. S., & Guernsey de Zapien, J. G. (1989). Un comienzo sano: A model prenatal education project. *Maternal and Child Health Education Resources*, 4, 1–2.
 24. Cohen, S. J., & Ingram, M. (2005). Border Health Strategic Initiative: Overview and introduction to a community-based model for diabetes prevention and control. *Preventing chronic disease*. Available from URL, http://www.cdc.gov/pcd/issues/2005/jan/04_0081.htm.
 25. Meister, J. S., & Guernsey de Zapien, J. G. (2005). Bringing policy issues front and center in the community: Expanding the roles of community health coalitions. *Preventing chronic disease*. Available from URL, <http://www.cdc.gov/pcd/issues/2005/jan/04>.

Appendix V

CRCPHP Flyer

Canyon Ranch

Center for Prevention and Health Promotion



Improving Health Through Community Involvement

The mission of the Canyon Ranch Center for Prevention and Health Promotion is to partner with communities to improve the health and well-being of people living in the US/Mexico Border states through research, training, advocacy and policy change. The Center houses diverse programs and activities that use community-based participatory research to focus on the prevention of chronic disease in the border region. Each project relies on extensive community involvement and outreach.

The activities of the Center are planned collaboratively between University of Arizona faculty and staff and our Community Action Board. The Community Action Board is composed of organizations and programs that share a common agenda of improving the quality of life in the border region. The group addresses public policy, programmatic, and research issues. Additional community input is solicited from Special Action Groups in various border communities. These coalitions promote policy change at the local level, while the Center promotes the development and implementation of public policies that increase healthy lifestyles in our border communities.

Center activities are funded by the Centers for Disease Control and Prevention's Prevention Research Centers Program and National Institute of Occupational Safety and Health; the Arizona Department of Health Services; the University of California's *Program de Investigación en Migración y Salud (PIMSA)*, *Campesinos sin Fronteras*; Mariposa Community Health Center; and private donations.

The largest research project in the Center is the Comprehensive Diabetes Prevention and Control Program, which is addressing the effectiveness of multiple behavioral interventions to improve healthy life styles and diabetes disease management. Our work on this project was featured on the CDC Prevention Research Center website in November 2006 and is available for viewing. We also have projects examining the health of migrant farmworkers in Sonora and access to care in the Sonora-Arizona region and a strong partnership with *Campesinos sin Fronteras* and *Derrechos Humanos* that examine the relationships between health status and human rights abuses in migrant farmworkers.

Thanks to a private donation and support from the Canyon Ranch Institute, Center faculty and staff have had the opportunity to develop a new initiative in partnership with Tucson based Child-Parent Centers, Inc., the administrative agency for the HeadStart program in Southern Arizona. This new initiative is focused on the development of a program that will assist Head Start Families in increasing healthy behaviors that serve as a foundation for the prevention of chronic disease. Initial work has provided a Worksite Wellness program for the HeadStart staff to serve as role models for local centers.

Center faculty and staff work closely with the Arizona Department of Health Services on the Steps to a Healthier United States Initiative by providing both evaluation and technical assistance to a border-wide initiative funded to border counties and the Tohono O'odham nation. With a focus on prevention of obesity, diabetes, asthma and tobacco use, the college partners with community organizations and ADHS to implement innovative programs for prevention.

Center faculty and staff provide training to students at the College through teaching, mentoring and employment opportunities. This year we are implementing "The Border Health Service Learning Institute." This initiative is providing opportunities for our students and faculty to engage in service activities in our border communities with our community partners.

The philosophy of the Center is that improving health outcomes requires a collaborative partnership between universities and communities. Communities must be heavily involved in identifying and solving their health related problems, or we will never develop long-term solutions.

Visit the
**Canyon Ranch Center for Prevention and
Health Promotion's** web site at:
<http://crcphp.publichealth.arizona.edu>