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Establishing a Professional Profile of Community Health Workers: Results from a National Study of Roles, Activities and Training

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Abstract Community Health Workers (CHWs) have gained national recognition for their role in addressing health disparities and are increasingly integrated into the health care delivery system. There is a lack of consensus, however, regarding empirical evidence on the impact of CHW interventions on health outcomes. In this paper, we present results from the 2010 National Community Health Worker Advocacy Survey (NCHWAS) in an effort to strengthen a generalized understanding of the CHW profession that can be integrated into ongoing efforts to improve the health care delivery system. Results indicate that regardless of geographical location, work setting, and demographic characteristics, CHWs generally share similar professional characteristics, training preparation, and job activities. CHWs are likely to be female, representative of the community they serve, and to work in community health centers, clinics, community-based organizations, and health departments. The most common type of training is on-the-job and conference training. Most CHWs work with clients, groups, other CHWs and less frequently community leaders to address health issues, the most common of which are chronic disease, prevention and health care access. Descriptions of CHW activities documented in the survey demonstrate that CHWs apply core competencies in a synergistic manner in an effort to assure that their clients get the services they need. NCHWAS findings suggest that over the past 50 years, the CHW field has become standardized in response to the unmet needs of their communities. In research and practice, the field would benefit from being considered a health profession rather than an intervention.

Keywords Community health workers · Health disparities · Health care delivery system · Workforce

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Introduction

On May 18th of 2011, the US Department of Health and Human Services announced the *Promotores de Salud/* Community Health Workers Initiative designed to "recognize the important contributions of *promotoras* in reaching vulnerable, low income, and underserved members of Latino/Hispanic populations, and promote the increased engagement of promotores to support health education and prevention efforts and access to health insurance programs" [1]. This was yet another milestone in a recent flurry of activity thrusting community health workers (CHWs), also known as *promotores(as),* community health advisors, lay health advisors, outreach workers, and community health advocates, into the forefront of national and localized efforts to eliminate health disparities. In 2010, the US Department of Labor officially recognized community health workers as a labor category in a rather narrow role to "conduct outreach for medical personnel or health organizations and may provide information on available resources" [2]. Perhaps most noteworthy, *the Patient Protection and Affordable Care Act of 2010* includes provisions for funding relevant to CHWs that are to become effective during the next 4 years [3]. National recognition is accompanied by a growing body of research documenting promising outcomes of CHW programs. Studies have demonstrated CHW effectiveness in

increasing healthcare utilization, providing health education, and advocating for individual patient needs [4–9]. CHWs have also been attributed with individual changes in health behavior and health status areas including nutrition [10], diabetes [11, 12], chronic disease screening [13], and cancer screening [14, 15]. Other studies have highlighted CHWs' role in helping people to manage chronic diseases [16–18].

While these studies and events underscore the pace at which CHW practice is moving forward, consensus on empirical evidence of CHW impact remains elusive. Reviews of the literature find little consistency across studies regarding CHW training and actual activities and conclude that the lack of rigorous research impedes substantiation of health outcomes. Swider's (2002) literature review determined that uncertain CHW role expectations, poorly described interventions, insufficient study samples and lack of rigorous study design made it difficult to determine characteristics that contributed to CHWs being effective [19]. Rhodes et al. 2007, recognized the value of CHWs historically and across Latino populations, however called for better descriptions on their characteristics, training, and activities [20]. A more recent review came to the similar conclusion that more information is needed to understand which CHW characteristics and roles have the most impact on health outcomes [21]. As Swider et al. point out, as the evidence for CHW effectiveness grows, the means through which they attain health outcomes remains unclear [22].

Hesitation on the part of the scientific community to validate CHW outcomes may be partly due to the fact that as an intervention the CHW model is organic, rising from and responding to the unique needs of the communities CHWs serve and the organizational settings they work in. A qualitative study of 16 clinics that were using CHWs for diabetes care found that CHWs had a variety of roles including DSME education, patient compliance, follow up with providers, and social support, but that they also worked on a continuum from an informal to a paraprofessional role [23]. The strategies of a CHW serving an urban African American community in a faith-based setting, therefore, will evolve in a manner distinct to *promotores de salud* working in a clinical setting. If the strength of the CHW model lies in its flexibility to respond to the unique aspects of a community, the requirement from an empirical standpoint that well defined interventions addressing specific disease outcomes be rigorously tested across several studies with different populations may be intrinsically flawed. At this juncture, in which integration of CHWs as members of the health care delivery system is increasingly common, it may be more practical to study CHWs as a health profession and seek to solidify the scope of their characteristics, capacities and activities that, in combination with the other components of the health care team, will achieve desired health outcomes.

CHW programs have existed in many ways in the US since the 1960s and endeavors to clarify the CHW profession are not new. The comprehensive 1998 Community Health Advisor Study through CHW surveys and organizational case studies identified seven CHW core competencies as: (1) bridging/cultural mediation between communities and the health care systems; (2) providing culturally appropriate and accessible health education and information; (3) assuring that people get the services they need; (4) providing informal counseling and social support; (5) advocating for individual and community needs; (6) providing direct services; and (7) building individual and community capacity [24]. Ten years later, the HRSA Community Health Worker National Workforce Study used an online survey with over 500 CHW employers which confirmed these same competencies, but expanded understanding of CHW roles to include overlapping models of care, identified as (1) member of care delivery team; (2) navigator; (3) screening and health education provider; (4) outreach/enrollment/informing agent; and (5) organizer [25]. However, there continues to be disconnect between these national studies which appear to validate the CHW profession and reviews of the scientific literature that seek to measure the impact of targeted interventions on health outcomes.

The 2010 National Community Health Worker Advocacy Survey (NCHWAS) was launched to compliment previous efforts to understand professional roles of these workers and to extend them by further clarifying aspects of CHW characteristics, training, and job activities across demographic characteristics, geographical regions, and different types of work settings. By documenting similarities and differences using reports from CHWs across the nation, we hope to strengthen understanding of the CHW profession in the US from the perspectives of CHWs themselves, and to contribute to ongoing efforts to improve the health care delivery system.

Methodology

The NCHWAS is a component of the CDC-funded Arizona Prevention Center community-based participatory research project investigating the impact of CHW community advocacy on community engagement to address health disparities. The purpose of NCHWAS was to establish a national baseline of CHW characteristics, training and job activities related to community advocacy. The AzPRC has a research committee comprised of representatives from organizations that utilize the CHW model on the Arizona-Mexico Border, including federally qualified community

health centers, county health departments and grassroots agencies. The research committee was involved in each stage of the study including the development of the survey, survey dissemination, guidance in analysis, and interpretation.

In designing the study, the AzPRC used the strong network of state, regional, and national CHW associations as a means to contact individual CHWs. The decision to conduct an on-line survey was made in consultation with representatives from the American Public Health Association CHW Section, the American Association of CHWs, the Latino CHW Network and the National Association of Community Health Representatives, each of whom were willing to consider circulating the survey to their constituency, but were hesitant to directly share their contact information. The online format made it difficult to control who responded to the survey, therefore the first question asked the respondent to identify themselves as currently working as a CHW and the second question asked them if they had already filled out the survey. A "no" answer to the first or a "yes" answer to the second question resulted in being exited from the survey. Survey questions describing CHW demographics and work characteristics were drawn from the 1998 CHAS survey, while those exploring advocacy work were based on a 2007 survey conducted by the AzPRC [26]. Open-ended questions regarding health issues and types of projects were added to the survey, along with questions exploring CHW participation in local, state, regional and national networks. The survey was available online for a period of 8 months. Those who participated in the survey were offered the opportunity to enter a raffle for a $50 gift certificate regardless of whether they completed the survey. The survey protocol was developed under the guidance of the University of Arizona Office for Human Subjects and the online survey included a disclosure statement that clarified the voluntary and anonymous nature of the survey.

Recognizing the challenges of capturing a representative sample of CHWs from a population with varying degrees of connection to internet and email communication, the AzPRC promoted the survey through a variety of channels in addition to the national networks. The CHW National Education Collaborative website provided a list of state associations and networks with contact information. The AzPRC Director sent a letter of introduction to nineteen state networks explaining the survey and asking them to circulate a survey invitation to their constituency. The AzPRC then followed the letter with a telephone call to provide any further information. In one case, the contact person made suggestions to improve the survey, and in another they requested hard copies of the survey. In some cases, we never received a response from the representative and do not know if they received or forwarded the survey link. The AzPRC also promoted the survey with a poster and flyers at two CHW conferences, the CHW National Unity conference hosted by the Center for Sustainable Outreach and a regional conference co-hosted by the San Diego PRC and the Chula Vista Community Collaborative.

Data Analysis

The CHW characteristics of ethnicity, gender, education level, geographical region, border state status, years as a CHW, sharing the ethnicity of clients, and type of worksite were summarized with the number (N) and proportion. The outcomes of interest were CHW training experiences and CHW job activities, which consisted of outreach, health issues addressed, and general activities. Contingency tables were used to explore the relationship between CHW characteristics and CHW training and activities. Fisher's exact test was used to test hypotheses of association between years of experience and the outcomes of interest. All tests were conducted at the 0.05 level of significance. Missing responses were assumed to be unanswered if no responses were recorded within a block of answers for each question (questions that could have more than one answer and no responses were recorded). Missing values were imputed as negative responses for cases where a participant recorded at least one positive response within a block of answers and may have simply left the negative answers in the block unanswered.

The survey included open ended questions that provided CHWs with an opportunity to describe specific interactions that they had with clients. Content analysis based on CHW core competencies and overlapping models of care was conducted on these questions using N-Vivo software that facilitated general categorization of responses.

Results

A total of 371 CHWs from 22 states and the District of Columbia participated in the survey. Four of five CHWs (83%) had the same ethnicity as the community they served. CHWs had a variety of job titles that included terms commonly associated with the field. The most common of which was *promotora* reflecting the Hispanic ethnicity of the respondents. The term *community health worker* was also widely used along with other versions using the word 'community' such as *community health advisor* or *community liaison*. The word 'outreach' was also frequently used in job titles, such as *outreach counselor, outreach worker, outreach coordinator.* The term 'educator' was also used in several job titles. A small subset of the job titles included the word 'family.' CHWs were asked what type of organization they worked for,

which were categorized into the following: clinic (19%), community based organizations (36%), clinic/hospital (27%), health department (9%), and other. Approximately one half of respondents (49%) had more than 5 years working as a CHW. Over half of respondents were from US-Mexico Border States (63%).

The HRSA CHW Workforce Study estimates that there are 85,789 CHWS in the US. When compared to corresponding variables in the CHW workforce study, the Western portion of the country is overrepresented (Table 1) in the NCHWAS study. Fewer male CHWs responded than is documented nationally (8% vs. 18%). Our sample was more highly educated than the national estimate and 73% of NCHWAS survey respondents were Hispanic compared to 35% nationally. The ethnic differences may reflect the fact that more than half of our respondents were from a US-Mexico Border state where the AzPRC was able to conduct more effective outreach with CHW networks.

Table 1 Community health worker characteristics (N = 371)

	NCHWAS	CHW workforce estimates[25]
Region		
Northeast	13.8%	22.4%
Midwest	8.9%	23.8%
South	34.3%	32.9%
West	42.9%	20.9%
Border region	62.6%	N/A
Gender		
Female	92.4%	81.6%
Male	7.6%	18.4%
Ethnicity		
American In/Alaskan native	1.1%	5.0%
Asian Pacific Islander	2.1%	4.6%
Black/African American	10.0%	15.5%
Hispanic	72.8%	35.2%
Non Hispanic white	9.8%	38.5%
Other	4.2%	1.2%
Shares the ethnicity of their client	82.8%	N/A
Education		
Less than HS	4.9%	7.4%
HS grad	19.5%	34.8%
More than HS	70.0%	57.8%
Other	5.6%	
Population served		
African American	35.6%	68.1%
American Indian/Alaskan native	8.1%	32.4%
Hispanic/Latino	85.1%	77.9%
Non Hispanic white	35.3%	64.2%
Asian/Pacific Islander	11.9%	34.1%
Organizational type		
Clinic or hospital	19.1%	N/A
Non-profit/grassroots	36.7%	
Community HC/community based clinic	27.2%	
Health department	8.5%	
Other	8.5%	
Years CHW experience		
Less than 5 years	51.1%	N/A
5 years or more	48.9%	

Training

Lack of specificity regarding CHW training is often cited as a weakness of CHW intervention studies, however our findings indicate fairly standardized approach which relies upon on-the-job training (86%) and conference training (87%), as shown in Table 2. Certificate programs were also popular (61%). Many CHWs had leadership and advocacy training (66 and 74%). We found few differences when testing associations between job training and organization type, sharing the same ethnicity as clients, being from a border state and years of experience. Table 2 shows there were no significant differences based on organizational type or ethnicity match. CHWs with more than 5 years of experience were significantly more likely to have on the job training (90% vs. 82%) and leadership training (74% vs. 57%). CHWs from a border state were more likely to be certified (68% vs. 51%) reflecting the large participation of CHWs from Texas, a leading state in certification (92.6%).

Outreach Sites

Outreach is a major component of the CHW role and 91% of respondents reported doing some type of outreach. Homes (58%), community centers (56%), and schools (48%) were the most common outreach sites. Associations between organizational type and outreach site are presented in Table 3. In examining associations between organization type, ethnicity match, and years of experience, we found no significant differences. Organizations *not* located at the border were significantly more likely to conduct outreach at migrant camps (18% vs. 9%) and religious organizations (40% vs. 25%).

Health Issues

CHWs are working on various health issues, the most common being chronic disease (57%), prevention (42%) and health care access (38%) across organizational type, years experience, ethnicity match and border region. In testing for associations, maternal and child health (36%) was also a frequently cited CHW activity within community health centers relative to other settings, although this

Table 2 CHW job training by type of organization (N = 322)

	CHC n (%) 58 (18.0)	Clinic n (%) 87 (27.0)	CBO n (%) 120 (37.3)	HD n (%) 29 (9.0)	Other n (%) 28 (8.7)	Total n (%) 322 (93.8)	P-value
On the job training	52 (89.7)	74 (85.1)	101 (84.2)	23 (79.3)	25 (89.3)	300 (86.2)	0.7100
Shadowed a CHW	26 (44.8)	37 (42.5)	49 (40.8)	10 (34.5)	10 (35.7)	144 (41.4)	0.8763
Mentored	32 (55.2)	48 (55.2)	63 (52.5)	15 (51.7)	10 (35.7)	183 (52.6)	0.4724
Conference training	48 (82.8)	79 (90.8)	104 (86.7)	21 (72.4)	25 (89.3)	303 (87.1)	0.1599
Community college	16 (27.6)	24 (27.6)	46 (38.3)	9 (31.0)	6 (21.4)	105 (30.2)	0.3151
CHW certification	38 (65.5)	50 (57.5)	80 (66.7)	16 (55.2)	17 (60.7)	213 (61.2)	0.5924
Leadership training	35 (60.3)	59 (67.8)	81(67.5)	17 (58.6)	17 (60.7)	228 (65.5)	0.7320
Advocacy training (N = 315)	42 (73.7)	62 (72.1)	91 (76.5)	18 (66.7)	20 (76.9)	20 (76.9)	0.8327

was not significant. CHWs with more than 5 years experience were significantly more likely to focus on behavioral health issues of clients (19% vs. 11%) and communicable disease (14% vs. 6%). CHWs who lived in a border state were significantly less likely to be addressing asthma (7% vs. 16%). There was no significant difference in health issues by the type of agency.

Job Activities

In responding to general questions about job activities, 88% of respondents work with individuals, slightly more than the 78% who work with groups. Reflecting perhaps a greater level of community responsiveness and engagement, 71% reported working with community leaders, 72% with other CHWs on projects, and 52% participate in a group or coalition that is addressing a health problem. There were no significant differences in job activities by organizational type, ethnicity match or being from a border state, as shown in Table 3. Promotores with more than 5 years' experience were more likely to report that they worked with individuals (94% vs. 82%), groups (85% vs. 76%), and community leaders (77% vs. 67%), reflecting a greater breadth of job responsibilities with more years on the job.

Client Services

The NCHWAS is limited in its attempt to provide a comprehensive catalogue of CHW activities as defined in the CHAS and HRSA study. However, when asked to describe a time that they advocated (worked for a cause or change) to help an individual or a family, 53% of participants responded with examples that provide broad insight into the quality of their interactions and activities with clients. Table 4 illustrates ways in which CHWs apply NCHAS core competencies that encompass the HRSA overlapping models of care to address client needs. Three-fourths of the responses incorporated the core competency 'assuring that people get the services they need' and the models of care 'navigator' role. About half of the activities described ways in which CHWs provided cultural mediation across the different models of care.

The most salient finding was the synergistic nature of CHW activities; each effort to help a client encompassing various core roles and overlapping models of care. The stories below provide examples of how CHWs activities are formed in direct response to the needs and situation of their clients.

> *"A lady came to me saying she had economic and medical problems. She did not qualify for insurance and was barely able to make her house payments since she worked part-time and her spouse had recently become unemployed. Both were in their early 60's. I referred her for a food box and supplied a glucometer and lancets. She came in for diabetes education and also received a tool kit. Well, when she went to get her food box, she was sent to the DES office and they referred her back to the community center. The lady did not have a car so she walked from one place to another and was feeling upset because of the lack of help. She called me crying. I contacted the food box distribution people and told them about the troubles the lady had gone through and to inform me on the best possible way to obtain services when referring and so they opted for me to write a letter to the Food Bank's main office and inform them of the reason for referral and told me to pick up the box. Some organizations make it difficult to impossible for people to obtain needed services as was in this case. Some don't even consider the hardships people go through to receive services and we are here to help whenever that happens."* (Health educator; Assuring people get the services they need; Advocating for individual needs; Navigator)

Table 3 Job activities by type of organization (N = 305)

Outreach sites	CHC n (%) 58 (19.0)	CBO n (%) 112 (36.7)	Clinic n (%) 83 (27.2)	HD n (%) 26 (8.5)	Other n (%) 26 (8.5)	Total n (%) 305 (82.2)	*P*-value
Homes	40 (65.6)	65 (56.0)	44 (53.7)	13 (48.2)	18 (72.0)	180 (57.9)	0.2580
Migrant camps	7 (11.5)	13 (11.2)	10 (12.2)	1 (3.7)	3 (12.0)	34 (10.9)	0.8278
Religious organizations	18 (29.5)	40 (34.5)	23 (28.1)	6 (22.2)	6 (24.0)	93 (29.9)	0.6894
Schools	32 (52.5)	56 (48.3)	36 (43.9)	14 (51.9)	10 (40.0)	148 (47.6)	0.7723
Community centers	36 (59.0)	63 (54.3)	48 (58.5)	14 (51.9)	12 (48.0)	173 (55.6)	0.8460
Shelters	11 (18.0)	20 (17.2)	13 (15.9)	1 (3.7)	3 (12.0)	48 (15.4)	0.4441
Clinics	25 (41.0)	45 (38.8)	33 (40.2)	13 (48.2)	11 (40.0)	127 (40.8)	0.9169
Worksites	15 (24.6)	39 (33.6)	28 (34.2)	9 (33.3)	7 (28.0)	98 (31.5)	0.7330
Health issues addressed	CHC n (%) 58(19.0)	CBO n (%) 112(36.7)	Clinic n (%) 83(27.2)	HD n (%) 26(8.5)	Other n (%) 26(8.5)	Total n (%) 305(82.2)	*P*-value
Alcohol use	9 (15.5)	16 (14.3)	7 (8.4)	2 (7.7)	6 (23.1)	40 (13.1)	0.2951
Asthma	5 (8.6)	9 (8.0)	7 (8.4)	6 (23.1)	6 (23.1)	33 (10.8)	0.0536
Behavioral health	7 (12.1)	15 (13.4)	12 (14.5)	3 (11.5)	4 (15.4)	41 (13.4)	0.9983
Chronic disease	26 (44.8)	69 (61.6)	50 (60.2)	12 (46.2)	16 (61.5)	173 (56.7)	0.1820
Communicable disease	3 (5.2)	13 (11.6)	11 (13.3)	2 (7.7)	1 (3.9)	30 (9.8)	0.4641
Dental health	11 (19.0)	12 (10.7)	11 (13.3)	5 (19.2)	1 (3.9)	40 (13.1)	0.2719
Senior health	8 (13.8)	19 (17.0)	13 (15.7)	3 (11.5)	3 (11.5)	46 (15.1)	0.9583
Environmental health	4 (6.9)	7 (6.3)	9 (10.8)	4 (15.4)	1 (3.9)	25 (8.2)	0.4414
HIV/AIDS	6 (10.3)	18 (16.1)	11 (13.3)	0	1 (3.9)	36 (11.8)	0.1094
Injury prevention	0	2 (1.8)	3 (3.6)	1 (3.9)	2 (7.7)	8 (2.6)	0.1846
Maternal and child health	21 (36.2)	25 (22.3)	19 (22.9)	8 (30.8)	10 (38.5)	83 (27.2)	0.1694
Prevention	24 (41.4)	47 (42.0)	36 (43.4)	10 (38.5)	10 (38.5)	127 (41.6)	0.9910
Obesity	6 (10.3)	28 (25.0)	26 (31.3)	3 (11.5)	5 (19.2)	68 (22.3)	0.0245
Occupational health	1 (1.7)	1 (0.9)	2 (2.4)	0	0	4 (1.3)	0.9154
Adolescent health	6 (10.3)	19 (17.0)	9 (10.8)	4 (15.4)	0	38 (12.5)	0.1333
Health access	21 (36.2)	42 (37.5)	34 (41.0)	12 (46.2)	8 (30.8)	117 (38.4)	0.8066
Job includes working with	CHC n (%) 58 (19.0)	CBO n (%) 112 (36.7)	Clinic n (%) 83 (27.2)	HD n (%) 26 (8.5)	Other n (%) 26 (8.5)	Total n (%) 305 (82.2)	*P*-value
Individual clients	47 (83.9)	106 (89.8)	76 (88.4)	27 (93.1)	22 (84.6)	278 (88.3)	0.6784
Groups	46 (82.1)	89 (75.4)	68 (79.1)	24 (82.8)	20 (76.9)	247 (78.4)	0.8573
Community leaders	42 (75.0)	79 (67.0)	62 (72.1)	21 (72.4)	19 (73.1)	223 (70.8)	0.8510
Other CHWs	41 (73.2)	84 (71.2)	64 (74.4)	17 (58.6)	21 (80.8)	227 (72.1)	0.4443
In a group or coalition (N = 268)	29 (58.0)	69 (71.1)	49 (69.0)	16 (69.6)	21 (77.8)	184 (68.7)	0.4295

"I have convinced individuals to come into the clinic to have exams done after they have told me of symptoms they been having for possible chronic disease. If they don't have a ride I offer them transportation to the clinic and assist them in applying for treatment if needed." (Bridging between communities and health care systems; Assuring services; Direct services; Screening and health care provider; Navigator)

"I had a client who didn't speak English and her social worker made fun of her for not speaking English. I asked to speak with her supervisor, but that didn't work, so we had to ask for help from the person in charge. The majority of the correspondence that the client received was in English and as a result she didn't understand what was required of her continue to receive benefits (rent, food, insurance) and her case was closed. At the end of it all I helped this

Table 4 Working for a cause or change to help an individual or family

NCHAS Core competencies	HRSA workforce study overlapping models of care	Examples from NCHWAS
1. Bridging/cultural mediation between communities and the health care systems	Navigator Member of care delivery team Screening and health education provider Outreach, enrollment and informing agent	Barriers negotiated, language, undocumented status, no health insurance, can't pay for bills, fearful, no health care, deaf community, illiteracy, not aware of rights, experiencing domestic abuse, can't communicate with providers, the importance of seeking medical care for health symptoms, homeless
2. Providing culturally appropriate and accessible health education and information	Member of care delivery team screening and health education provider	Diabetes, HIV/Aids, substance abuse, general prevention, importance of seeing doctor, mental health, cancer prevention, asthma
3. Assuring that people get the services they need	Member of care delivery team Navigator Outreach, enrollment and informing agent	Identifying services, referring people to services, connecting with a health provider, establishing health insurance, emergency services, transportation, domestic violence services, housing, food bank, immigration services, responding to an illness such as cancer, paying health care and other bills
4. Providing informal counseling and social support	Member of care delivery team Screening and health education provider	Domestic violence, family communication, prevention, dealing with health issues, death and grieving.
5.Advocating for individual and community needs	Organizer	Directed toward the provider, ensuring that clients receive the services they are entitled to, ensuring that clients are treated with respect, finding ways to deal with lack of ability to pay for services, advocating in a systematic way for client rights and needs
6. Providing direct services	Member of care delivery team	Transportation, working with clients with special needs
7. Building individual and community capacity	Organizer	Helping organizations understand needs of patients; teaching patients to insist on their rights, helping clients respond to CPS requirements, developing mental health capacity in a clinic.

client navigate the system so that she and her children had a roof, food and health insurance. The worker wasn't conscientious that her form of communication was a major impediment to her receiving the services she needed." (Cultural mediator; Assuring services; Individual advocacy; Navigator).

"In one instance a patient presented with a suspect mammography and couldn't get funding for procedures needed to rule out or diagnose breast cancer. I made phone calls on the state level requesting information and review as to why the patient was being denied services when she clearly met the high risk criteria. The end result was that the participating agency was misinformed on state policy for the state initiative, in a sense they were needlessly turning away patients on a technicality. Patient received the services she needed for diagnosis and treatment after I made the appropriate calls." (Bridging; Assuring services; Individual advocacy; Building agency capacity; Navigator)

"One of our participant's daughters had asthma and was missing several days of school and behind in her grades. We managed to contact the school's counselor and schedule an appointment to discuss what they could do to help the girl obtain homework to do at home when she got sick due to her severe asthma. In addition, I was able to gather her additional services—medical." (Bridging; Assuring services; Individual and agency capacity building; Individual advocacy; Team member).

Discussion

In this study we provide results of a national online study of CHW characteristics, training and job activities in an effort to contribute to an overall understanding of the professional field and its role in the health care system. With this snapshot, we are able to confirm and reiterate that CHWs represent the communities they serve, that they are most often female, and

that they are involved in outreach in a variety of community settings. While survey responses over-represent the US-Mexico Border states, findings demonstrate that CHWs work across the United States in various types of agencies both inside and outside of the clinical environment. CHWs address a broad spectrum of health issues, however the most frequently addressed issues reflect those of greatest national concern currently-access to health care and chronic disease. CHW training is a topic of controversy among CHW stakeholders, specifically the question of need for standardized training and whether CHWs should be credentialed. Our findings demonstrate that CHWs have at least a high school education, and are trained on-the-job, likely tailored to the specific needs of the agency, coupled with inherent life experience as a member of the community served and enhanced by conference training. We did not ask about disease specific training, but given that many CHWs address specific health areas, it is likely that on-the-job training includes this category. Likewise, while our survey questions on CHW activities was far from exhaustive, findings allowed us to confirm that most CHWs work with clients, groups, other CHWs, and less frequently community leaders to address health issues.

Examinations of associations by agency type, geographic location, and ethnicity match, reveal little difference in CHW characteristics, training and job activities. Thus, regardless of whether a CHW works in a clinic or a grassroots agency, they tend to address similar health issues in similar ways with similar types of training. The greatest differences were demonstrated in years of experience, with CHWs with more than 5 years being more likely to have had leadership training and on-the-job training and to have a broader scope of activities to include working with individuals, groups and community leaders. More experienced CHWs are also more likely to work on behavioral health and communicable disease issues, reflecting perhaps that behavioral health issues are a co-morbidity of chronic disease and other health problems that CHWs become aware of and begin to address of as they gain experience in working in the field. It was surprising to the AzPRC research committee that CHWs on the border were less likely to be addressing asthma given that they consider it to be a serious issue in their communities.

We did not anticipate that the on-line survey would be a rich source of stories about CHW interactions with clients. While our open-ended question focused on advocacy and did not seek to draw an accurate picture of the spectrum of CHW activities, the responses shine a light on how CHWs apply core competencies to assure that individuals and families get the services they need by bridging, connecting, navigating, capacity-building and advocating. The stories also bear testimony to the natural tendency of CHWs toward leadership as well as their flexibility in responding to whatever challenge is confronting their community. This flexibility is paramount because the situations presented demonstrate the complexity of accessing health and human systems, the challenges of preventing and controlling chronic disease and other illness, and the overarching negative impact of discrimination on health disparities.

The NCHWAS results suggest that over the past 50 years the CHW role has become standardized across organizational types, health focus, target population, and geographical location. We suggest that this role has evolved in response to a void that has long existed in the health and human service delivery system that tends to be hierarchical and categorical rather than responsive and holistic. The advocacy stories reveal that CHWs directly address systemic issues related to health disparities by enabling and compelling disconnected agencies to provide services to which their clients are entitled. Furthermore, CHWs hold a unique position within a rigid system that enables them to be flexible and creative in responding to individual needs, addressing organizational barriers, and organizing community response. Finally, because they are driven by their commitment to the communities they represent, CHWs are relentless in pursuing the needs of their clients.

These findings emphasize the importance of treating the CHWs as a health profession that is acting in a capacity distinct from other the health professions. In both practical application and future research on CHWs, we suggest that CHW core competencies be recognized as vital to addressing health disparities and thus focus on issues that will enable them to do their work more effectively. These efforts should include (1) the willingness of health care providers to recognize and utilize the CHW as integral to the health care delivery team; (2) CHWs cost-effectiveness in addressing specific health issues such as diabetes; and (3) CHW effectiveness in addressing social determinants of health.

We recognize that there are limitations connected with this study that we hope to address in future collaborative endeavors. The greatest challenge is the ability to generalize our findings to the diversity of the CHW profession. There are numerous limitations to an online survey in reaching members of a profession who vary in language; organizational culture; and comfort with technology. In addition, *promotores,* or CHWs serving Latino communities, are over-represented in our survey, while CHWs serving African American and Asian communities are underrepresented, and community health representatives serving Native American Tribes are for practical purposes not represented. Additionally, the focus of our survey was on community advocacy and results do not necessarily provide a comprehensive picture of job activities. In spite of these limitations, our survey does provide an outlook on the profession from CHWs themselves not captured in previous strategies. The fact that respondents were connected to the survey through state and national

networks suggests that they identify strongly as CHWs and are exemplar members of the profession.

In conclusion, NCHWAS is the first study in recent years to yield quantitative and qualitative information directly from persons who define themselves as CHWs from all regions of the nation. As such, we are confident the interpretations are consistent with a large segment of these front line health workers and key stakeholders in the United States health care system. We found CHWs were far more similar than different across such characteristics as job training, outreach sites, health issues addressed and job duties with clients. Future efforts to assess the profession should seek greater collaboration with the networks that connect CHWs within states and across target communities and incorporate strategies beyond the Internet to reach a broader segment of the profession.

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