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Community Health Workers Then and Now

An Overview of National Studies Aimed at Defining the Field

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Abstract: This article compares and contrasts 3 national studies of the US Community Health Worker (CHW) field spanning 15 years. Findings cover 4 areas of overlap among the 3 studies: CHW Demographics, Core Roles and Competencies, Training and Credentialing, and Career Advancement and Workforce Issues. Implications for the future development of research, practice, and policy are discussed. Authors observe that while health care reform has the potential for increasing funding and recognition of CHWs, it is essential that policies support the full range of CHW roles, including CHWs role as change agents, so that CHWs achieve their full potential to improve health outcomes, reduce health disparities, and work for social justice. **Key words:** *community health aides, community health workers, manpower, workforce studies*

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COMMUNITY health workers (CHWs)—skilled community members who work with communities to improve health through a variety of strategies—are increasingly being acknowledged as integral members of the US health care workforce (American Association of Diabetes Educators, 2009; Brownstein et al., 2007; Calori et al., 2010; Gary et al., 2004; Institute of Medicine, 2010; Norris et al., 2006; Smedley et al., 2002; Viswanathan et al., 2009; Witmer et al., 1995). For the first time in the 2010 census, "community health worker" was included as a standard job classification by the US Department of Labor (US Bureau of Labor Statistics, 2010). Further, CHWs' work has been highlighted in the federal Patient Protection and Affordable Care Act (2010). With increasing recognition of CHWs has come increasing interest on the part of policy makers to understand their role and potential

contribution to the health care delivery system. Some states have already passed legislation related to CHWs, while many others are at various stages of the policy development process (Kash et al., 2007; Rosenthal et al., 2010; Texas Department of Health Programs, 1999).

The recognition of CHWs has been long in coming. Community Health Workers, who have been known by a plethora of titles, have played an important role in the US health care system since at least the 1960s (Rosenthal, 2009; Wiggins & Borbón, 1998). Similarly, interest in better defining and understanding the CHW field is not new. Since the mid-1990s, 3 studies have used national surveys to assess the roles that CHWs play within communities and the health care system (Fernandez et al., 2010; Health Resources and Services Administration [HRSA], 2007; Rosenthal et al., 1998). Although these 3 studies were diverse in terms of methodology, geographical reach, respondents, and other variables, they had some variables in common, and thus provide useful snapshots of the CHW field at different points in its recent history. Given the renewed and burgeoning policy interest in CHWs, it seems a propitious time to look back at the 3 studies to assess how the CHW field has and has not changed, as a basis for looking forward to the further development of the field.

In this article, we will provide a brief overview of the outcomes of CHW programs in the United States. Then, we will introduce the 3 studies, examining their purposes, the study participants, and methodology. We will, next, describe the methodology we used to compare the 3 studies, before moving on to share our findings. Findings will be divided into 4 sections that correspond to the major areas of overlap among the 3 studies, which are as follows: CHW Demographics, Core Roles and Competencies, Training and Credentialing, and Career Advancement and Workforce Issues. Finally, we will summarize the key points we identified and reflect on the implications of our findings for the future development of research, practice, and policy in the CHW field.

BACKGROUND

Outcomes of CHW programs

A growing body of research has documented the promising outcomes of CHW programs. In 1995, Witmer and colleagues reported that CHWs can increase access to health care and health education, promote community empowerment, improve quality of care and compliance with prescribed care, and reduce the costs of care. In a subsequent analysis of the literature on CHWs in the United States, Swider (2002) added improving health status and promoting behavior change to the list of demonstrated outcomes of CHW programs. Other studies have highlighted CHWs' role in helping people to manage chronic diseases (Brownstein et al., 2007; Levine et al., 1992; Norris et al., 2006). Using a rigorous methodology, a 2010 Agency for Healthcare Research and Quality review of the literature about CHWs concluded that "CHWs can serve as a means of improving outcomes for underserved populations" (Viswanathan et al., 2009).

In the 1990s, studies began to emerge that looked at CHWs as members of the health care workforce. Some studies assessed CHWs at the regional or state level (Anthony et al., 2009; Ballester, 2005; Love & Gardener, 1992; Virginia Center for Health Outreach, 2006), whereas others described the field nationally using key informant interviews and reviews of the literature (Family Strengthening Policy Center, 2006; Ross & Patrick, 2006). The 3 studies highlighted in this article were unique in that they took a broad workforce focus and each used a national survey as one of their methods.

AN INTRODUCTION TO THE 3 STUDIES

The 3 national studies examined in this article span 15 years from 1995 to 2010. The studies are the National Community Health Advisor Study (NCHAS, 1998), the Community Health Worker National Workforce Study (CHW-NWS, 2007), and the National Community Health Worker Advocacy Survey

(NCHWAS, 2010). Each of these studies is independent but the later studies built on the earlier studies.

The NCHAS was conducted by the University of Arizona's Rural Health Office with funding from the Annie E. Casey Foundation. Data collection was conducted over the course of 2 years, from 1995 to 1997; a final report was disseminated in 1998. The study used a participatory research approach and was guided by a majority-CHW Advisory Council, whose 36 members participated in the analysis and made final recommendations. It focused on 4 areas of CHW policy and practice: core roles and competencies, evaluation of CHW programs, career and field development issues, and CHWs' role in the changing health care system. Data collection methods included a survey in Spanish and English of CHWs (n = 230) and CHW supervisors (n = 51), which was distributed at meetings and through networks. Survey respondents came from 29 states and the District of Colombia. Researchers also conducted individual interviews, 3 cross-program focus groups with CHWs, 1 focus group with CHW supervisors, and 14 focus groups with CHWs during site visits to CHW programs across the United States.

The CHW-NWS, carried out from 2004 to 2007, was also a comprehensive study but in contrast to the NCHAS, it relied most heavily on existing data and literature versus original research. The Regional Center for Health Workforce Studies of The University of Texas Health Science Center led the study under a contract from the Health Research and Services Administration. Study methods included a review of existing literature and interviews with employers and CHWs in 4 states. Through an affiliation agreement, the CHW-NWS also analyzed and reported data from an online National Employer Inventory (NEI) conducted by the Center for Sustainable Health Outreach with funding from the W. K. Kellogg Foundation. The inventory sought to reach all CHW employers and ultimately verified more than 700 in all 50 states; approximately 500 responded to the online survey. In addition, investigators made national and state workforce estimates using data from the census and the US Department of Labor. In this article we will use "CHW-NWS" when referring to the study and "NEI" when referencing the Center for Sustainable Health Outreach NEI survey.

The NCHWAS was conducted by the University of Arizona's Centers for Disease Control and Prevention–funded Prevention Research Center over an 8-month period beginning in 2009. The survey instrument, available in Spanish and English, was disseminated electronically with the cooperation of state and national CHW networks. Questions designed to describe the CHW workforce were drawn from the NCHAS survey and questions exploring advocacy work were based on a 2007 survey conducted in Arizona by the Prevention Research Center research team. A total of 332 individuals from 21 states and the District of Columbia responded to the NCHWAS survey. Geographical distribution of respondents was influenced by the presence of CHW networks and known contact people in given regions. This survey, part of an ongoing study, will be readministered in 5 years.

The first 2 studies were comprehensive, using multiple existing and new data sources. The third study is still ongoing and to date consists only of survey data. All 3 studies utilized a national survey, although NCHAS and NCHWAS surveyed CHWs whereas CHW-NWS surveyed CHW employers. The NCHAS took a participatory approach and engaged CHWs in looking at their own field, with an agenda to strengthen the CHW profession and enhance its capacity to serve communities in need. The CHW-NWS was descriptive in nature and looked at CHWs as part of the US workforce. It presented the CHW model as a cost containment strategy and defined CHWs as "lay members of communities . . . in association with the local health care system" (p. iii). The NCHWAS aimed "to better understand the types of work that community health workers perform in general and the type of advocacy work in particular" (questionnaire, p. 3), as well as to develop a national baseline of CHW community advocacy.

METHODOLOGY

The authors of this article had access to the survey data for all 3 studies because all of the authors were also involved in 1 or more of the 3 previous studies. A table was constructed that consisted of 3 columns corresponding to the 3 studies, and multiple rows corresponding to the general topics of the 3 studies. Comparable questions within the general topic areas were then identified and placed in the cells of the table. Some questions were almost identical, whereas others asked for similar information using different wording. Frequencies and percentages were computed for all comparable questions in the NCHAS and NCHWAS, as well as some questions that were unique to each study. Problems with the manner in which the NEI data had been coded meant that it was difficult to compare responses even for similar questions; thus, only very limited new data from the NEI are included here. In addition to directly comparing the quantitative data, published qualitative and quantitative findings of all 3 studies were also compared. Some differences in data sources and analyses occurred from topic to topic; these are discussed within each of the 4 sections of the findings. Other sources including articles and policies on CHW credentialing were also consulted to inform the analysis.

Two important limitations of the data are sampling bias and lack of comparability. Both the NCHAS and NCHWAS used convenience samples assembled either online or in person through networks. Although some effort was made to define the universe of CHW employers for the NEI, given the fluid nature of the field, respondents still represent a nonscientific sample. In addition, although some questions were carried over from one survey to the next, many questions were changed or added, producing noncomparable data sets. In addition, each study surveyed a somewhat different group, as follows: CHWs and CHWs supervisors in the case of NCHAS, CHW employers in the case of the NEI, and CHWs in the case of NCHWAS. Because of these limitations, we cannot assume that changes in participant responses from one study to the next indicate changes in the CHW field. The most we can assert is that participants responded differently from one study to the next, and that this *may* indicate a change in the field.

FINDINGS

CHW and program demographics

Individual CHWs

Differences in demographic survey findings offer possible insights into trends in the field, or at the very least, trends among those CHWs who have access to and respond to surveys. One possible trend is the increasing age of the survey respondents. In the NCHAS in the mid-1990s, 77% of CHW respondents were younger than 50 years; in the NEI in the mid-2000s, 55% of CHWs were reported to be younger than that age; and finally, in the NCHWAS at the end of the decade, 37.6% of CHW respondents were under younger than 50 years. In addition, the NEI reported that CHWs younger than 50 years were more commonly paid than those older than that age (84% vs 75%). More men may now be entering the CHW workforce. Ninety-one percent of respondents to the NCHAS survey were women, compared with 82% in the NEI and 70% in the NCHWAS.

The racial/ethnic breakdown of survey respondents appears clearly influenced by the languages in which the survey was available and the ways respondents were reached. Fifty percent of the CHWs responding to the NCHAS survey (available in English and Spanish) were Hispanic, whereas 21% were non-Hispanic white and 19% were African American. Similarly, 54% of CHWs who responded to the NCHWAS (also available in English and Spanish) identified as Latino/Latina, whereas 10% identified as white and only 8.4% identified as African American. By contrast, according to employers who responded to the NEI, 35% of CHWs were Hispanic, 39% were nonHispanic white, and 16% were African American.

CHW programs

In the NCHAS, 58% of survey respondents worked in a program with 10 or fewer CHWs;

in the NCHWAS that percentage was 65%. No comparable data were reported in the CHW-NWS, although the NEI reported that the majority of CHWs (43%) served in organizations with fewer than 19 employees.

Among NCHAS respondents, 30% worked in urban areas, 27% worked in rural areas, and 38% worked in both rural and urban areas. In the NEI, employers indicated that, of the CHWs with whom they worked, 42% were based in urban or urbanized areas, 18% worked in rural areas, 11% served in suburban areas, and 31% worked/served in both urban and rural areas; response categories were not mutually exclusive. In the NCHWAS, 86% of respondents worked in urban areas, 21% worked in rural areas, and 10% worked in both.

Most common work sites in the NCHAS included homes, community centers, clinics, hospitals, and schools in that order. Fifteen years later, in the NCHWAS, these were again the top 4 sites, with community centers now slightly more commonly reported than homes. In the CHW-NWS, work sites were not reported in a comparable way; however, the study reports that CHWs were most commonly employed in grassroots organizations, universities, and local health care organizations.

Most common health issues addressed by CHWs in the NCHAS included human immunodeficiency virus-AIDs, cancer, women's health, and prenatal and maternal health; issues related to poverty, housing, food, and employment resources were also among the topics most commonly addressed. In the CHW-NWS, top issues reported by employers were nutrition, women's health, pregnancy and prenatal care, and child health. In the NCHWAS, the top health issues addressed by CHWs were chronic disease, prevention, access, maternal and child health, and obesity.

CORE ROLES AND SKILLS

Purpose of defining roles and skills

An objective of all 3 national studies was to further define the roles that CHWs play in communities and the health care system, and the skills (and in some cases, qualities) they need to carry out these roles. Each study provided a somewhat different rationale for the focus on roles and skills. The NCHAS chapter on roles and competencies proposed that better definition of CHWs' roles and skills could enhance programs, further policy development, make it easier for CHWs to organize around their common interests, increase appreciation for CHWs among other health care providers, and facilitate CHWs' integration into the health care system, thus enhancing the system's ability to address the social determinants of health (Wiggins & Borbón, 1998). The authors of the chapter also expressed the need to approach role definition with caution, feeling that an overly prescriptive approach could rob the CHW model of its responsiveness to the unique needs of particular communities.

In the CHW-NWS, questions about roles and skills were included as part of a larger section titled, "The Community Health Worker Workforce." No specific rationale for these questions is provided. However, the report strongly emphasizes cost containment and cultural competence as potential contributions of the CHW model. In the NCHWAS, the purpose of questions about roles and skills was to better understand CHW characteristics related to advocacy work.

Data collection and analysis for core roles and skills

The findings of the roles and competencies chapter of the NCHAS are based primarily on data from interviews and focus groups conducted in the context of site visits to 10 programs, 6 of them rural and 4 urban. A total of 88 CHWs and 14 program coordinators participated. These data are supplemented by findings from the survey of CHWs and coordinators. The decision to base conclusions on the qualitative data was made both because of the exploratory nature of the research and also because of substantial limitations of the quantitative data.

In the CHW-NWS, findings regarding the percentage of CHWs providing a predefined

list of services were based on the NEI. A list of "program components" included in the findings is derived from a literature review by Nemcek and Sabatier (2003). A data source for a list of "key areas of CHW activity" is not provided, but reproduces the 7 core roles and associated functions of the NCHAS almost exactly. Likewise, a specific data source is not provided for a list of 5 "Models of Care Utilizing CHWs." The NCHWAS findings again come from the online survey.

Findings about core roles and skills

The NCHAS identified 7 core roles of CHWs with associated functions (Wiggins & Borbón, 1998; see Table 1). Each function is explained and the authors make extensive use of quotations from CHWs and CHW supervisors. Results of the NCHAS survey of CHWs and CHW supervisors generally validated the list of core roles identified on the basis of the qualitative data. Of the 10 functions mentioned most often in the survey, 5 correspond to CHWs' role as educators (role 2). The NCHAS authors and advisory council members recommended that this list of roles be used in concert with a community strengths and needs assessment when designing CHW programs.

The NCHAS researchers were cognizant that a definition of competencies based solely on observable behaviors did not accord well with the CHW field, where community membership is one of the few commonly agreed-upon characteristics. However, this fact became even more evident when the NCHAS researchers conducted interviews and focus groups around the country. Although they defined their terms and repeatedly asked CHWs to identify *both the qualities and the skills* they needed to carry out their work, CHWs overwhelmingly responded by mentioning qualities and not skills. This was also true of the open-ended survey question that asked about skills and qualities. On the basis of the responses to this survey question, the authors identified a list of the 18 most commonly mentioned qualities (see Table 2, available online http://links.lww.com/JACM/A8). Data from the interviews were consistent with the survey findings and were used to further explain what respondents meant when they mentioned certain qualities in the survey. The authors and the NCHAS advisory council recommended that the list of qualities be used by program staff when recruiting and hiring CHWs.

The same survey question used to identify the qualities listed in Table 2 also produced a list of skills and abilities needed by CHWs. These data were combined with data from the interviews and focus groups and input from the NCHAS advisory council to identify 8 "skills clusters." These are presented graphically in Figure 1 and explained fully in the NCHAS final report. Although the figure is not drawn strictly to scale, the relative size of the skill clusters in Figure 1 reflects how often various skills were mentioned in the survey. For example, 363 of 833 skills mentioned in the survey fell into the category of "communication skills," thus the large size of that cluster in the figure. The authors and the NCHAS advisory council recommended that the skills clusters be used as the basis for developing curricula for training CHWs and as prerequisites for formal certification as a CHW.

Although the NEI does include a question about "traits," these data are not reported; the findings in the CHW-NWS all deal with roles and skills of CHWs. The NEI asked respondents to indicate which of 17 services were provided by CHWs in their organization (see Table 3, available online http://links.lww.com/JACM/A8). Averaging across all response categories (paid only, volunteer only, and paid and volunteer), services identified by the greatest percentage of respondents include assisting in accessing medical services (84%), providing culturally appropriate health education and information (82%), assisting in accessing nonmedical services (72%), community advocacy (53%), and social support (46%). The 8 "program components" identified by Nemcek & Sabatier (2003) and reported in the CHW-NWS include outreach, culturally sensitive care, health education/counseling, health advocacy, home visits, health promotion/lifestyle change, perinatal care, and transportation/homemaking.

Table 1. Roles of Community Health Advisors

I. Bridging/cultural mediation between communities and the health care systems
  A. Educating community members about how to use the health care and social service systems
  B. Educating the health and social service systems about community needs and perspectives
    1. Changing the services which the system offers
    2. Changing the way in which services are offered
    3. Changing attitudes and behaviors
  C. Information gathering
  D. Interpretation and translation
II. Providing culturally appropriate and accessible health education and information
  A. Teaching concepts of health promotion and disease prevention
  B. Helping to manage chronic illness
  C. Training other community health advisors
III. Assuring that people get the services they need
  A. Case finding
  B. Making referrals
  C. Motivating and encouraging people to obtain care
  D. Taking people to services
  E. Providing follow-up
IV. Providing informal counseling and social support
  A. Providing Individual support and informal counseling
  B. Leading support groups
V. Advocating for individual and community needs
  A. Acting as spokespersons for clients
  B. Acting as intermediaries between clients and the health and social service systems
  C. Advocating for the needs and perspectives of communities
VI. Providing direct services
  A. Providing clinical services
    1. Administering basic first aid
    2. Administering screening tests (ie, heights and weights, vision, hearing, and dental screening; blood pressure; temperature; blood glucose)
  B. Meeting basic needs (ie, assuring that the people have the basic determinants of good health, such as food, adequate housing, clothing, and employment)
VII. Building individual and community capacity
  A. Building individual capacity
  B. Building community capacity
  C. Assessing individual and community needs

Adapted, with permission, from Wiggins and Borbón (1998); p. 36.

The "Key Areas of CHW Activity" identified in the CHW-NWS are found in Table 4 (available online http://links.lww.com/JACM/A8). They mirror the NCHAS findings almost exactly, except that the advocacy role is combined with the role of assuring that people receive the services they need. The 5 "Models of Care Utilizing CHWs" reported in the CHW-NWS are as follows: member of care delivery team, navigator, screening and health education provider, outreach/enrolling/informing agent, and organizer.

The NCHWAS asked respondents whether their job descriptions include advocacy. Of those who responded (23% of the total did not), 75% said "yes." This is strikingly similar to the 77% of NCHAS survey respondents who said they "make an impact on the community as a whole by promoting changes at a community level and through advocacy for programs and policies." Responses to the NCHWAS question "How do you spend your time?" suggest that the largest percentage of respondents work with individuals (42%), but

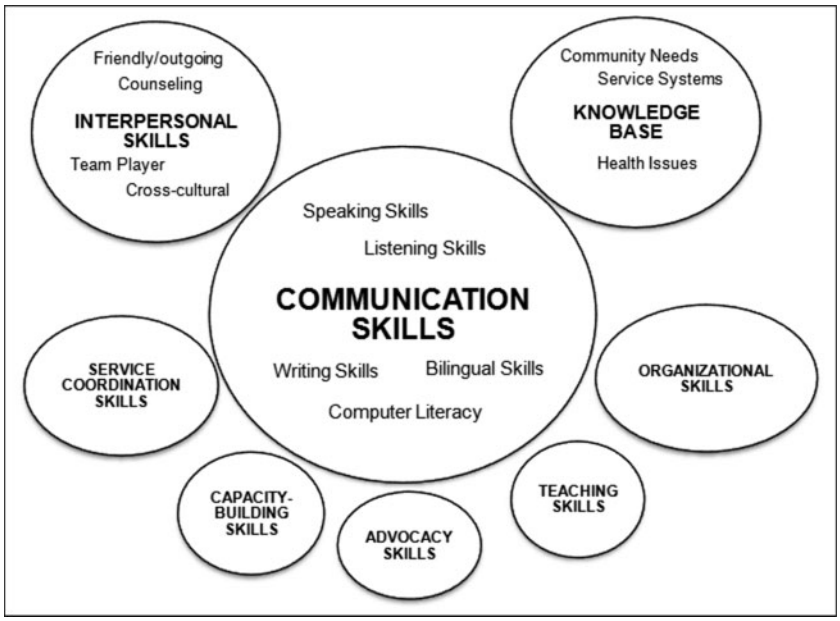

Figure 1. Skills clusters for community health advisors. Adapted, with permission, from Wiggins and Borbón (1998); p. 47.

that substantial percentages of respondents also work with groups (25%), with community leaders (8%), and in other configurations (19%).

TRAINING AND CREDENTIALING

Training

The 3 studies addressed the issue of training for CHWs to differing degrees and from different vantage points, but findings are straightforward. The most common training modality among respondents to the NCHAS was "on the job" (83%), followed by "experience on the job" (79%), and "school-based training" (21%). Fully 50% of the responses to the question about topics of training were health content areas, whereas the remaining 50% were specific skills, such as confidentiality and counseling. Training was identified in the NCHAS as 1 of the 4 professionalization strategies for CHWs (Rosenthal, 1998). On the basis of their review of NCHAS findings, the advisory council recommended conferring academic credit for training, establishing designated CHW training centers, providing paid on-the-job training, developing standard training curricula, and providing training for CHW supervisors.

"About half" of the employers who responded to the NEI required that CHWs have some prior education or training at hiring (a specific percentage is not given). "Most employers" reported that they require that CHWs receive training after they are hired (again, no specific percentage is provided). The most common topics of CHW posthire training, according to the NEI, are cultural awareness (80%), knowledge of health issues (79%), knowledge of social services (73%), interpersonal communication skills (70%), being a CHW (60%), and client advocacy (59%); the least common topic was leadership (38%).

The most common training experiences among respondents to the NCHWAS were "on the job" (80%), CHW certificate program (60%), shadowing (36%), and a college class (28%). Given that formal certification programs only exist in a few states (Kash et al., 2007), it can be inferred that most respondents who answered "yes" to "CHW certificate program" were referring to a training program that awarded a certificate, as

opposed to a formal credentialing program. Sixty-eight percent of NCHWAS respondents said they had participated in advocacy training, whereas 24% said "no" and 8% did not respond to this question.

Credentialing

The topic of credentialing was of great interest to the NCHAS research team and advisory council members, although at the time no state had a full-scale CHW credentialing program. The experience of the Annie E. Casey Foundation in early childhood education had indicated that credentialing would not necessarily assure increased wages and benefits for workers, so the funder urged the research team to carefully investigate this question. The NCHAS research team explored professional development in several other professions and concluded that one of the most promising methods relevant to the CHW field was development of host-agency standards (Rosenthal, 1998). This information was shared at a meeting of the NCHAS advisory council. Although council members listened with interest, they strongly asserted that the NCHAS should recommend the creation of a CHW credential, believing that such a move would ultimately improve the status of CHWs. Honoring their viewpoint and leadership, the study made this recommendation.

As reported in the CHW-NWS, 1 year after the NCHAS's 1998 release, the Texas state legislature took the initiative to "govern the utilization of CHWs" (HRSA, p. 35) and by 2001 they established a statewide CHW credential that was "based on the eight 'core competencies' identified in the NCHAS" (HRSA, p. 35). The CHW-NWS also reports on the Ohio CHW credential established in 2003; information about several other credentialing activities is included in the CHW-NWS. The NCHWAS does not address the topic of credentialing.

CAREER ADVANCEMENT AND WORKFORCE ISSUES

In the NCHAS chapter, "Strengthening the Community Health Advisor Field: A Career in Development," 4 levels of support and intervention are identified as key to advancing the CHW field, as follows: (1) Individual CHWs; (2) CHW training and capacity building; (3) CHW program/agency-base; and (4) Interprogram CHW networks (Rosenthal, 1998). These levels are represented graphically in Figure 2 (available online http://links.lww.com/JACM/A8). The CHW-NWS looked to the areas of education and training systems for examples of career and field advancement strategies. The NCHWAS did not address this issue.

In the NCHAS, it is suggested that advancing the field is linked to CHW networking and the opportunities for leadership development it provides, and a number of national, state, and tribal CHW networks are described. Almost 75% of respondents to the NCHAS survey reported networking with CHWs outside their agency. Nearly 15 years later, NCHWAS respondents participated in networks at a variety of levels (local networks = 40%; regional networks = 18%; state networks = 20%; national networks = 8%).

According to both the NCHAS and the CHW-NWS, the majority of CHWs are paid workers. The 3 studies suggest that, over time, CHW wages are increasing. NCHAS survey respondents in 1996 earned between $7.90 and $10.90 per hour. According to respondents to the NEI, 64% of paid new hires made less than $13.00 per hour, but nearly half (49%) of experienced CHWs earned more than $15 an hour. Although the data are difficult to compare, data suggest that health insurance status differed from one set of respondents to another. Survey data from the NCHAS showed that 48% of respondents had health insurance. In the NEI, 71% of employers indicated that they were paying for health insurance for employed CHWs. In the NCHWAS, 54% of respondents reported that their employer offered benefits.

Volunteers play an important role in CHW history and current practice. In the United States, one goal of "intentional" volunteer CHW programs has been to strengthen the capacity of existing community networks to

partner with health programs to address public health issues prioritized by community members themselves (Eng & Parker, 1994, 2002; Eng et al., 1997; Eng & Young, 1992). In some cases, however, volunteer CHW programs may be developed because of a lack of funding rather than the intent to foster natural helping systems. The NCHAS estimated that 25% of CHWs were volunteer; the CHW-NWS estimated that nearly one-third (32%) of CHW programs had volunteers. According to estimates in the CHW-NWS, volunteerism is least common in the northeast (where <1% of programs have volunteers only), whereas in the south, 9% of CHW programs have only volunteers. The NCHWAS did not distinguish between paid and volunteer CHWs.

DISCUSSION

CHW demographics

Like much of the public health workforce (Heishman, 2007), the CHW workforce may be aging. However, because of the nonrandom samples that were used in all 3 national surveys, it is impossible to make this assertion with any certainty. Further exploration of the age range and average age of CHWs is warranted because it has implications for recruitment efforts. Our current data do not provide information about changes in the size of programs or supervisor-to-CHW ratios. This information would be helpful because the NCHAS (Rosenthal et al., 1998) and experience suggest that CHWs benefit from working with supervisors who have sufficient time and skills to act as mentors and job coaches. Our findings suggest that CHWs and their programs are flexible and able to respond to emerging health issues. NCHAS respondents cited human immunodeficiency virus-AIDS as the most common health issue of focus, whereas NEI respondents named nutrition and women's health and NCHWAS respondents identified chronic disease and obesity.

Core roles and competencies

Results reported from the NCHAS and CHW-NWS suggest consistency in the roles played by CHWs. As mentioned earlier, the list of "key areas of CHW activity" identified in the CHW-NWS mirrors the 7 core roles and subroles identified in the NCHAS almost exactly. However, the identified areas were based not on original data but rather on literature, primarily the NCHAS (although the NCHAS is not cited). The findings of the NEI are notable in that the 5 most commonly identified services included both the routine function of assisting in accessing medical and nonmedical services as well as the complex functions of providing social support and conducting community advocacy. Similarly, approximately 75% of those who responded to questions in the NCHAS and NCHWAS asking whether they conducted some form of advocacy said "yes." Clearly, although the function of connecting people to existing services is an important function for CHWs, many CHWs are also involved in supporting communities to address the social determinants of health through advocacy and organizing. A variety of studies have suggested that CHWs' role as agents of social change is, in fact, their most important role (Eng & Young, 1992; Farquhar et al., 2008), and that "the true 'value-added' in the CHW model comes when [CHWs] are allowed and encouraged" to play this role (Wiggins and Borbón, 1998, p. 45).

Training and credentialing

Despite almost 15 years between data collection for the NCHAS and the NCHWAS, findings suggest that CHWs' training experiences have remained remarkably similar. In both studies, "on the job training" is by far the most common type of training for CHWs. Although CHW training programs based in community colleges have become much more common in the last decade (see http://chw-nec.org), only 28% of the respondents to the NCHWAS said they had participated in college classes; this is only slightly higher than the 21% who said that they had received "school-based training" in the NCHAS. One major difference is that 60% of NCHWAS respondents reported having participated in a CHW certificate program; this may be related to the fact that approximately

one-third of NCHWAS respondents were from Texas, where certification is required.

Regarding topics of CHW training, results of the NCHAS and CHW-NWS would lead one to believe that despite recommendations to focus more on core skills (Calori et al., 2010) training in specific health issues has remained a focus. A lack of consistency in how training topics are described in the 2 studies and a lack of reporting of specific percentages in the NCHAS make it difficult to compare findings in a more detailed way. None of the studies provide information about the most effective methods for CHW training. Given that recent studies have suggested that methods such as popular education can enhance CHWs' empowerment with no accompanying sacrifice in their acquisition of knowledge (Wiggins, 2010), more attention needs to be paid to the topic of methodology.

The studies and materials reviewed for this article indicate that credentialing for individual CHWs is increasingly of interest (Anthony et al., 2009; Kash et al., 2007). To develop an appropriate set of standards and maximize CHWs' control over their own practice, it is essential that one or more organized CHW networks participate actively in defining and managing any CHW credentialing process (Anthony et al., 2009; Proulx et al., 2008; Rosenthal et al., 2010).

Career advancement and workforce issues

A core activity for the CHW field is the continued development and support of strong CHW leadership at the state, tribal, and national levels. The existence of CHW networks at many levels as reported in the NCHWAS offers promise in this regard. Still, it is evident that no unified CHW voice has emerged to take on a task such as the development of a national set of CHWs standards and competencies. The emergence of a unified voice may be essential to the strength and stability of the field. Some CHW roles, such as providing information and referral, are more easily supported by public funding than other roles, such as advocacy and community organizing (Rosenthal, 2003). Strong leadership from the field is needed to preserve the breadth and depth of CHW roles identified in these studies. Another critical issue that creates ongoing tensions in the field is the bifurcation of the field into paid and volunteer CHWs. From estimates provided in the 2 more comprehensive studies reported here, it appears that the number of volunteer CHWs may be increasing. Identifying and implementing models in which paid and volunteer CHWs work in coordination will enhance both the sustainability and effectiveness of the field.

CONCLUSION

A growing body of research and evaluation has increased understanding of CHW programs and their impacts on health and access to care. Workforce studies have contributed to understanding the roles that CHWs play, the training they need, and the issues they address. Trend data of any depth about the CHW workforce in the United States, however, are lacking. This analysis is an effort to begin to fill that gap. Ongoing efforts of this type are crucial to a better understanding of the evolving role and status of CHWs. To facilitate such efforts, collaboration between CHW networks and supportive organizations on a coordinated research agenda is essential (see http://chrllc.net) (Rosenthal et al., 2008).

Health care reform has increased interest in CHWs at the state, regional, and national levels. Increased interest in CHWs has the potential to increase funding for CHW programs and recognition of CHWs as essential members of the health care workforce. However, the current interest in CHWs also poses a grave threat. Historically, CHWs' most important role has been to create the conditions in which people can be healthy. As trusted community members who also understand the health and social service systems, CHWs are uniquely placed to work with communities to address the social and structural determinants of health (Wiggins & Borbón, 1998). If the CHW role is defined narrowly as increasing access to existing services, then the historic role of CHWs as change agents who work for

social justice could be lost. The authors recommend that practice and policy initiatives seeking to promote the integration of CHWs pay close attention to the full range of CHW roles identified in the past and ensure that they are sustained in the present.

REFERENCES

Anthony, S., Gowler, R., Hirsch, G., & Wilkinson, G. (2009). *Community health workers in Massachusetts: Improving health care and public health*. Boston, MA: Massachusetts Department of Public Health. Retrieved December 10, 2010, from http://www.mass.gov/Eeohhs2/docs/dph/com_health/com_health_workers/legislature_report.pdf

American Association of Diabetes Educators position statement: Community health workers in diabetes management and prevention. (2009). *Diabetes Educator*, *35*, S48–S52.

Ballester, G. (2005). *Community health workers: Essential to improving health in Massachusetts*. Boston, MA: Massachusetts Department of Public Health. Retrieved May 22, 2011, from http://www.mass.gov/Eeohhs2/docs/dph/com_health/com_health_workers/comm_health_workers_narrative.pdf

Brownstein, J. N., Chowdhury, F. M., Norris, S. L., Horsley, T., Jack, L., Jr., Zhang, X., et al. (2007). Effectiveness of community health workers in the care of people with hypertension. *American Journal of Preventive Medicine*, *32*(5), 435–447.

Calori, C., Hart, J., Tein, N., & Burres, S. (2010). *Exploring the integration of CHWs as integral team members of the public health workforce: A brief summary*. Washington, DC: National Heart, Lung, and Blood Institute, National Institutes of Health, US Department of Health and Human Services.

Eng, E., & Parker, E. A. (1994). Measuring community competence in the Mississippi Delta: The interface between program evaluation and empowerment. *Health Education Quarterly, 21*, 199–220.

Eng, E., & Parker, E. A. 2002. Natural helper models. In R. DiClemente, R. Crosby, & M. Kegler (Eds.), *Emerging theories and models in health promotion research and practice*. San Francisco, CA: Jossey-Bass.

Eng, E., Parker, E. A., & Harlan, C. (1997). Lay health advisor intervention strategies: A continuum from natural helping to paraprofessional helping. *Health Education and Behavior*, *24*, 413–417.

Eng, E., & Young, R. (1992). Lay health advisors as community change agents. *Community Health*, *15*, 24–40.

Family Strengthening Policy Center. (2006). *Community health workers: Closing gaps in families' health resources* (Policy brief No. 14). Washington, DC: National Human Services Assembly. Retrieved January 31, 2011, from http://www.nationalassembly.org/fspc/documents/PolicyBriefs/Brief14.pdf

Farquhar, S. A., Wiggins, N., Michael, Y. L., Luhr, G., Jordan, J., & Lopez, A. (2008). "Sitting in different chairs": Roles of the community health workers in the *Poder es Salud*/Power for Health Project. *Education for Health*, *21*(2), 39. Retrieved November 27, 2009, from http://www.educationforhealth.net/articles/subviewnew.asp?ArticleID=39

Fernandez, L., Ingram, M., Guernsey, J., Schachter, K., Kunz, S., Piper, R., et al. (2010). Engaging the community in advocating for social change: The role of CHWs [Abstract]. Paper presented at the 138th American Public Health Association Annual Meeting, November 27, 2010, Denver, CO.

Gary, T. L., Batts-Turner, M., Bone, L. R., Yeh, H. C., Wang, N. Y., Hill-Briggs, F., et al. (2004). A randomized controlled trial of the effects of nurse case manager and community health worker team interventions in urban African-Americans with type 2 diabetes. *Controlled Clinical Trials*, *25*(1), 53–66.

Health Resources and Services Administration. (2007). The Community Health Worker National Workforce Study. Retrieved March 11, 2011, from http://bhpr.hrsa.gov/healthworkforce/chw/

Heishman, H. (2007). *Public health's aging workforce, aging leaders* [Web special]. Northwest Public Health. Retrieved February 01, 2011, from http://www.nwpublichealth.org/docs/nph/f2007/heishman_f2007.pdf

Institute of Medicine. (2010). *A population-based approach to prevent and control hypertension*. Washington, DC: National Academies Press. Retrieved December 12, 2010, from http://iom.edu/Reports/2010/A-Population-Based-Policy-and-Systems-Change-Approach-to-Prevent-and-Control-Hypertension.aspx

Kash, B. A., May, M. L., & Tai-Seale, M. (2007). *Community health worker training and certification programs in the United States: Findings from a national survey*. Science Diet, Health Policy 80. 32–42. Retrieved January 15, 2011, from http://www.healthpolicyjrnl.com/article/PIIS0168851006000364/fulltext

Levine, D. M., Becker, D., & Bone, L. R. (1992). Narrowing the gap in health status of minority populations: A community-academic medical center partnership. *American Journal of Preventive Medicine*, *8*, 319–323.

Love, M. B., & Gardner, K. (1992). *The emerging role of the community health worker in California*.

Retrieved January 31, 2011, from http://www.communityhealthworks.org/theemergin grole.html

Nemcek, M. A., & Sabatier, R. (2003). State of evaluation: Community health workers. *Public Health Nursing, 20*(4), 260–270.

Norris, S. L., Chowdhury, F. M., Van Le, K., Horsley, T., Brownstein, J. N., Zhang, X., et al. (2006). Effectiveness of community health workers in the care of persons with diabetes. *Diabetic Medicine*, *23*(5), 544–556.

Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111-148, sec 5101, 5102, 5313, 5403, and 3509 (2010).

Proulx, D., Rosenthal, E. L., Scheu, L., Collyer, N., Fox, D., & Lacey, Y. (2008). *Key considerations for opening doors: Developing community health worker education programs*. University of Arizona, Arizona Area Health Education Centers Program. Retrieved January 28, 2011, from http://www.chwnec.org/pdf/guidebook.pdf

Rosenthal, E. L. (1998). Strengthening the community health advisor field: A career in development. In *Final report of the National Community Health Advisor Study* (pp. 75–106). Baltimore, MD: Annie E. Casey Foundation.

Rosenthal, E. L. (2003). *The sustainability dance: Lessons to learn for an emerging force in community health-community health workers*. Unpublished doctoral dissertation, University of Massachusetts, Boston.

Rosenthal, E. L. (2009). The evolution of the Community Health Worker field in the United States: The shoulders we stand on. In T. Berthold, J. Miller, & A. Avila (Eds.), *Foundations for community health workers* (pp. 23–44). San Francisco, CA: Jossey-Bass.

Rosenthal, E. L., Brownstein, J. N., Rush, C. H., Hirsch, G. R., Willaert, A. M., Scott, J. R., et al. (2010). Community health workers: Part of the solution. *Health Affairs (Millwood), 29*(7), 1338–1342.

Rosenthal, E. L., DeHeer, D., Rush, C. H., & Holderby, L. R. (2008). Focus on the future: A research agenda by and for the U.S. Community Health Worker field. *Progress in Community Health Partnerships: Research, Education, and Action, 2*(3), 225–235.

Rosenthal, E. L., Wiggins, N., Brownstein, J. N., Johnson, S., Borbón, I. A., & De Zapien, J. G. (1998a). *Final report of the National Community Health Advisor Study*. Baltimore, MD: Annie E. Casey Foundation.

Rosenthal, E. L., Wiggins, N., Brownstein, J. N., Johnson, S., Borbón, I. A., & De Zapien, J. G. (1998b). *The final report of the National Community Health Advisor Study: Weaving the future*. Tucson, AZ: University of Arizona.

Ross, M., & Patrick, K. (2006). *Leaders among us: Developing a community health worker program in Washington, DC* (A Policy Brief). Washington, DC: The Brookings Institution. Retrieved January 31, 2011, from http://www.brookings.edu/reports/2006/10cities_ross.aspx

Smedley, B., Stith, A., & Nebon, A. (2002). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, DC: Institute of Medicine. Retrieved January 31, 2011, from http://iom.edu/Reports/2002/Unequal-Treatment-Confronting-Racial-and-Ethnic-Disparities-in-Health-Care.aspx

Swider, S. M. (2002). Outcome effectiveness of community health workers: An integrative literature review. *Public Health Nursing, 19*(1), 11–20.

Texas Department of Health Programs. (1999). Training and Regulation of Promotoras and Community Health Workers, Texas Health and Safety Code U.S.C. §48.001–48.003.

Texas Regulations for Community Health Workers. (2000). Texas Administrative Code U.S.C. §146.1–146.12.

US Bureau of Labor Statistics. (2010). *Standard Occupational Classification. 21-1094, Community Health Workers.* Washington, DC: Author. Retrieved May 22, 2011, from http://www.bls.gov/soc/2010/soc211094.htm

Virginia Center for Health Outreach. (2006). *Final report on the status, impact, and utilization of community health workers*. Richmond, VA: James Madison University, Institute for Innovation in Health and Human Services.

Viswanathan, M., Kraschnewski, J., Nishikawa, B., Morgan, L. C., Thieda, P., Honeycutt, A., et al. (2009). *Outcomes of community health worker interventions*. Evidence Report/Technology Assessment No. 181 (AHRQ Publication No. 09-E014) (prepared by the RTI International—University of North Carolina Evidence-based Practice Center under Contract No. 290 2007 10056 I). Rockville, MD: Agency for Healthcare Research and Quality, 2007.

Wiggins, N. (2010). *La palabra es salud*: A comparative study of the effectiveness of popular education vs. traditional education for enhancing health knowledge and skills and increasing empowerment among parish-based community health workers (CHWs). Retrieved, from *Dissertation and Theses*. (AAT 3407867.)

Wiggins, N., & Borbón, I. A. (1998). Core roles and competencies of community health workers. In *Final report of the National Community Health Advisor Study* (pp. 15–49). Baltimore, MD: Annie E. Casey Foundation.

Witmer, A., Seifer, S. D., Finocchio, L., Leslie, J., & O'Neil, E. H. (1995). Community health workers: Integral members of the health care work force. *American Journal of Public Health, 85*(8, Pt. 1), 1055–1058.