The Impact of Community Health Worker Training and Programs in NYC

Moises Perez, Sally E. Findley, Miriam Mejia, Jacqueline Martinez

Journal of Health Care for the Poor and Underserved, Volume 17, Number 1 Supplement, February 2006, pp. 26-43 (Article)

Published by Johns Hopkins University Press
DOI: https://doi.org/10.1353/hpu.2006.0049

The Impact of Community Health Worker Training and Programs in New York City

Moises Perez, BA
Sally E. Findley, PhD
Miriam Mejia, BA
Jacqueline Martinez, MPH

Abstract: The Northern Manhattan Community Voices Collaborative is committed to improving health care in Harlem, Washington Heights, Inwood, and low-income communities in New York City, large parts of which are home to many immigrants to the U.S. The Collaborative developed a program to train and integrate community health workers (CHWs) into ongoing programs at partner community organizations. We report on our 2000–2005 experiences with CHWs for health insurance, child immunizations, and asthma management. A total of 1,504 CHWs were trained, with 16%–200% increase in CHW competency for selected skills. The CHWs facilitated health insurance enrollment for about 30,000 individuals, assisted 8,000 children to become completely immunized, and supported 4,000 families improving asthma management. Integration of CHW training into community programs is effective for empowering health promotion in underserved communities.

Key words: Community health workers, community health worker training, community, health promotion, health insurance facilitated enrollment, childhood asthma, childhood immunizations, health collaborative.

Community health workers typically share racial and ethnic backgrounds, cultures, languages, and life experiences with members of the communities in which they live and serve; therefore, they are much better able than people from outside the community to build the trust necessary to succeed and to provide a cost-effective bridge within health care systems and social services.[1–5] Numerous studies, reports, and experiences in diverse settings show that having CHWs as part of the health delivery system can produce a wide range of benefits,[6] including increased access to care;[7] increased revenue and cost-savings through more effective use of primary care services;[8,9] decreased inappropriate utilization,[10] increased appropriate utilization,[11] and improved health outcomes;[8, 12, 13] increased trust between communities and

---

The development of the paper, and the programs referred to throughout, have been the products of a collaborative. All the authors have jointly and equally contributed to the development of these efforts. ***MOISES PEREZ*** *is the Founder and Executive Director of Alianza Dominicana, Inc., where* ***MIRIAM MEJIA*** *is the Deputy Director.* ***SALLY E. FINDLEY*** *is affiliated with the Mailman School of Public Health at Columbia University.* ***JACQUELINE MARTINEZ*** *is the Director of the Northern Manhattan Community Voices Collaborative and is affiliated with Columbia University's Center for Community Health Partnerships. She can be reached at jm721@columbia.edu.*

health care providers;[14, 15] and increased flexibility in the health care system.[16.] The Institute of Medicine emphasizes the importance of CHWs, saying, "Community health workers offer promise as a community-based resource to increase racial and ethnic minorities' access to heath care and to serve as a liaison between healthcare providers and the communities they serve [p. 195]."[17]

While much attention has been paid to what CHWs do, relatively little attention has been paid to the situation of their employment, namely their relation to the health care system and how they are expected to carry out their work. This paper describes the rationale and programs used to create CHW programs based entirely in the community setting, at the partner organizations of the Northern Manhattan Community Voices collaborative. Descriptive and qualitative methods are used to demonstrate the extent and impact of the training programs on CHWs, the participating organizations, and community residents.

Community setting. This program was implemented in northern Manhattan, which includes the communities of Harlem, Washington Heights, and Inwood in New York City. These neighborhoods are rich in ethnic and cultural diversity. As of the year 2000, the total population of northern Manhattan was 451,482, of whom 51% are Latino, 36% are African American, and another 4% report two or more racial/ethnic identities. Nearly twice as many people live at or below the poverty line as in the city at large (33% vs. 19%).[18] Prior to launching the facilitated enrollment program described below, there were an estimated 127,000 to 160,000 uninsured residents in northern Manhattan.[19] In 1999, the community had an estimated 48,000 persons who were uninsured but eligible for insurance, and among them were 18,000 children under 18 years of age who were eligible for Child Health Plus or Medicaid. Twenty-nine percent of Harlem residents and 59% of Washington Heights and Inwood residents are foreign born.[20] Although northern Manhattan is served by four major hospitals and multiple community health clinics, these communities have one of highest rates of preventable admissions, the highest all-cause mortality rate,[21] and the highest prevalence of chronic conditions such as asthma and obesity in the city.[20] Compared with other communities in New York City, the residents of northern Manhattan have poorer child, maternal, and general health, higher rates of infectious and chronic diseases, and below average access to medical care.[20] Recent studies have estimated that one in four children living in Harlem has been diagnosed with asthma.[22] The rate of asthma hospitalizations per 100,000 children between the ages of 10 and 17 years was 2.2 times higher in northern Manhattan than in the city at large.[20] One of the most well-known markers of adequate primary care for children, the child immunization rate, was only 57% for children in northern Manhattan in 2000, compared with 66% for the city and 72% for the nation.[23] These statistics point to a need to re-orient primary care strategies in ways that will more effectively reach and engage families and the community for the sake of the health of their children. The Northern Manhattan Community Voices Collaborative has turned to community health workers (CHWs) as a centerpiece of its strategy to reduce health care disparities.

Community Voices. Northern Manhattan Community Voices Collaborative (hereafter Community Voices) is a partnership of more than 35 institutions, community-based organizations, and local health care providers. It was founded

jointly by Alianza Dominicana, Inc., Columbia University, Harlem Hospital, and New York Presbyterian Hospital to create community-based solutions to the community's glaring problems of un-insurance, lack of access to primary care, and high rates of preventable illnesses. The collaborative began its activities with a community dialogue on health care problems, needs, and assets. Based on this dialogue, the collaborative determined that the priority health concerns of the community were asthma, early childhood immunizations and primary care, heart disease and hypertension, nutrition and obesity, vision care, domestic violence prevention, mental health and depression, and dental problems. Cutting across these issues were the overriding problems of access to health care and insurance, particularly for young children. Therefore, in 2000, the collaborative launched a program to integrate CHW training and CHW-centered health promotion initiatives into partnering organizations.

Community leadership. Alianza Dominicana (hereafter Alianza) has been the lead community organization in developing the Community Voices community health worker initiative, based on its history and experience in serving the community. Alianza, the largest multi-service, community-based organization in Washington Heights, is a non-profit community development organization that works with youth, families, and public and private institutions to revitalize economically distressed neighborhoods. With the establishment of Community Voices, Alianza created the Center for Health Promotion and Education to serve as a community hub for insurance outreach and enrollment and numerous health care initiatives. Under the stewardship of Alianza, Community Voices staff formed a working group consisting of other agencies, community leaders, CHWs, university faculty, and health care providers. The CHW initiative, including development of training materials, training workshops, and structure of program, was developed under the guidance of the working group.

Description of the CHW programs. In the initial years, the Community Voices collaborative focused on three priority health areas: facilitated enrollment for health insurance, child immunization promotion, and asthma management. These three programs became the pilots for the CHW initiative described here.

Health insurance facilitated enrollment. The insurance enrollment program was launched at Alianza, with additional support from the New York State Department of Health through the Child Health Plus program. The organization led a local network, subcontracting with two other organizations to collaborate and serve insurance needs in other parts of the community. All people inquiring about a program or service at the agency are asked about their health insurance status and referred to the facilitated enrollers if uninsured. This internal referral is complemented by major street outreach and door-to-door campaigns throughout the year. The program seeks to enroll 6,000 individuals per year. The program is only evaluated on an aggregate basis, using monthly activity reports, therefore no internal review board (IRB) approval was required.

Immunization program. The immunization program is the Start Right Coalition, which receives support from the Centers for Disease Control and Prevention. The Community Voices coalition is lead by Mailman School of Public Health of Columbia University, Alianza Dominicana, and Harlem Congregations for Community Improvement. The coalition has 23 member programs, including early childhood

education programs, parenting programs, faith-based organizations, housing advocacy groups, health care providers, and the New York City Department of Health Bureau of Immunizations. During the planning phase, the coalition identified five programs through which childhood immunizations could be promoted, and staff from each organization work through these programs to incorporate immunization promotion activities. Parents give informed consent to participate in the immunization program, and once enrolled they receive regular reminders and advice until their child has all immunizations due by age three. Immunizations are tracked through two immunization registries and review of the child's immunization card. Each organization has an annual recruitment target, and the coalition seeks to bring 2,000 children up-to-date with immunizations per year. The Start Right coalition protocol was approved by the Columbia University Medical Center IRB.

Asthma management. The asthma initiative, the Community Voices' Asthma Basics for Children (ABC), also a coalition, is now fully supported by the Centers for Disease Control and Prevention, includes community development organizations, early childhood education centers, schools, faith-based organizations, health care providers, and the New York City Department of Health Childhood Asthma Initiative. The lead organizations are Mailman School of Public Health, Northern Manhattan Improvement Corporation, and Northern Manhattan Perinatal Partnership. Progressively, the coalition provides asthma education and support first to staff within each member organization and then to each organization's program participants, both parents and children. The coalition developed a handbook that guides each phase of these activities, including games and activities for the children. The program links families to primary care providers through referrals to providers who have been identified as well trained to address asthma in the environment in which the families live. The coalition aims to provide these services to 1,700 children per year. Because the ABC coalition tracks individual outcomes, parents are asked to give consent to participate in the tracking of their child's asthma management. Institutional review board approval for the protocol was obtained from Columbia University Medical Center.

Evaluation Methods

This report uses both quantitative and qualitative information from the annual evaluations for each program, focusing on the outcomes of the CHW training program regarding health promotion competency and demonstration of this competence through enrollments of community residents. The quantitative evaluations include aggregate statistics regarding CHWs trained, pre- and post-test assessment of the change in their competency through the training, and program statistics from monthly reports. The program statistics include attendance at outreach events and informational sessions organized by the CHWs and individuals enrolled into the program. Enrollment statistics for the insurance program are the number of individuals for whom insurance enrollment was successfully completed, while for the immunization and asthma management programs, the enrollments are the number of parents beginning participation in the health initiative.

Summary details about the three programs are given in Table 1.

Table 1.

OVERVIEW OF COMMUNITY VOICES CHW PROGRAMS

Program Feature	Insurance Enrollment	Immunization Promotion	Asthma Management
Program Context	Major multiprogram agency w. 2 smaller partners	Coalition of 23 large and small organizations	Coalition of 7 organizations, 3 health care provider networks
Program Mission	Insure all eligible children and adults	Increase child immunization rates to 90%	Improve management of child asthma and reduce asthma emergency visits and school absences
Linkage between organizational program and CHWs	Referrals from all programs in agency to facilitated enrollers; massive street outreach	All programs refer parents of infants to immunization CHW	Outreach from coalition members to parents of children with asthma via the child's day care program or school
Linkage to primary care provider	Selection of a PCP at enrollment	Follow-up of immunizations with provider	Referral to providers trained in state-of-the-art asthma care
Program annual participation goals	6,000 individuals	2,000 children < age 3	1,700 children and their families

Community Voices CHW Program

The conceptual basis for the Community Voices CHW training program is the Paolo Freire model for community education and mobilization. According to Freire, educational programs can only be effective if they respond to the self-identified priorities of community residents. This implies that the curriculum must be developed from within the community, so that it is fully consonant with the experience of the participants. If people are concerned about their jobs, then the window of opportunity for education about health or other issues is around jobs, starting with issues related to jobs. In addition, Freire advocates education that is applied to solve problems in people's lives. The ultimate educational goal is to support the development of leaders of community change.[24] When applied to the Community Voices collaborative, we concluded that CHWs must be an integral part of the community leadership development strategies. Their role as community advocates and organizers, coupled with their role in program development would ensure the successful implementation and sustainability of vital programs, including the full range of basic programs helping families with their basic needs: health insurance, day care and schools, pregnancy, parenting, housing, immigrant rights, WIC (Women, Infants, and Children) nutrition, and income maintenance programs. Community health workers are uniquely positioned to work, not with patients in need of care, but participants who are in control and seeking to improve their lives.

Based on the Friere model, the Community Voices CHW training program provides the CHW with the skills necessary to address health education topics through the relevant social service and community development programs. This reinforces the holistic nature of health promotion. Rather than referring families to the health care system and then withdrawing, the Community Voices-CHW is expected to continue to work with families to facilitate follow-through and to link families to community assets for improved health. The CHWs are trained to assist families and the community through the diverse activities of community organizing, outreach, intake and assessment, referrals and case management, social support, informal counseling, provision of specialized education, follow-up, and system navigation.[2, 3, 6, 25–30]

CHW curriculum. The curriculum developed by Community Voices partners equips CHWs to manage these tasks in the context of community-wide health promotion. The modules were designed to be interactive, culturally relevant, bilingual, and experiential. Because the Community Voices-CHWs work from within the particular programs of their organization, the training shows them how to identify opportunities within the program and organization to add on to existing health promotion activities. They learn how to introduce health topics and incorporate the specific activities needed to support families in accomplishing the goals of their particular health initiative (i.e., insurance enrollment, immunization promotion, or asthma management).

The curriculum consists of seven core modules, with additional material for each program focus area. The first CHW curriculum was developed for the facilitated enrollment program. The core training modules included Community Mobilization and Organizing (The Paolo Freire Approach); Communication Strategies & Active

Listening; Outreach; Team work; Time Management; Tracking and Follow-up; and Evaluation. Thus, these modules equip CHWs for their role in the three specific programs and for their participation as community advocates and organizers. Add-on modules were developed for immunization promotion and asthma management by teams from each coalition. Table 2 summarizes the menu approach of the Community Voices training modules.

The training is offered through the coalition members and is spaced out over a period of 2–3 months to allow experiential learning between sessions. Training programs have included evaluation/feedback forms and pre- and post-tests of competency and knowledge changes. Training is conducted by teams comprising trained staff from the coalition organizations, School of Public Health faculty of the Community Voices program, and representatives from the NYC Department of Health.

Training is complemented by monthly coalition meetings where CHWs have the opportunity to discuss their work with other members of the coalition. This provides on-the-job learning experience to all members. CHWs have the opportunity to share their innovative solutions for implementing specific components of the program, exchange lessons learned, and gain problem-solving skills. At the meeting, they participate both as residents of the community and as CHW health advocates.

CHW recruitment and hiring. With a community-based CHW program, each community organization is responsible for job descriptions, recruiting and hiring for CHW positions. The coalitions and CHW working group at Alianza have recommended the following qualities for CHWs in these programs: (a) live in the community or a nearby neighborhood, (b) share cultural and ethnic traditions with program participants, (c) have experience with the programs offered by the organization, (d) have good *people skills*, and (e) be committed to community development. All the organizations have incorporated these basic criteria into their recruitment of CHWs. Approximately one-third of the CHWs have been beneficiaries of the program. A successful recruitment strategy for Alianza has been the inclusion of New York City's Welfare Employment Program (WEP) participants as CHWs. Together with the fact that the Community Voices health initiatives focus on mothers of young children, this has resulted in heavy recruitment of young women.

While all CHWs are paid employees of the organization, their employment situation varies across programs and organizations. At half the partner organizations, the CHWs are hired full-time, but at half of these organizations, a CHW divides the health program responsibilities with other work, such as family support worker for a Head Start program, case manager in a parenting program, or a 50–50 time split with another health program (such as lead control). At the remaining organizations, the CHWs are hired part-time, again with half of them hiring CHWs only for a specific program and half hiring the individual for dual responsibilities.

What attracted the individuals we interviewed to being a community health worker? Qualitative interviews were conducted with the CHWs about the training program. These in-depth interviews uncovered four reasons as the most common: (1) desire to help people (48%), (2) desire to inform or educate people about health (27%), (3) familiarity with the agency and its work (14%), and (4) desire to work

Table 2.

COMMUNITY HEALTH WORKER TRAINING MODULES BY PROGRAM TOPIC

Core Modules		Add-ons for Health Insurance Facilitated Enrollers	Add-ons for Immunization Promotion	Add-ons for Asthma Management
Community Mobilization	**Additional Training after Core Modules (depending on the program)**	NYS health insurance options	Immunization basics	Asthma basics
Communication Skills		Screening for Eligibility	Vaccination card reading	Developing an asthma team
Outreach Strategies		Completion of enrollment forms	Screening and enrolling families	Controlling asthma with medicine
Teamwork		Completing documents	Implementation guide for each program type	Asthma triggers
Tracking		Selection of a PCP	Organizing educational events	Building an asthma program at school or center
Time Management		Follow-up	Reminders and follow-up	Scheduling games and activities
Evaluation		Re-certification	Tracking, registry and database CBPR, and consents	Tracking participation Feedback from families CBPR and consents

Table 3.

CHW TRAINED BY HEALTH PROMOTION FOCUS, 2000–2005

Health Problem Focus	Trained	Annual Trained	Annual Workforce
Health insurance facilitated enroller	88	15	30
Immunization promotion	792	132	128
Asthma management promotion	624	104	292
Total	1,504	251	450

with people (11%). The following quotation from one CHW illustrates what draws people to this work:

> *The community. That's why I want to do this work. I love working with the community. About five years ago I worked with* [another agency] *in this community. Once you start, you don't stop. Whenever you see somebody in need and you know the agency can help, you find a way. I love my community. I love doing my job.*

Like recruitment and hiring, the retention of CHWs varies widely across programs. Nearly half of the CHWs trained have remained in the positions throughout the duration of the program (up to seven years for the longest-running program). Some are upwardly mobile in their organizations, having been offered positions with more responsibility and/or pay. Very rarely, CHWs are asked to leave due to poor performance (4 reported cases out of the annual workforce of 450). While we do not have job retention statistics across all programs, the frequency of re-training for staff replacement has been highest in the immunization promotion program, where three member organizations have had annual staff turnover. In the other programs, staffing has been fairly stable.

CHW Training and Deployment

Since 2000, across all organizations and program foci, 1,504 CHWs have been trained. The majority (98%) of those trained have been women, predominately between 20 and 29 years old. Most have been Latina (67%), and the balance African American. Seventy-three percent live in the community while the rest live in nearby neighborhoods in the Bronx. The CHWs work at 52 different programs or locations. The programs include child care centers, Head Start programs, parenting programs, foster care prevention programs, Healthy Start, Healthy Families, community advocacy programs, housing advocacy, environmental justice and advocacy, immigrant rights advocacy, community school, teen advocacy programs, welfare to work programs, health advocacy programs, facilitated enrollment programs for health insurance, WIC programs, and teen parenting programs. On average, across all programs, the collaborative trains 251 CHWs per year and, in any given year, there are 450 CHWs working within their organizations to promote improvements

in health regarding one of the three health problem foci. All CHWs complete the basic core training modules. The programs offer at least one refresher training per year and sponsor additional modules as needed. The training outcomes for each program are summarized in Table 3.

Impact of Training on Competency and Performance

Evaluation of training was one specific component for each of the three programs. Pre- and post-tests were administered before and after the training sequence. Each test contained 7–10 items covered in the training sessions. Responses were both multiple choice and open-ended, and tested not only content but skills (such as how to engage a parent in conversation). Between 2000 and 2005, 69% of the CHWs trained (n=1,032) completed pre- and post-tests of health promotion competency. Time constraints prevented completion of post-tests at all training sessions.

There were large gains in knowledge and competence for addressing health concerns. (See Table 4.) The largest gains were shown for the insurance enrollers, who had a 200% increase in their knowledge about how to talk to parents, the child health insurance program, and how to determine eligibility. Those trained for the asthma management program had a 32% increase in their knowledge of asthma basics and the role of parents in managing asthma. The immunization promotion program had a 16% gain in immunization knowledge and vaccination card reading skills, and these results were used to increase the pace of refresher training and on-the-job supervision, particularly of vaccination card-reading accuracy.

Direct feedback from the CHWs about the adequacy of their training was a critically important component of the Community Voices evaluation. The qualitative interviews with the CHWs about the training program assessed the attributes of the work that attracted community members to the role of CHWs, determined the adequacy of the training as defined by the CHW, and identified the most satisfying parts of the work. As part of the annual review and feedback process, trained research assistants from Columbia University's Mailman School of Public Health conducted in-depth interviews (n=132) with the most active CHW in the programs. Interviews were conducted in English or Spanish, as preferred by the respondent. The interview generally lasted 30–45 minutes, and was conducted either in person (at the organization or CHW's home) or by telephone.

Most of the trainees (97%) felt that the training had prepared them to do their jobs, and virtually all (98%) had used skills from the training in their work. Almost all of those interviewed (94%) said the training gave them confidence in doing the required CHW tasks. Only those in the asthma management program expressed doubt about actually being able to properly manage an asthma attack, though they did not doubt their ability to educate parents. The skills that respondents find most important in their work are the ability to respond to specific health questions (40%), communication skills (15%), and skills of working with families (13%). Insurance enroller CHWs reported the most empowering skill to be knowing the eligibility criteria and being able to help families successfully complete the applications, while for the immunization CHWs the most important skill is knowing how to read and explain the child's vaccination card to the parents. These quotations reflect how

Table 4.

GAINS IN COMPETENCY AND KNOWLEDGE FROM TRAINING (PRE/POST TEST)

Type of Worker	Pre-test	Post-Test	Gain	% change	n tested
Insurance enroller	24%	72%	48%	200	61
Immunization promotion	83%	96%	13%	16	472
Asthma management	63%	83%	20%	32	499

CHWs view the benefits from their training:

> *For someone who came with no knowledge, I left with knowledge. I understood what they were saying. Whenever there was any doubt they (the instructors) would clear it up.*

> *Basically it taught us how to communicate with people, not to talk down to them. If they come for Medicaid, we learned effective listening skills, how to listen for key words to identify what other needs they might have.*

> *I didn't know anything about asthma. I learned a lot. I learned about triggers and how to avoid the triggers, to have the children get tested to see if they are allergic to certain triggers, and to see which symptoms they have. And how to work with the child who has asthma and recommend to parents that they go to the doctor and get medications. Sometimes I look at their* [medical] *form and I see asthma symptoms, but the doctor didn't say that the child has asthma. I work with them to figure out questions to ask the doctor in their next visit.*

CHW Program Outcomes

The training has enabled the CHWs to achieve high levels of program participation and positive outcomes for all three programs. As shown in Table 5, between 2000 and 2005, these CHWs have facilitated access to health improvements for 40,654 people. Most of these (29,732) have been assisted adults and children to obtain health insurance. The immunization program has already brought enrolled children's immunization rate up to 80%, closing the gap with national immunization rates.[23] Evaluation of the asthma program outcomes regarding asthma management has yet to be completed.

Although there are only 450 CHWs in the annual workforce of the Northern Manhattan Community Voices collaborative, each year they average over 20,000 contacts with residents. This is possible through the integration of the CHW tasks into programs at multipurpose organizations. The health initiatives are not stand-alone programs, and recruitment for the health initiative is incorporated directly into the organization's program. Programs refer clients to the CHWs, and the CHWs refer clients to other programs. This is how one CHW sees her work: *Alianza offers many*

Table 5.

PROGRAM OUTCOMES FOR THE COMMUNITY VOICES CHW PROGRAMS, 2000–2005

	Annual Workforce	Annual Contacts	Attendance at Annual Info Session	Annual Enrollment	Cumulative Enrollment
Health Promotion Focus					
Health insurance enrollment	30	12,000	3,639	4,277	29,732
Immunization promotion	128	4,700	2,200	1,550	7,092
Asthma management promotion	292	3,800	2,452	1,741	3,830
Total	450	20,500	8,291	7,568	40,654

different things. They have programs for domestic violence, for pregnant women. We coordinate with the other programs. I know the other programs so I can send people if they need another service. Internal recruitment from the organization's own programs accounted for 31% of the insurance enrollees, 53% of those in the immunization program, and 94% of those in the asthma programs.

Recruitment outside the organization is also facilitated by the CHWs, who live in the communities in which they work. The in-depth interviews show that they make outreach part of their daily lives.

I've lived in Harlem all my life. African American and Latino communities don't get information on programs out there unless it's on the news or by word of mouth. I am always working, always with my business card, I inform people of what's out there for them.

I always tell people whenever I have the opportunity, with a friend, for example. We might be talking and she tells me her problems, so I tell her about this place, where she can get help.

I share the information in the street, in the supermarket, with my family, in beauty salons, in waiting areas at doctor's offices, wherever there are people.

The involvement of many organizational programs in the outreach process generates a funnel effect, pulling people into the program. In the health insurance enrollment program, for example, referral pathways were tracked for a sample of enrollees, 2000–2002. For the 714 enrollees tracked during this period, CHW street outreach was responsible for 40% of the actual insurance enrollments. (See Figure 1.)

After initial contact with CHWs, people are invited to informational sessions, sometimes on the same day but often later in the week. As shown in Table 5, 40% of those initially contacted participate in one of these information sessions. Once the individual learns more about the program, they are likely to enroll and then begin working with the CHW to improve their family's health. Across all programs 91% of those who participate in information sessions enroll in the program (including some individuals who go straight from initial contact to insurance enrollment).

In the in-depth feedback interviews, CHWs report many advantages from being members of the community. Residing in and understanding the history of the neighborhood is enormously advantageous in establishing rapport, trust, and confidence with potential and current program participants. In this community, with many immigrants from the Caribbean and West Africa, one of the most important areas for establishing trust concerns documentation status, and the leadership of Alianza Dominicana, well known for its advocacy on behalf of immigrants, goes a long way to dispelling fears. This is how one CHW develops trust: *You have to be friendly, in a good mood and explain things well to people. Once you speak to people for a minute they are comfortable to talk about their legal status. You have to know how to talk to people.*

The training equips CHW with skills to communicate their own experiences with participants. Among the insurance enrollment clients, the most active and effective enrollers are the individuals who became acquainted with the organization when they sought insurance for their families. The following comment by one of the insurance enrollment CHWs illustrates how she builds trust with participants.

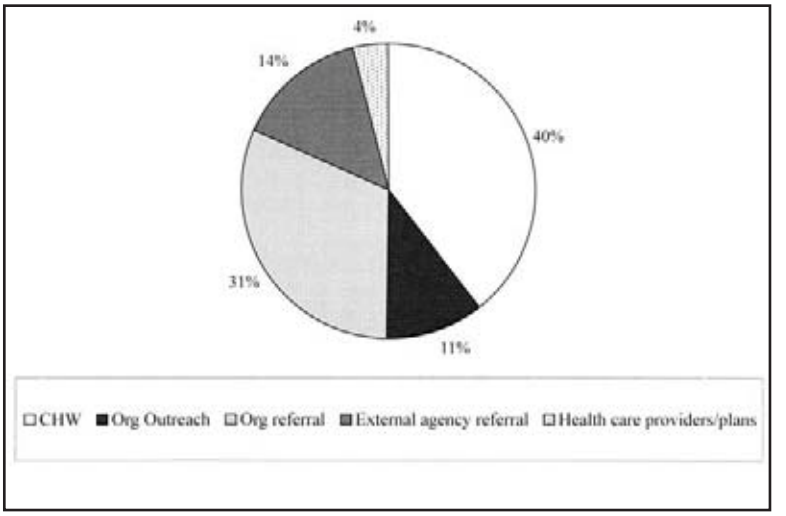

Figure 1. Sources of Health Insurance Enrollment, 2000–2002.

> *Respect is very important. You have to make them feel comfortable. You need to make them feel equal to you, which they are. If you don't know the answer to something, you need to take their number and investigate and make sure to call them back. Even if you don't have the answer. There have been times that I haven't been able to find something, but often, nine times out of ten, I can. I just always remember to treat others like you would like to be treated.*

Feedback at coalition meetings and from the in-depth interviews shows that many of the immunization CHWs use examples from their own experiences getting their own children immunized in their work with participants. They understand what made a difference for their decision-making process, and they include that information in their work with parents. For example, the immunization CHWs were so impressed in their training by the pictures of children with vaccine-preventable diseases that they designed a flyer featuring these pictures, which is now the single most important piece of immunization promotion literature used by the CHWs.

The majority of the CHWs interviewed (84%) indicated that helping families meet needs and resolve problems was a major reward for their work. The following excerpts from interviews illustrate how the CHWs see this aspect of their work:

> *First, you have to know what you are talking about. You need lots of information, lots of resources. You have to be able to tell them what the options are regarding neighborhood resources, for any situation that might come up. You have to know as much information as possible. I took everyone's Rolodex off their desk when I got here, and copied down all the important phone numbers. Little by little you learn the surroundings, what's out there that can help people, you learn the environment. And then you are able to send them to the right place, either right here or at another agency.*
>
> *People come through the doors and you never know what their problems are going to be. Did they lose their job, are they getting evicted, is their husband abusing them? You just never know. You need to take time with each person. You can't do it fast. Sometimes*

you get frustrated, but you need to be patient. It makes it easier to know that whatever happens you know someone or somewhere who can help them. And even if we don't, I know [name of the agency] *will help me help them.*

The integration of CHWs into community development organizations has helped the collaborative's partner organizations to deliberately create a cadre of health conscious community residents. As one CHW said: *Walking the streets of my neighborhood is no longer the same experience. I notice things I never noticed before. I feel responsible. If I see a mom with a newborn I speak to them about breastfeeding and whether they are engaged in health care. One is literally working 24/7.* It is significant that most CHWs trained through the Community Voices-CHW programs continue to pursue education. At Alianza Dominicana, 100% of CHWs have returned to school to complete graduate equivalency degrees (GEDs), Bachelors of Arts and Master level degrees. Though not universal, similar career transformations are reported at the other organizations. Once they set out on this path, the CHWs' effectiveness as professionals is anchored on their experience fostering community health.

Conclusions and Policy Implications

Our strategy of training CHWs for work within community organizations has been effective in reaching the thousands of community residents living on the periphery of the health care system, who otherwise have little or no access to its benefits. The impact of the CHWs' work in the community attests to their ability to communicate effectively with others about health care options, and thereby enable many more families to take charge of key areas of their health care, such as obtaining health insurance or basic primary care services. In our programs, the 1,500 CHWs who have ever been trained have facilitated health care changes for over 40,000 people.

We believe that one of the reasons our CHW program has been so effective has been the integration of the CHW training and activities within the community organizations. They are based in the community and actively reach out to all residents needing the services. The number of CHWs trained in the past five years of the Community Voices initiative is evidence of the eagerness of agencies to incorporate the CHW model into their work. The integration of community health promotion training and programs for primary social services or educational programs is also an efficient use of scarce health resources. Community health worker activities can be linked to routine social service programs. Instead of segregating health from other program activities, health content is incorporated directly into regular outreach, intake, and other routine interactions. This is enormously beneficial for health programs that require frequent, multiple contacts with families as the need for special sessions and workshops is reduced.

The CHWs are involved with participants through different perspectives, and this allows them to tailor their work to the individual's situation and priority issues. Their own experience with these or similar issues enables the CHW to build trust and craft effective messages to pass their own lessons learned on to others.

It is important to note that the integration CHW program into each organization's programming has presented several limitations that affect the evaluation of the

programs. First, performance tracking is limited to the report of aggregate statistics, and we do not have detailed performance records for all CHWs. Without specific information from the organization's program coordinator, we are unable to detect problems with individual CHWs. Second, program implementation can be affected by external organizational decisions, such as funding cutbacks that reduce access of CHWs to program participants for any reason and may even cut the program in which they are working. Third, the evaluation is based only on short-term outcomes, directly after the training and after several months of participation in the program. The value of the training program for the CHW may only be evident after a long period of time, during which the CHW establishes a routine and finds a niche within the organization. While the in-depth interviews captured the perspective for some CHWs, they are not a random sample of all those trained and might reflect only those who were more successful at this integration. Finally, the program outcomes do not yet include participant outcomes for the asthma management program.

Based on our experience, we make the following recommendations:

CHWs integrated into community organizations. We recommend integrating CHW training and programs into existing community organizations. The approach builds on existing resources and maximizes community assets. The community-based training embeds the capacity for health promotion in the community and establishes regular links between the community organizations and the health care system. Furthermore, CHW programs are more likely sustainable when the training and program is integrated into the infrastructure of community.

CHW training. CHW training initiatives benefit from a team approach, with input and participation of CHWs, community leaders, and health care providers. This team approach ensures that the training remains relevant and responsive to the everyday responsibilities of CHWs and their organizations. We recommend a modular approach, with some basic core modules complemented by add-on modules for specific health topics. We also recommend that the training be offered through the participating organizations, and where possible integrated into other training provided to organizational staff. Finally, there should be regular feedback mechanisms to allow CHW input to the updating and revision of training.

CHWs are essential in serving the underserved. CHWs play a critical role in reaching immigrants, the uninsured, and marginalized groups who have limited contact and may distrust the system. Their involvement can facilitate access to health care for many who might not otherwise have it.

Acknowledgments

The W.K. Kellogg Foundation funded the Northern Manhattan Community Voices Collaborative. The authors of this study gratefully acknowledge the immeasurable support received from our own organizations and from the following organizations: Harlem Congregations for Community Improvement, Fort George Community Enrichment Center, Northern Manhattan Improvement Corporation, Dominican Women's Development Center, Harlem Children's Zone, Columbia University Center for Community Health Partnerships, The Valley, Ecumenical Community Development Corporation, Adair Community Life Center, Northern Manhattan

Perinatal Partnership, Harlem Hospital WIC, New York Presbyterian Hospital WIC, Harlem Hospital Family Friends, Children's Aid Society, Children's Defense Fund, Puerto Rican Family Institute, New York Presbyterian Hospital Ambulatory Care Network, Harlem Hospital/Renaissance Health Network, the New York City Department of Health, Bureau of Immunizations and Childhood Asthma Initiative and the 22 individual child care programs and schools participating in the ABC initiative. Support for the immunization and asthma programs has been provided through a cooperative agreement with the Centers for Disease Control and Prevention (U50/CCU222197 and U53/CCU220745, respectively). The New York State Department of Health supported development of the asthma curriculum through its Maternal and Child Health collaborative program with the Mailman School of Public Health. The article's contents are solely the responsibility of the authors and do not represent the official views of the funding agencies.

Notes

1. National Community Health Advisor Study.; Annie E. Casey Foundation.; University of Arizona. Health Sciences Center. Weaving the future: final report of the National Community Health Advisor Study. Baltimore, MD: Annie E. Casey Foundation, 1998.
2. Lewin S, Dick J, Pond P, et al. Lay health workers in primary and community health care. The Cochrane Database of Systematic Reviews. 2003 July;4:1–103.
3. Ro M, Treadwell HM, Northridge M. Community Health Workers and Community Voices: Promoting Good Health. Atlanta, GA: Morehouse School of Medicine, 2003.
4. Hunter JB, de Zapien JG, Papenfuss M, et al. The impact of a promotora on increasing routine chronic disease prevention among women aged 40 and older at the US-Mexico border. Health Educ Behav. 2004 Aug;31(4 Suppl):12S–17S.
5. Nemceck MA, Sabatier R. State of evaluation: community health workers. Public Health Nurs. 2003 Jul–Aug;20(4):260–70.
6. Swider SM. Outcome effectiveness of community health workers: an integrative literature review. Public Health Nurs. 2002 Jan–Feb;19(1):11–20.
7. Witmer A, Seifer S, Finocchio L, et al. Community health workers: integral members of the health care work force. Am J Public Health. 1995 Aug;85(8 Pt 1):1055–8.
8. Margolis PA, Stevens R, Bordley WC, et al. From concept to application: the impact of a community-wide intervention to improve the delivery of preventive services to children. Pediatrics. 2001 Sep; 108(3):E42.
9. Stuart M, Weinrich M. Home- and community-based long-term care: lessons from Denmark. Gerontologist. 2001 Aug;41(4):474–80.
10. Myers J. Kentucky Homeplace Evaluation. Hazard, KY: University of Kentucky Center for Rural Health, 1996.
11. Weber BE, Reilly BM. Enhancing mammography use in the inner city. A randomized trial of intensive case management. Arch Intern Med. 1997 Nov 10;157(20):2345–9.
12. Levine DM, Bone LR, Hill MN. The effectiveness of a community/academic health center partnership in decreasing the level of blood pressure in an urban African-American population. Ethn Dis. 2003 Summer;13(3):354–61.
13. Hughes DC, Brindis C, Halfon N, et al. Integrating children's health services: evaluation of a national demonstration project. Matern Child Health J. 1997 Dec;1(4):243–52.
14. Howell EM, Devaney B, McCormick M, et al. Back to the future: community involvement in the Healthy Start Program. J Health Polit Policy Law. 1998 Apr;23(2):291–317.

15. Minkler M, Thompson M, Bell, et al. Contributions of community involvement to organizational-level empowerment: the federal Healthy Start experience. Health Educ Behav. 2001 Dec;28(6):783–807.
16. Newacheck PW, Hughes DC, Brindis C, et al. Decategorizing health serv ices: Interim findings from the Robert Wood JohnsonFoundation'schild health initiative. Health Affairs (Millwood).1995 Fall;14(3):232–42.
17. Smedley BD, Stith AY, Nelson AR, et al., eds. Institute of Medicine, Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Unequal treatment: confronting racial and ethnic disparities in healthcare. Washington, D.C.: The National Academies Press, 2003.
18. U.S. Census Bureau. Summary Population and Housing Characteristics, Census of Population and Housing, 2000. Suitland, MD: US Bureau of Census, 2000.
19. Mayor's Office of Health Insurance Access. Public health insurance participation in the community districts of New York City. New York, NY: Health Insurance Access Project, 2004.
20. New York City Department of Health and Mental Hygiene. NYC Community Health Profiles. New York, NY: The City of New York, 2003.
21. United Hospital Fund. New York City Community Health Atlas, 2002. New York, NY: United Hospital Fund, 2002.
22. Centers for Disease Control and Prevention. Reducing childhood asthma through community-based service delivery, New York City, 2001–2004. MMWR. Morb Mortal Wkly Rep. 2005 Jan14;54(1):11–4.
23. Findley S, Irigoyen M, Sanchez M, et al. Community empowerment to reduce childhood immunization disparities in New York City. Ethn Dis. 2004 Summer;14(3 Suppl 1): S134–41.
24. Freire P. Education for Critical Consciousness. New York: Seabury Press, 1973.
25. Grant TM, Ernst CC, Streissguth AP, et al. When case management isn't enough: a model of paraprofessional advocacy for drug- and alcohol-abusing mothers. J Case Manag. 1996 Spring;5(1):3–11.
26. Olds DL, Robinson JA, O'Brien, R, et al. The promise of home visitation: Results of two randomized trials. Journal of Community Psychology. 1998;26(1):5–21.
27. Pistella CY, Synkewecz CA. Community postpartum care needs assessment and systems development for low income families. J Health Soc Policy. 1999;11(1):53–64.
28. Plough A, Olafson F. Implementing the Boston Healthy Start Initiative: a case study of community empowerment and public health. Health Educ Q. 1994 Summer;21(2):221–34.
29. Sherman BR, Sanders LM, Yearde J. Role-modeling healthy behavior: peer counseling for pregnant and postpartum women in recovery. Womens Health Issues. 1998 Jul–Aug;8(4):230–8.
30. Whitmore SH, Patnosh J, Miles T. Ten Core Competencies for Serving in a Community Health Setting. Silver Spring, MD: National Association of Community Health Centers, 2004.