# *Allies Community Health Workers: Bridging the Gap*

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*Allies Against Asthma coalitions each employ a community health worker (CHW) program as part of its community action plan. The structure and management of CHW programs vary in response to the resources and needs of the local community, as do the roles and characteristics of the CHWs hired. All programs utilize CHWs to provide community-based education and/or outreach to community members, primarily in their homes. Using an asthma action plan, most Allies CHW programs function as an extension of and link to the clinician, providing basic asthma education and care coordination in a supportive, family-friendly setting, context, and location. Community health workers rely heavily on relationship building and family empowerment to assist families in improving asthma control. Working within a coalition framework helps integrate the CHW program into other services and resources in the community. As participants in coalition activities, CHWs often bring an important and meaningful viewpoint to the coalition.*

***Keywords***: *asthma; community health worker; lay health worker; care coordination; asthma education; home visiting*

The use of community health workers (CHWs) in public health is not new. As members of the health care team, CHWs serve in outreach settings to increase access and effective utilization of health care and social services, particularly among minority and disadvantaged communities. As informed community members they assist their neighbors to negotiate systems, ensure that families receive the services they need, and provide culturally appropriate health education, information, and support in a family's primary language (Baier, Grant, Daugherty, & Eckenfels, 1999; Butz et al., 1994; Love, Gardner, & Legion, 1997; E. L. Rosenthal et al., 1998; Stout et al., 1998; Swider, 2002; Witmer, Seifer, Finocchio, Leslie, & O'Neil, 1995).

***Editors' Note:*** *This article is part of a special supplement of* Health Promotion Practice *that describes the development and implementation of the Allies Against Asthma (Allies) initiative. Funded by the Robert Wood Johnson Foundation with direction and technical assistance provided by the University of Michigan School of Public Health, Allies provides support to seven community-based coalitions nationwide to develop, implement, and sustain comprehensive asthma management programs. Through Allies, each coalition received grants totaling approximately US $1.5 million to support the coalition, its targeted activities, and evaluation for 1 year of planning and 3 to 4 years of implementation. The supplement describes the first phase of the initiative, during which coalitions designed and implemented a range of activities including improved access to and quality of medical services, education, family and community support, and environmental and policy initiatives. More information about the initiative and tools and materials developed by the coalitions can be found at www.AlliesAgainstAsthma.net.*

**Health Promotion Practice**
Supplement to April 2006 Vol. 7, No. 2, 96S-107S
DOI: 10.1177/1524839906287065

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A number of studies have explored the potential of CHW-type programs to improve asthma control (Baier et al., 1999; Butz et al., 1994; Fisher, Strunk, Sussman, Sykes, & Walker, 2004; Krieger, Takaro, Song, & Weaver, 2005; Stout et al., 1998). The Inner-City Asthma Study employed CHWs in a home-based, environmental intervention for children of the inner city with asthma as one component of a larger intervention. Community health workers obtained information from families, provided basic asthma education, and facilitated access to medical care (Butz et al., 1994). Stout et al. (1998) describe a coordinated care model in which a lay community worker was integrated into a clinical team and served as the liaison between the family and clinic. Krieger et al. (2005) described a community worker intervention that included in-home environmental assessments, education, support for behavior change, and resources.

During a 1-year planning period, seven Allies Against Asthma (Allies) coalitions developed comprehensive action plans to improve asthma control in their communities. Based on a community assessment that identified existing resources and gaps and considering the existing literature on effective asthma interventions, each coalition identified a range of strategies and interventions to improve asthma control through the integration of clinical, environmental, and community approaches. Among other efforts, each coalition's plan placed significant emphasis on activities to identify children with asthma, provide education and support to children and their families, and develop systems to coordinate services and resources available to families in the community. Although developed individually and with significant variation, each community action plan included a role for CHWs in this process.

This article describes the similarities and differences in how Allies coalitions deployed CHWs and considers the strengths and challenges of the various approaches. We compare program objectives and structures; CHW characteristics, roles, and responsibilities; and how working within a coalition structure influenced the CHW programs.

## ALLIES CHW PROGRAMS

The use of the term *community health worker* varies widely within existing literature and practice (Love et al., 1997; Swider, 2002; Witmer et al., 1995). Among Allies coalitions, the term simply refers to an individual employed to work one-on-one with children and families of children with asthma in community-based settings, including their homes. Although there are significant differences among Allies' CHW programs, all chose a paraprofessional model through which individuals with minimally required formal education or skills were trained to work with children and families of children with asthma. Beyond this basic similarity, significant variation can be found among the programs' structures, objectives, staff, and the way the programs fit into the broader coalition approach. An overview of the programs is provided in Table 1.

**TABLE 1**
**Community Health Worker (CHW) Characteristics**

| *Site* | *Age* | *Gender* | *Race and/or Ethnicity* | *Language* | *Education* | *CHW Case Load* | *Program Management* | *Participant Recruitment* | *Intensity of Program/ Year* |
|---|---|---|---|---|---|---|---|---|---|
| Alianza Contra el Asma Pediátrica en Puerto Rico, San Juan, PR (ALIANZA) | 34-40 | F | Hispanic | Spanish | High school | 50+ | Coalition via contract for technical assistance | Door to door, referrals, community outreach | Minimum 1 home visit plus follow-up |
| Consortium for Infant and Child Health (CINCH), Hampton Roads, VA | 25-35 | F | African American | English | High school and/or some college | 50 | Coalition | Door to door, community outreach | 4 four home visits plus follow-up |
| DC Asthma Coalition (DCAC), Washington, DC | 30-50+ | F/M | African American, Caucasian | English | College | 50 | Coalition | Referrals, community outreach, managed care organization (MCO) intervention | 1 visit for high-risk cases plus follow-up |
| King County Asthma Forum (KCAF), King Co., WA | 25-50 | F | Caucasian, Latino, Vietnamese | English, Spanish, Vietnamese | College | 40-60 | Coalition with health department as fiscal and/ or staffing agency | Community outreach, triage line, referrals, self-referrals | 3 to 5 visits |
| Long Beach Alliance for Children with Asthma (LBACA), Long Beach, CA | 30-55 | F/M | African American, Cambodian, Latino | English, Khmer, Spanish | GED, college | 50-60 | Coalition | Referrals | 3 to 5 visits during a 2 to 3 month period |
| Fight Asthma Milwaukee Allies (FAM Allies), Milwaukee, WI | 25-35 | F/M | Latino | English, Spanish | GED, college | 60-75 | Community health center | Referrals, self-referrals | 3 to 8 visits plus follow-up |
| Philadelphia Allies Against Asthma (PAAA)[a], Philadelphia | 25-50 | F | African American, Caribbean Latina | English, Spanish | High school | 45-90 | Referral to partner agencies | Referrals | 5 group classes & 12-24 home visits |

NOTE. F = female; M = male; CHW = community health worker.
a. PAAA referred participants to existing CHW programs managed by two partner agencies. This information reflects one agency's CHW program.

## CHW ROLES AND RESPONSIBILITIES

The primary objectives of Allies' CHW programs are to provide accessible, individualized, one-on-one education for families of children with asthma, and to assist families in securing the necessary resources to effectively manage their children's asthma. In five coalitions, this occurs primarily through one-on-one, home-based interactions between a CHW and a family whose child(ren) has asthma. One coalition provides one-on-one guidance and education in community settings, such as health fairs and schools. And in the final program, CHWs provide outreach to families in their homes and community settings and encourage families to enroll and participate in a clinic-based program for asthma education and care coordination. All programs also provide community-based outreach and education through participation in community events and health fairs.

Differences in the availability of community resources and in coalition emphases led to variation in how CHW programs function, including how families they serve are identified and recruited, the content and intensity of education and coordination provided by CHWs, and the relationship between CHWs and the families and communities with which they work.

### *Outreach and/or Recruitment*

Two coalitions rely primarily on the CHWs themselves to identify and/or recruit families of children. Both coalitions have well-defined geographic focus areas (specific public housing projects), and each conducted a door-to-door survey of residents to identify potential participants. Surveys conducted by the Coalition for Infant and Child Health (CINCH) were conducted by the CHWs and coalition staff. This process brought visibility and recognition to the CHWs, who were immediately recognizable in their blue and green shirts as "The Asthma Ladies." The Alianza Contra el Asma Pediátrica en Puerto Rico (the ALIANZA) utilized independent interviewers to conduct their survey, and then forwarded the list of children identified to CHWs who followed up with families to enroll children in a clinic-based case management program.

In other sites, families are referred from coalition partners and external sources including clinicians, schools, emergency departments, managed care organizations (MCOs), and/or self-referral. Some coalitions also use clinical records such as billing data, chart review, provider reports, and/or registries to identify children who might benefit from CHW support (e.g., poorly controlled asthma, persistent asthma, no asthma education).

How families are recruited has significant implications for the types of individuals enrolled in such programs and for the CHWs' activities. Recruitment from the emergency department (ED) can be efficient, may identify children with more severe asthma, and may help identify families who are unlikely to return for follow-up care. Recruitment by schools and/or clinicians might help identify families who are in particular need of support and/or receptive to the program. Although a door-to-door survey takes significant resources and might be practical within a limited geographic area, it may help identify the hardest to reach—children whose asthma has not yet been addressed or diagnosed and who may not be receiving any form of health care.

Several Allies coalitions identified recruiting and engaging participants as a challenge. Coalitions that conduct door-to-door recruitment note that this task requires that CHWs have a particular personality and set of skills, including a level of enthusiasm and determination undeterred by rejection. Those that identify potential participants through other referral sources have a slight advantage in that families have already expressed some level of interest in the program, as demonstrated by their agreement to release their contact information. In Allies' experience, the source of the referral often helps predict a family's potential interest—those referred by a trusted program or resource with which they have a consistent, existing relationship (e.g., a local clinic with strong community ties), are more easily engaged, and more likely to follow through with appointments and services.

### *Education*

A primary function of Allies' CHW programs is to provide basic asthma education for families. The families with which Allies coalitions work face significant barriers to receiving and adhering to asthma treatment plans. As described by Evans and Mellins (1997), patients often lack access to good, quality primary care; lack an understanding of the seriousness of the disease; express concerns about medication utilization; and have difficulty communicating effectively with clinicians. Allies coalitions have found that difficulty accessing asthma medications and equipment, lack of trigger-free environments, disorganization within the family, and lack of insurance are additional factors contributing to families' difficulty managing their child's asthma. Evans and Mellins argued that patient education, when successfully provided, can help overcome such barriers.

As educators, CHWs are an extension of the clinician, providing education in a family-friendly setting, context,

and place. In contrast to physicians or nurses who are constrained by time and setting, CHWs are able to meet families "where they are" and encourage open dialogue through which families have time and support to ask questions and clarify their understanding of complex information. Community health workers act as figurative (and often literal) translators, explaining information for families in a language and context that they can comprehend (E. L. Rosenthal et al., 1998; Witmer et al., 1995). By visiting their homes, CHWs are able to see firsthand the conditions in which families live, enabling them to better understand the circumstances in which families must cope with asthma.

Community health workers provide basic asthma self-management education and skill building. Educational topics include information about basic asthma pathophysiology, rationale for daily medication use, recognition of signs and symptoms, recognition and avoidance of asthma triggers, use of an asthma action plan, and appropriate use of (and, where necessary, provision of) equipment, such as inhalers and spacers.

Community health workers often work with families to improve their communication with providers, teaching them to prepare for physician visits, ask questions, and advocate for their child's needs. For example, CINCH CHWs use role-playing of common scenarios to help families more effectively communicate with health care providers. The King County Asthma Forum (KCAF) works with families to develop a list of questions and/or concerns prior to each appointment. To help families better remember clinic appointments and manage and locate medications and other asthma resources, KCAF CHWs also work with families to increase their organizational skills, even providing each family an "asthma box" to store all medication and devices in one place.

### *Environmental Trigger Reduction*

Several studies have demonstrated the effectiveness of home-based interventions to reduce exposure to asthma environmental triggers (Butz et al., 1994; Krieger et al., 2005; Morgan et al., 2004; Stout et al., 1998). Allies CHWs provide information about various asthma environmental triggers such as cockroaches and dust mites, mold, and environmental tobacco smoke. Five programs conduct home assessments, looking for visible signs of triggers and educating families on strategies to reduce exposure. Fight Asthma Milwaukee Allies (FAM Allies) conducts physical environmental testing to identify exposure to potential triggers. And three programs provide resources to families to reduce environmental triggers such as pillow and mattress covers, asthma-friendly cleaning kits, and/or low-emission vacuum cleaners. Families often view these resources as benefits of the program, and they are an effective incentive for client retention.

Because most of the families with which Allies CHWs work live in rented homes, several coalitions have found it necessary to address environmental issues through property owners and/or landlords. In communities in which significant numbers of families live in public housing or privately owned rental housing, coalitions have developed relationships with the local housing authority or even worked with landlords directly to help families get needed repairs or move to healthier units.

### *Care Coordination*

Working in partnership with families, CHWs often help families negotiate the systems and institutions involved in effectively controlling their child's asthma. As a point person who understands the complexity of asthma, is able to approach and/or has existing relationships with individuals in relevant systems, and is familiar with the variety of resources and services available in a community, the CHW often becomes the center of coordination and consistency across various sectors and systems (Krieger, Collier, Song, & Martin, 1999; Krieger et al., 2006 [this issue]; E. L. Rosenthal et al., 1998; M. P. Rosenthal et al., 2006 [this issue]; Witmer et al., 1995). Community health workers can help facilitate appointment keeping and locate families who miss appointments. In some cases, CHWs act as brokers, referring families to external services and resources (Love et al., 1997). At other times, they become advocates for families, working directly with schools, child care centers, health care providers, landlords and/or housing authorities, pharmacists, and others who play a role in managing a child's asthma.

This coordination role often stretches well beyond asthma. Wright and colleagues have provided evidence of an association between psychosocial factors (e.g., stress) and exposure to negative environmental factors common in high-risk urban neighborhoods (e.g., violence) and asthma morbidity and mortality (Weil et al., 1999; Wright et al., 2004; Wright & Steinbach, 2001). Among many of Allies' families, asthma is one of many significant life issues, and CHWs are challenged to address other issues that may exacerbate asthma morbidity and/or prevent a family from managing their child's asthma. Community health workers report that often they cannot begin to address the clinical aspects of asthma without helping families' other immediate needs. Unless a child is experiencing severe symptoms,

asthma may not seem critical enough to warrant energy and attention, especially in comparison to finding a job, safe housing, or food. Community health workers often spend significant time validating families' concerns and letting them know they're there to help relieve stressors that can act as barriers to effective asthma management. Some Allies CHWs estimate spending approximately 25% of their time addressing issues such as domestic violence, employment, and/or child abuse.

### *Building Relationships*

Within all Allies' CHW programs emphasis is placed on building a relationship with the families with whom they work. In most cases, CHWs place significant time and energy simply visiting with families and listening to their stories to build comfort and trust. In addition to frequent visits and effectively listening to families' concerns, CHWs have developed strategies for relationship building, such as sending birthday cards and/or holiday baskets and keeping tabs on current events in their lives, including non-asthma-related issues. By working with families in their own settings, CHWs are better able to respond to families' immediate circumstances, background, and culture, and to find acceptable ways to engage families in taking actions to improve their child's health.

> It's so important to have someone on your side when you're going through something like this. Asthma is frightening for parents and Carmen was always there for us. She's changed the lives of everybody in this home.
>
> *Parent, in reference to a Community Health Worker from Allies Against Asthma King County Asthma Forum*

### *Family Empowerment*

Allies CHWs seek to not only teach families about asthma but also empower families to improve their children's health. By helping families implement strategies to better manage asthma, CHWs hope families will feel a sense of control over the disease and their ability to improve their children's lives. In most coalitions, CHWs have taken an individualized approach to family empowerment, teaching families skills to advocate for their needs and helping them understand what constitutes good asthma control. They teach families to expect and accept assistance when their child's asthma is not in control and to communicate with their providers when this happens. Empowerment has also been approached at a community level. In Long Beach, for example, CHWs successfully engaged families with whom they work in efforts to oppose a proposed freeway expansion route that threatened to increase pollution in their neighborhood.

### *Data Collection*

A significant role for Allies CHWs has been data collection. In addition to documenting their own activities including how often they visit families, what was addressed, and plans for follow-up, in some programs CHWs collect baseline data for the cross-site core caregiver survey (Lachance et al., 2006 [this issue]) during an initial home visit and exit data during the last visit. Given the CHWs' developing relationship with the family, this may present bias, as families report more honestly about their challenges and difficulties in follow-up interviews. Several coalitions avoided this complication by using other individuals to conduct the core caregiver survey, pairing families with other CHWs or hiring neutral interviewers.

### *Relationship to the Clinical System*

As Bonner et al. (2002) noted, there is evidence that the partnering of patient and doctor may be critical to effective asthma control. As other programs have demonstrated, CHWs can be an effective mechanism to link families to traditional health care settings (Butz et al., 1994; Love et al., 1997; Stout et al., 1998; Witmer et al., 1995). Allies CHWs often act as brokers for families, bridging the gap between the family's culture and medical culture.

Allies CHWs are charged with ensuring that families have access to health care (either through existing providers or identifying new providers) and supporting families' efforts to follow their health care provider's instructions. Using a written asthma action plan that documents the health care providers' recommendations, CHWs ensure that families have written instructions for recognizing and responding to symptoms, that the families understand their plan, and that the plan is shared with other important stakeholders including the child's school, after-school program, alternate caregiver, and so on. When families face specific barriers, CHWs will sometimes attempt more-direct brokering,

even accompanying families to their clinical appointments to help improve communication between the families and their clinicians.

In working directly with families, CHWs have a unique relationship to the clinical system. Although they are knowledgeable about asthma and clinical therapies, CHWs are not licensed medical providers, and as such must be cautious to refrain from providing medical advice (Butz et al., 1994; Morgan et al., 2004). Allies coalitions have set very clear boundaries for what CHWs should, and should not, address with families. Allies CHWs are instructed not to provide clinical advice, such as which medication or dosage levels are appropriate. Instead they are charged with ensuring that families understand the concepts required to follow their health care providers' recommendations, and are able to request help when their child's asthma is not under control.

When clinical issues arise that are beyond the scope of the CHWs' responsibilities, all Allies CHWs have access to a clinician—a nurse or physician—for support. Coalitions utilize weekly case conferences with multidisciplinary teams or one-on-one review of CHW logs and action plans by a clinician to ensure clinical issues are appropriately managed. Some Allies CHWs also provide feedback to families' health care providers such as information related to a child's progress, or barriers the family is experiencing managing their child's asthma.

How this clinical interaction is logistically managed is significantly influenced by the programmatic relationship between the program employing the CHWs and clinical services. In Milwaukee, where the program is housed in a community clinic and CHWs are part of the clinical team, CHWs who encounter a patient having an exacerbation are able to schedule a same-day appointment. Although not a formal member of the team, some CHWs from Allies' sites have developed relationships with particular clinics and work closely with those clinics to develop better systems for integration of services, such as ensuring that CHW reports are placed into clinical records and/or working with clinics to develop systematic approaches to referrals through prompts or flow sheets. Where this relationship does not exist, Allies CHWs communicate with the family's physician via mail or fax, sending CHW reports to providers when a family is enrolled in the program and providing follow-up information as they progress.

## STRUCTURE AND MANAGEMENT

A significant difference among Allies coalitions is the structure through which the CHW programs have been developed and managed. Among the seven coalitions, four hired CHWs directly, with day-to-day oversight and management provided by Allies staff. All of these identified one individual, either a full-time CHW manager or lead CHW, to provide day-to-day oversight and supervision. Two coalitions developed contracts or agreements with partner agencies to provide CHW services. In one of these sites, the coalition was able to simply refer families to existing services. The benefit of direct oversight is that coalition staff is better able to manage and measure the CHWs' work. And because of their affiliation with a coalition—a neutral body—CHWs have often found it easier to work across sectors of the provider community, including community clinics, private doctors, and the health department. The challenge is that developing and implementing a CHW program is no small feat, requiring significant energy and resources. All of the coalitions who developed their own program found this process to take significantly more time than originally planned, which detracted energy and attention from other coalition activities.

There has also been variation in the physical structure of Allies' CHW projects, particularly where CHWs are housed. In Milwaukee, the CHWs are housed in a large community clinic, work only with families who utilize that clinic, and are integrated into the clinical team. One clear benefit to this approach is increased access to and communication with providers. Because the program is incorporated into the clinic, providers are supportive of and responsive to CHW efforts, and families are likely to hear more consistent messages across providers. This approach also requires less outreach because CHWs have a built-in service population and are able to connect with families when they visit the clinic in addition to seeing them in homes.

Among the other six programs, all are housed at a central location, such as a local health department, community center, or coalition office, and work with families who see a variety of providers. Although this does not engender the same degree of coordination with providers, it makes CHWs available to clinics of all sizes and reaches families who may not already have a provider. Because they are not associated with any particular clinic, these CHWs may also be viewed as more neutral.

### *Hiring and Training*

Each coalition established its own plan for hiring and training CHWs. Several utilized existing community resources and coalition members, including representatives from local housing authorities and leadership development programs, to aid in recruiting qualified individuals. Using existing relationships, LBACA also

developed a creative screening process. Having already worked with a number of mothers of children with asthma who were well qualified for the CHW positions but were unable to apply for employment because of their immigration status, LBACA developed a process through which these individuals helped screen and select CHWs for the program. This process gave the coalition critical insight to identifying individuals who would most effectively work with the community. In addition, after having participated in the selection process, these community leaders had a sense of ownership in the program that paved the way for broader community support and acceptance of the program.

The structure and process of initial and ongoing training and education of CHWs has also varied across sites. All coalitions provided initial training ranging from several days to 3 weeks, and most included basic teaching, role-playing, and fieldwork. This training was usually followed up by periods during which CHWs would be shadowed by another CHW or mentor to provide input and oversight. Depending on their range of roles and responsibilities, Allies CHWs received training related to the disease process and appropriate control of asthma, trigger remediation techniques, effective communication, and survey and documentation skills. Acknowledging the conditions in which CHWs often work, several coalitions placed significant emphasis on safety training and implemented important safety protocols to address concerns.

In an intensive effort to select the most appropriate CHWs, CINCH combined its selection and training processes. Fourteen potential candidates participated in an intensive 3-week, paid training program that included a range of educational activities, including role-playing. The selection process included having a staff member observe the candidates as they performed a door-to-door recruitment survey. At the end of the process, three individuals were selected for permanent employment. This process helped the coalition identify the most-promising candidates in terms of reliability, skills, and potential growth.

Although the initial training periods have varied, all Allies coalitions have placed significant emphasis on ongoing training and education. Given the complexity of asthma, the range of skills required to be an effective CHW, and the high risk of burnout, there is a great need for new knowledge as well as ongoing skill development. Topics for training and education have often come from the CHWs themselves, as they work with families and identify areas in which they feel the need to increase or expand their capacities. Coalitions have noted that this ongoing education not only improves the CHWs' ability to work with families but also supports their professional growth and acknowledges their future potential.

### *Quality Assurance*

Allies coalitions have developed similar mechanisms to ensure quality of care. Several conduct monthly or quarterly field observations during which a nurse or CHW supervisor attends home visits with staff. Others hold weekly or biweekly case management meetings to review cases, conduct joint problem solving, and review protocols. All conduct ongoing training and education for staff.

### *Service Level*

The intensity of services varies within and among Allies coalitions. Allies CHWs generally provide between two and seven home visits with each family, with each visit lasting from 45 minutes to 2 hours. Depending on the families' needs and the program resources, Allies CHWs work with families throughout a course of time ranging from 2 months to a year, often extending services if significant barriers arise (e.g., moving, divorce) or reducing them where appropriate.

Much of the CHWs' time is spent preparing for and following up from visits. Long Beach Alliance for Children with Asthma (LBACA) CHWs report spending approximately 5 hours on preparation and follow-up. And as reported by other studies (Butz et al., 1994), all coalitions report high rates of unsuccessful visits, with four to five contacts often needed to make one successful visit. With this in mind, Allies' CHWs work with approximately 50 to 75 families per year and conduct approximately one to two home visits each day.

### *Support Structures*

Among the most important lessons identified by Allies coalitions is the level of support required to help CHWs successfully meet their objectives. Many coalitions employ CHWs who have little experience holding a formal job and now find themselves in an incredibly demanding position. As documented in other programs (Butz et al., 1994; Love et al., 1997), Allies coalitions have experienced significant CHW turnover, especially in the first few weeks or months. After an initial adjustment period and with conscious and ongoing support, CHWs who maintain their involvement learn to appraise progress with families realistically and become more committed. Helping CHWs develop realistic expectations, understand the level of commitment required, and set reasonable limits (along with consequences for failing to meet them) have been key to hiring and retaining CHWs. Requiring early and periodic performance

evaluations and accompanying CHWs on supervised visits are two ways to monitor progress and provide needed support. Coalitions have also learned to adapt to and be supportive of the CHWs' personal needs. Because CHWs are often expected to make home visits during evenings or weekends when they are most convenient to families, most coalitions work with CHWs to develop flexible or even part-time schedules to accommodate stresses in their own lives, often as severe as those faced by the families they visit.

## CHW CHARACTERISTICS

The diversity of the Allies communities is reflected in the diversity of its CHWs, who are often assumed to share the cultural, linguistic, and social characteristics of the families with which they work. The Allies' coalitions took various approaches to this, based in part on existing needs and resources within their communities.

### *Cultural Characteristics*

Among the seven programs, two hired CHWs who were literally from, that is, live in, the priority communities. These individuals reflect the cultural, linguistic, and social characteristics of the families with whom they work, and are part of the community. Both of these coalitions had an explicit geographical focus for their program—specific public housing projects—and both serve fairly homogenous populations. Three coalitions hired CHWs who culturally and linguistically reflect the different communities served, although they may not physically live within the priority community. All three coalitions ensured that CHWs have knowledge of informal community networks and local community services and have an ethic of service to their community.

### *Gender*

Although the majority of Allies CHWs are female, two coalitions have hired male CHWs. Prior to hiring CHWs, LBACA conducted focus groups with community members to identify characteristics important for successful CHWs. Latino participants expressed concerns about male CHWs conducting home visits with women who might be home alone. Cambodian participants, however, suggested that a male CHW might more effectively engage the formal head of the household, who is typically male. The coalition has since hired male and female CHWs to work with the Cambodian population and has found them equally effective. For the DC Asthma Coalition (DCAC), where the CHWs have conducted primarily community-level education, having a male CHW has not presented a barrier.

### *Age*

The age of Allies' CHWs has also varied. Several programs, especially those that work with Cambodian and African American populations, report success working with older CHWs who are viewed as having significant wisdom and experience. In addition, coalitions report that having CHWs who are visibly involved in community networks, for example, through religious or community organizations, adds credibility to families' perceptions of them.

### *Background*

Variation is also found among the personal and professional backgrounds of CHWs. Two coalitions hired CHWs who are primarily high school graduates and are paid slightly above minimum wage. Community representatives from one site expressed concern that the community might not accept individuals with higher degrees, and might question their intentions. Housed within an academic institution, another coalition had difficulty convincing their home institution to agree to a salary significantly higher than minimum wage because their standardized pay scales are based on educational achievement. Among other Allies coalitions, CHWs are paid up to $12/hour and most have at least some college experience.

### *Personal Character*

Overall, coalitions report that the most important characteristic of successful CHWs relates to personality traits. Although some relevant skills can be taught to CHWs, including problem-solving and communication techniques, most Allies coalitions felt that the keys to working effectively with families are difficult to teach, such as having a clear respect for other people, warmth, dedication, reliability, persistence, the ability to earn and maintain trust, discretion (because of confidentiality), and resilience.

### *Impact on CHWs*

In addition to the impact the CHWs have had on the families with whom they work, the experience of being a CHW has also had a significant impact on many of the individuals hired. As reported by Witmer et al. (1995), many CHWs report experiencing significant personal empowerment through their work. Helping families negotiate complicated systems and teaching them to advocate for their children has given CHWs new skills and knowledge. Being seen as an expert and holding a steady job has improved their self-confidence and

expectations for the future. Several Allies CHWs have transitioned to other health-related professions, such as nursing. Working with the coalitions has had other positive effects for CHWs, including providing exposure to working with a range of individuals and introduction to group process. And in some cases, contacts made in the course of CHW work have led to other opportunities to advance their personal growth.

Some CHWs have experienced more challenging aspects of their personal empowerment. With a steady job with stable income, CHWs are sometimes able to afford items they previously could not—a car or new clothes—that become visible signs of their accomplishments. Sometimes these new skills and empowerment make them different than others in the community. In some cases they are no longer viewed as being *of the community*. Referring to a visible change in her own confidence, one CHW said, "I don't know what it is, maybe I just walk differently" (CHW, personal communication, October 2004.) It takes a particular skill and personality to successfully maintain this dual role.

Unfortunately, some CHWs find themselves at an impasse, with few opportunities for advancement. Few formal educational programs exist for CHWs. Many coalitions report that their CHWs are ready to take on greater challenges but have no clear next step. Often CHWs remain with the program out of a sense of responsibility and commitment to the coalition, their families, and their community, rather than their own personal advancement.

## EVALUATION

As described more fully in Lachance et al. (2006), data regarding the coalitions' CHW programs are being captured through the Allies cross-site evaluation. The evaluation, coordinated by the Allies National Program Office, is designed to assess the combined effects of the coalitions' work at the individual, organizational and community levels (Lachance et al., 2006). All coalitions are using an electronic database to track process information about CHW activities including the number of visits conducted, topics addressed, and geographic location of visits.

In addition to tracking activities, four coalitions are utilizing children enrolled in their programs as the study population for the Allies cross-site intermediate outcome study, which includes interviewing children and/or their caregivers who receive CHW services to gather data related to quality of life, asthma symptoms, and exposure to activities. It is important to note that this design was not intended to evaluate the impact of the CHW program itself because families who work with CHWs may also be exposed to other coalition activities. Qualitative assessment of the work of the CHWs may be provided through key informant interviews with community stakeholders and context interviews with coalition staff, as questions will explore perceptions of the coalition's impact on asthma management in the community. In addition to the cross-site evaluation, some coalitions are conducting their own local evaluation activities.

## CHW PROGRAMS AS COALITION EFFORTS

Allies' coalitions bring together a range of individuals representing the various systems and institutions that should be involved in efforts to improve asthma control. As an anecdote, coalitions report that working through a coalition effort has strengthened the CHW programs, and the programs, in turn, have strengthened the coalitions' efforts.

CHW programs are utilized by several Allies coalitions as a primary mechanism to coordinate and integrate asthma care within their community (Krieger et al., 2006; M. P. Rosenthal et al., 2006). Community health workers often act as the hub of a wheel, linking families with a range of programs and services. With coalition members representing the many organizations related to asthma control—schools, medical providers, insurers, housing agencies, public health and environmental agencies, and grassroots advocacy groups—the coalition provides access to these many spokes. Through their recruitment and referral mechanisms, use of standardized asthma action plans, linkage to clinics, and so on, Allies' CHW programs were designed from the outset to provide linkage and consistency among services and programs. When problems or issues arise, CHWs and administrators are able to work through coalition members—individuals who were involved in the development of the community action plan, and therefore have ownership in the CHW program—to resolve problems. The programs have also benefited from ongoing access to training and recruitment opportunities provided by coalition members.

Coalition staff and leadership also note that the coalition itself has benefited significantly from the CHW programs. Although their primary responsibilities are to work with families and communities, many of the CHWs have become important stakeholders in coalition efforts. In most sites, particularly those in which CHWs are managed directly by the coalition, CHWs have become active in the coalition process, participating in meetings and providing ongoing input and feedback into coalition activities. With day-to-day exposure to families struggling with asthma, they provide

a family-centered, real-life view of the challenges and barriers to effective asthma management. Although Witmer et al. (1995) noted the potential for CHWs to educate providers about community health needs, CHWs who work within a coalition setting have an even broader potential for contribution, providing critical insight to a wide range of partners and members.

Recognizing that CHWs may be uncomfortable participating in coalition discussions or activities, several sites have developed structures to support and encourage CHW participation. Long Beach Alliance for Children with Asthma CHWs received training in public speaking and organizational skills and were given opportunities to attend and represent the coalition at meetings throughout the community. To demonstrate the value of their input and ensure CHWs have ongoing opportunities to raise thoughts and ideas, CINCH sets aside time for CHW input on every coalition meeting agenda.

## CONCLUSION

As part of its coalition action plan, each Allies site employed a CHW program to provide education and support to families of children with asthma. Although similarities can be found among the programs, significant differences reflect the varying needs and resources found in their individual communities and coalitions. What is consistent is the critical role that Allies CHWs play in providing education to families and serving as a link to the coalition and other community resources.

It is hoped that the Allies experience and the lessons learned might be useful to other communities and those employing CHW programs to address other chronic diseases. Similarly, although Allies CHWs work primarily with poor and/or minority families, it seems possible that other families experiencing asthma might benefit from such programs. Furthermore, lessons might be applicable to new or existing disease management or home nursing programs.

Given the significant resources necessary to develop and maintain programs employing CHWs, it is reasonable to question the trade-off between such an intensive service and a program which might have wider reach (Swider, 2002). Although there seems to be developing evidence to suggest that more intensive CHW services (i.e., five to seven visits) brings added benefit relative to a single visit in terms of urgent health service use and quality of life (Krieger et al., 2005), research has yet to determine the optimal intensity of services relative to resources or impact. On the other hand, there is little doubt that the families whose lives have been improved by CHWs would consider the investment well spent.

The sustainability of the work of CHWs is also a concern. Allies' programs currently rely on grant funding, which is anything but secure. All have made efforts to find ongoing support for their CHWs, including integration into other programs or service reimbursement. Other studies confirm the difficulty of finding funds to sustain CHW programs (Love et al., 1997; Swider, 2002; Witmer et al., 1995), and significant efforts are under way to develop reimbursement mechanisms to support CHW visits. As the literature related to the effectiveness of the CHW approach increases, so will efforts to advocate for this as a reimbursable service.

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