


Promising Approaches to Integrating Community Health Workers into Health Systems: Four Case Studies

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Executive Summary

The productive roles that community health workers (CHWs) can play in the health care system are drawing increasing interest among US policymakers, health care providers, insurers, and other key stakeholders. CHWs educate patients, assist them in following prescribed treatment protocols, enroll them in coverage, and help them navigate a complex health system. CHWs can help put increased focus on health in the holistic sense, as a complement to the usual focus on health services, such as helping them access housing or food assistance services.

To better integrate CHWs into the health care system, CHWs were formally recognized in the Affordable Care Act as one resource for bringing about the Affordable Care Act's "triple aim" of improving the experience of care, improving the health of populations, and reducing per capita costs of health care (Berwick et al. 2008, Bisognano and Kenney 2012). To track CHWs in the workforce, the Bureau of Labor Statistics implemented a new occupational code in 2010.

While there is a growing interest, little has been documented about the scope of practice, supervision, and human resources standards implemented by states and by employers of CHWs, or how CHWs are financed. Such dimensions of implementing CHW models are important to organizations interested in promoting or implementing interventions that integrate CHWs. This volume offers four case studies of such interventions that illustrate the challenges and opportunities for integrating CHWs into health systems in specific state and local contexts.

The first two cases address state-level policy issues in Texas and Minnesota. There, while education and certification have important supports for CHW expansion, stable funding via Medicaid or other sources is vital. The next two cases — examine how entrepreneurs in Durham, North Carolina, and Mansfield, Ohio, have expanded the productive employment of CHWs. In both cases, organizers have put considerable effort into creating a data trail to oversee productivity and client outcomes. The extent of CHW employment has also been limited by availability of funding and willingness of healthcare employers to integrate CHWs into their systems.

The Texas Community Health Worker Certification System. Texas became the first state to enact a state-regulated certification program for CHWs. The Texas experience suggests the importance of advocates in enacting a CHW credentialing statute. It also underscores the

importance of involving employers and payers in design and operations of a credentialing system to ensure that CHW jobs are in demand. State leaders have lately reconsidered how to better support, educate, and regulate CHWs in the interests of multiple stakeholders.

The Minnesota Community Health Worker Training Program. In Minnesota, legislation to support and pay for CHW services resulted from years of exploration of evidence and options for state policy. The effort was spearheaded by a health-education-and-industry partnership that also worked closely with CHWs and researchers. This coalition not only successfully supported credentialing through a new state law, but also helped the state become a pioneer in winning federal approval for routine Medicaid payment of specific CHW services.

CHW Initiatives in Health Care and Public Health in Durham, North Carolina. The Durham case study illustrates how CHWs can contribute across a full spectrum of roles, especially within a large regional healthcare system. This case highlights the importance both of Duke Medicine's leadership in creating support for CHWs and of having fiscal and performance data to win continued organizational support for them. CHW employment has been limited by the availability of Medicaid funding for selected patients of primary caregivers. Leaders at Duke Medicine, the main employer, see supporting CHWs as an integral part of their current efforts to improve health for chronic conditions such as diabetes in communities where savings for avoiding acute care are possible. Duke Medicine is exploring the expansion of this model to other communities.

The Pathways/Community HUB Model and Ohio Certification of CHWs. The Community Health Access Project (CHAP) in Mansfield, Ohio, addresses serious population health problems through its pathway model of community care coordination, of which CHWs play a key role. Similar to the other cases, the Mansfield story also illustrates the roles played by policy entrepreneurs at the state and local level. The pathways are expert-created, protocol-like care plans that indicate how CHWs are to provide services. The CHWs educate at-risk clients and connect them with other evidence-based clinical, behavioral, or social services. Each pathway ends with a measurable outcome such as effective health plan enrollment or delivery of a healthy full-term baby—and CHWs earn bonus payments for productive and effective performance. Overseeing the CHWs are community hubs that connect payers with CHW care managers and community providers of medical, public health, and social services. The model has

been most effective in preventing low birth weights and is being implemented in other geographic areas. Sustainability of funding has been a challenge, as seen in the other cases.

All of the case studies draw from information obtained in the published and gray literature, supplemented by interviews with key informants within each state, research organizations, and training and certification programs in 2012 and 2013. Information not cited comes from these interviews. This edited volume of case studies is one of three exploratory analyses on integration of CHWs under health reform conducted by Urban Institute (Bovbjerg et al. 2013a,b).

The Texas Community Health Worker Certification System

by Elizabeth Richardson and Barbara O. Ormond

Introduction

Texas provided early leadership in workforce development for community health worker (CHW) profession.¹ It was the first state to legislate formal certification for CHWs. In light of the various opportunities for system reform created under the Affordable Care Act—and in examining how CHWs may be deployed under those reforms—it is important to understand how certification can affect both employment and career progression.

This case study describes the development, structure, and implications for employment of the Texas state CHW Certification Program. As it illustrates, certification alone does not help grow the CHW profession. Promoting CHW employment requires buy-in from a broad range of stakeholders, including employers, CHWs, and public and private funders. Financing must be available to support employment.

Initial Enactment

Promotion of the Texas state certification program originated in the mid-1990s and included the efforts of several advocacy groups both within the state and across the multistate southwestern border region. At that time, a series of meetings brought together CHWs, community leaders, and other stakeholders from several states who were interested in developing and promoting the CHW workforce. In Texas, organizers formed CHW alliances to provide networking and resource-sharing opportunities for the existing CHW initiatives. Based in part on advocacy work by these alliances, a group of state legislators representing the Texas border districts introduced H.B. 1864, enacted in 1999 (Nichols et al. 2005). Figure 1 shows the legislative history.

¹ The term CHW here includes *promotores(as)*.

H.B. 1864 required the Texas Department of State Health Services (DSHS) to establish an exploratory committee to (1) identify and evaluate options for developing both a standardized CHW training curriculum and a state certification process and (2) evaluate the feasibility and benefits of using CHWs to assist Medicaid and CHIP enrollees. The committee—known as the Promotor(a) Program Development Committee (PPDC)—included CHWs, members of the public, and representatives from both state government and institutes of higher learning.**Error! Bookmark not defined.**

Though increasing CHW employment opportunities was part of the PPDC's ultimate aim, the emphasis of their work was on developing a formal system of recognition for the CHW role and establishing a baseline set of skills. Over two years, the PPDC developed standardized curriculum guidelines that focused on core competencies that they felt would ensure a common base of knowledge and a portable skill set. The committee recommended that the state establish certification not just for CHWs but also for the instructors who train them and the institutions or programs that host the program; a more stringent regulation for a health profession.

Figure 1. Timeline of CHW legislation in Texas

H.B. 1864 (1999) - established the Promotor(a) Program Development Committee, whose recommendations would eventually lead to the development of the state CHW program

S.B. 1051 (2001) - established the state certification program and mandated that all CHWs receiving payment undergo certification.

S.B. 751 (2001) - required that state health agencies use certified CHWs to perform health outreach and education programs for recipients of medical assistance, to the extent possible.

H.B. 2610 (2010) - mandated that the Department of State Health Services commission a study of the CHW workforce, to include recommendations for its promotion and expansion, as well as potential funding and reimbursement opportunities.

In 2001, the Texas legislature passed two additional laws, S.B. 1051 and S.B. 751, based on the PPDC's recommendations. The former mandated that all promotores receiving payment for their services be certified by the state; the latter required that health and human services agencies employ certified promotores—to the extent possible—in conducting health outreach and education programs for recipients of medical assistance. However, these mandates came with no enforcement mechanism, and thus, not all employers require formal certification for their CHWs.

Indeed, one informant estimated that the number of certified and uncertified CHWs in the state were roughly equal.

S.B. 1051 also included a grandfather clause under which CHWs and instructors who have a specified level of experience could be exempted from formal training requirements. In the same year, the state established a formal advisory committee to provide input on CHW training regulations. Advisory Committee membership was to include four certified CHWs, two members of the public, two professionals who work with CHWs, and a representative from the field of higher education.² In 2002, the advisory committee finalized an application form for each of the three state certifications and, by the following year, had established a certification renewal application and a database to track those applications.

Subsequent Developments

The number of certified CHWs increased slowly for the first few years after the passage of S.B. 1051 and S.B. 751 and hovered around 600 from 2005 to 2009. Since then, the number has risen sharply; as of July 2013 there were 2,200 certified CHWs in the state.³ One state-level key informant attributed the jump to better access to certified training programs and instructors, which had increased around during the period.

At the same time, several groups in the Houston area intensified advocacy efforts for CHWs to play a greater role in the health and social services. These efforts eventually led to passage of additional legislation (H.B. 2610, enacted in 2011) aimed at building the evidence base in support of CHW employment. Unlike the earlier legislation, which had concentrated on the educational side of the issue, this legislation brought the focus to potential employers. DSHS and the Health and Human Services Commission were directed to:

- study the desirability and feasibility of employing CHWs to provide both publicly and privately funded services,
- explore funding methods for CHW services and outline their costs to the state, and

² “Community Health Workers - Training and Certification Advisory Committee Membership,” Texas Department of State Health Services, last modified November 21, 2013, <http://www.dshs.state.tx.us/mch/chw/advMEM.aspx>.

³ “Promotor(a) or Community Health Worker Training and Certification Program,” Texas Department of State Health Services, last updated December 12, 2013, <http://www.dshs.state.tx.us/mch/chw.shtm>.

- develop recommendations to maximize CHW employment and expand funding and reimbursement opportunities.

The final report was delivered to the legislature in December 2012 (Texas Department of State Health Services and Health and Human Services Commission 2012). Its findings on the current state of the workforce and the state's plans for the future are discussed below.

The Texas CHW Certification System

Texas requires three types of certification: for CHWs, for instructors, and for training programs.

Training programs may apply to train CHWs, instructors, or both, and are given broad control

Figure 2. Required core competencies of the Texas CHW certification system

1. Communication skills
2. Interpersonal skills
3. Service coordination skills
4. Capacity-building skills
5. Advocacy skills
6. Teaching skills
7. Organizational skills
8. Knowledge base on specific health issues

over the structure of the curriculum. At a minimum, the curriculum for both CHWs and instructors must add up 160 hours and include 20 hours of training on each of eight core competencies that the state deemed essential to the role (figure 2).⁴ The standardized structure is intended to allow training programs to adapt their curriculums to meet local needs while still providing a common framework.

However, informants at one training program noted challenges in structuring the curriculum to meet state requirements. Specifically, they indicated that the requirement to apply exactly 20 hours towards each of the eight

competencies restricted their ability to innovate. Thus, they tended to focus their innovative efforts on continuing education curricula, which can be more easily adapted to fit local needs. For example, this training program recently established a module on the care needs of refugee populations. This module is based on feedback they received from organizations in their area.

At present, 25 organizations are certified to provide training for CHWs and instructors.⁵ Most are found in urban areas and are run by academic centers (including community colleges, university departments, and Area Health Education Centers) and tend to be academic in nature.

⁴ "Competency Areas/Áreas de Competencia," Texas Department of State Health Services, accessed December 31, 2013, <http://www.dshs.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=8589969406>.

⁵ "Community Health Workers - Training Information: Training Programs 2013," Texas Department of State Health Services, last modified December 19, 2013, <http://www.dshs.state.tx.us/mch/chw/training.aspx>.

However, some training programs are conducted by federally qualified health centers and community-based organizations and more closely match the needs of the sponsoring organization. The state has limited capacity to evaluate either the quality of the instruction or how well the program reflects local needs, and it is unclear how much variation exists between programs.

The time required to complete training varies. Some programs are semester-long, with classes being offered one day a week for 20 weeks, while others are offered as block instruction. The state has recently allowed certification programs to offer distance learning programs, which may improve access for those living outside of urban areas. Also, CHWs and instructors with at least 1,000 hours of on-the-job experience in the past six years may be certified without undergoing formal training.⁶ In any given year, a substantial percentage of newly certified CHWs receive their certification based on experience rather than completion of a training program. This share has fluctuated over time, but as of 2012, fully 63 percent qualified without the training.⁷

CHWs, instructors, and training programs must each be recertified every two years, and training programs must submit any changes to their curriculum in order to be recertified. CHWs and their instructors must undergo at least 20 hours of continuing education within the two-year period. The state allows some flexibility as to what constitutes ‘continuing education’, but at least 10 of the 20 hours must be completed through a certified training program.⁶ Recertification rates increased from 21 percent in 2006 to 60 percent in 2011, but then decreased in 2012. One state informant found this decrease unsurprising given the large size of the 2010 cohort of newly certified CHWs, and speculated that many CHWs are unfamiliar with formal certification processes in general and may simply need reminding.

The CHW Workforce in Texas

The number of CHWs certified each year has increased over the years. In 2012, 864 CHWs were newly certified, up from fewer than 600 the previous two years.⁸ CHWs are concentrated in the

⁶ “Requirements for Certification and Renewal,” Texas Department of State Health Services, accessed December 31, 2013, <http://www.dshs.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=8589935704>.

⁷ “Community Health Workers – Program Workforce Information,” Texas Department of State Health Services, last modified March 15, 2013, <http://www.dshs.state.tx.us/mch/chw/workforce.aspx>.

⁸ Ibid.

eastern and southern parts of the state, and particularly in health service regions (HSRs, which are catchment areas) that contain large urban centers. Border counties also have higher concentrations of CHWs, mostly because those counties are home to large immigrant communities and have well-established CHW programs like the South Texas Promotora Association. Overall, a clear majority of certified CHWs are paid for their work, though in one region (the El Paso area) the ratio of paid CHWs to volunteer CHWs is roughly equal. Table 1 adapts data from the 2012 CHW study report to the legislature. These numbers may over- or under-estimate the share of CHWs that are paid because data are not available for CHWs without certification.

Table 1. CHW Distribution and Employment Status as of March 2012 (N=1,693)

HSR (Headquarters)	Certified CHWs	Paid	Volunteer	Unemployed
	(% of state total)			
HSR 5&6 (Houston)	35.4%	67%	21%	12%
HSR 11 (Harlingen)	19.0%	66%	26%	8%
HSR 2&3 (Arlington)	14.5%	86%	8%	6%
HSR 8 (San Antonio)	10.0%	73%	13%	14%
HSR 9&10 (El Paso)	9.0%	48%	45%	7%
HSR 4&5 (Tyler)	4.5%	97%	1%	1%
HSR 7 (Temple)	4.1%	76%	23%	1%
HSR 1 (Lubbock)	3.5%	66%	24%	13%
Total	100.0%	70%	21%	9%

Source: Texas Community Health Worker Study: Report to the Texas Legislature, Department of State Health Services and Health and Human Services Commission, 2012.

In 2012, the state funded a survey of CHW employers and potential employers in order to better understand the market for CHW services. Employers reported that the most important roles undertaken by CHWs fell into three general categories: health education and promotion, information and referral, and health system navigation. They reported that some CHWs play a role in informal counseling, social support, and direct services. The majority of employers surveyed (n=171, 80%)—including those who do not currently employ CHWs—expressed an

interest in expanding their use of CHWs and indicated that their decision to employ CHWs is driven in large part by funding considerations and the need to demonstrate return on investment.

As in most states, funding for CHW services is derived primarily from grants, and most organizations depend on multiple sources of funding (table 2). The majority of Medicaid recipients in the state are in managed care, and some managed care organizations (MCOs) fund CHWs, whose services are billed as administrative costs. Table 2 is excerpted from the CHW workforce study.

Table 2. Reported Funding Sources for CHW Services by Employers in Texas (N=171)

Funding source	Percentage used
Grant funding (private or public)	69%
Self-funded (internal budget)	35%
Medicaid	16%
CHIP	12%
Other	10%
Private insurance	7%
Medicare	6%

Source: Texas Community Health Worker Study: Report to the Texas Legislature, Department of State Health Services and Health and Human Services Commission, 2012.

Note: Multiple responses were allowed, thus sources do not total 100 percent.

Benefits and Challenges of the Texas Certification System: Voices from the Field

Though Texas implemented its certification system over a decade ago, it has not been formally evaluated to determine how much (or in what ways) it contributes to the development and promotion of the CHW workforce. The state tracks and reports annually on the number, demographics, and county location of all newly certified and recertified CHWs, instructors, and training programs, but information on employment is not regularly collected, nor has there been any systematic comparison of the certified CHW population to those who do not seek

certification. Thus, it is unclear both whether certification makes CHWs in Texas more desirable to employers and how job status, pay, and career paths differ with and without certification. However, some studies have attempted to identify the benefits and challenges of certification.

In 2007, a small-scale evaluation of CHW utilization in Houston examined the certification program. It found that the majority of interviewees (including both practicing CHWs and employers) saw benefits to certification—including heightened credibility, recognition, and acceptance in the medical community (Harris et al. 2008). Interviews conducted for this case study support the Houston study’s finding. However, the evaluation also found that certification requirements were a significant burden to both CHWs and employers. The cost of the program, in both time and money, was cited as a barrier by CHWs, as was the lack of bilingual instruction. CHWs perceived that certification shifted costs to them, and the researchers “were surprised to discover that many practicing CHWs have experienced Texas’ credentialing program as a burden, rather than a benefit” (ibid. at p.102).

There is no cost to applicants for certification, but costs for initial training and continuing education programs can range from \$500 to \$1,000. How large a barrier these costs represent likely varies both by the individual circumstances of a given CHW and by the circumstances of their employment. Recertification is also without cost. But employment for CHWs tends to be based on short-term grant funding for discrete projects, so a CHW may have little incentive to pursue recertification once the job ends. State communication around the recertification process could also be improved. Though scholarships are available, these are not plentiful. Employers will often pay for training, but key stakeholders interviewed for this report did not know how often this happened.

The Houston study also found that recertification requirements were often viewed as burdensome, in part because only a limited number of organizations offered nearby continuing education. This finding raises questions about how burdensome the requirements may be for those living outside of urban areas and thus have greater barriers to access. Access problems have diminished over time, as continuing education programs have expanded in many areas, but challenges still remain for CHWs located in more rural areas. Employers surveyed in 2012 also noted challenges to recruiting outside of urban areas.**Error! Bookmark not defined.** Key

informants expressed the hope that the expansion of distance learning opportunities would help reduce some of these barriers.

The lack of a formal curriculum also means that instructors may have to develop their own. CHW organizations—including training program managers and instructors—often have informal networks through which they may share information, but there is no systematic process for exchanging best practices.

The CHW workforce study identified several barriers to employment, among them a general lack of awareness of how CHWs can contribute to an organization. In stakeholder interviews, all respondents noted the need for greater awareness building and provider education. Employers identified the need for training programs targeted to employer needs, which may prove difficult if training programs lack systems for assessing these needs and developing responsive training components.

Stakeholder interviews also noted the lack of direct connection between certification and improved pay, working conditions, or career prospects. Indeed, one informant reported that some providers may oppose certification of CHWs because it creates these very expectations. Training program directors acknowledged they had no direct proof that certification led to better pay, but they had received anecdotal reports that CHWs working in some settings (such as in emergency departments or MCOs) earned upwards of \$23 an hour, and that many of their trainees have moved up into management positions. There was some disagreement about whether CHW training and certification serves as a bridge to other health professions, a track some CHWs have followed. Building a strong career ladder has been identified as a key component in expanding CHW employment, and it was suggested that additional resources be made available to allow CHW supervisors to manage and mentor their staff.

As seen elsewhere (Dower et al. 2006), the lack of stable funding was viewed as a barrier to both the sustainability and expansion of CHW employment. This is a simple but crucial point, and one that can help to address a number of the barriers noted above. The next section highlights recommendations to address some of these barriers.

Looking to the Future

The 2012 report to the legislature on the CHW workforce notes several state options for expanding employment opportunities and funding sources. Some recommendations focus on continuing or expanding current DSHS activities (e.g., DSHS should continue its certification activities and facilitate collaboration between training programs and CHW employers, allowing training programs to better meet employer needs). Others identify ways that CHWs can be integrated into ongoing reforms processes in the state.

The most significant of these reforms pertains to the federal “section 1115” Medicaid waiver that the state recently received.⁹ That allows the state to move almost all Medicaid recipients into managed care and to restructure its hospital payment system. Revised managed care contracts are to include new language related to CHWs. Specifically, these contracts will include a definition of the CHW role and will allow MCOs to bill certain CHW services as service costs rather than administrative costs. Though the state will not increase the capitation rate it pays, this change will allow MCOs greater flexibility in deploying CHWs, because employment of CHWs will not adversely affect the medical loss ratio that is regulated by the ACA.

The new hospital payment system is based in part on provider participation in regional collaborations known as regional healthcare partnerships. These partnerships, anchored by a single lead entity, have broad control over their care systems and structures, but the state has explicitly encouraged the integration of CHWs into its guidance documents. In response, at least some of the regional healthcare partnerships have included CHW efforts in their official plans.

Texas is also planning reforms to a range of community-based services, including its Title V Maternal and Child Health Services program and its breast and cervical cancer services. As part of this restructuring, the state plans to expand its existing Primary Health Care program and involve CHWs in conducting outreach and patient navigation for women’s health services, cancer screening, and dental services.

Training centers are already moving to take advantage of these new opportunities. According to one informant, several organizations have developed training programs and applied for state

⁹ Such waivers permit variations from standard Medicaid requirements with federal regulatory approval, which is technically a time-limited authorization to conduct a demonstration..

certification in anticipation of new funding streams and employment opportunities for CHWs. However, without ongoing assessment of the needs of employers, how well these newly certified CHWs will be able to find stable employment and good job opportunities will remain unclear.

The Minnesota Community Health Worker Training Program

by Barbara A. Ormond and Elizabeth Richardson

Introduction

The driving force behind Minnesota's approach to community health workers (CHWs) has been a diverse group of stakeholders dedicated to advancing the profession in the state. The group, now represented by the Minnesota CHW Alliance, first came together in the early part of the past decade. Over the ensuing 10 years, it has made substantial progress toward its goal of creating sustainable employment for CHWs and using them to improve health care access, reduce health disparities, and improve health outcomes. While the group recognizes its many accomplishments to date, it sees CHW workforce promotion as "long-term, ongoing work," according to one informant.

Laying the Minnesota Groundwork

From the beginning, the stakeholder group has taken a measured approach to expanding the CHW workforce, gathering information broadly and taking advantage of opportunities as they arise (Rosenthal et al. 2010). This work began in 2002 when the Blue Cross-Blue Shield Foundation of Minnesota commissioned a survey of the CHW landscape and held an accompanying forum with policymakers, educators, and health care representatives.¹⁰ The foundation's interest was driven by the many ongoing requests for support it had received on behalf of CHWs working across the state and its core mission "to improve health in communities throughout Minnesota by improving the conditions in which we live, learn, work and play."¹¹ The survey was designed to help the foundation understand the nature of the existing workforce, how these workers might contribute to its funding priorities of its Critical Links program, improvements in cultural competency and the size and diversity of the healthcare workforce, and reductions in racial and other disparities (Blue Cross Blue Shield Foundation of Minnesota 2010). Other work included a study of how CHWs have been funded nationwide (Dower et al. 2006).

¹⁰ See the timeline on pp. 14–15 of Blue Cross-Blue Shield Foundation of Minnesota (2010) program summary.

¹¹ "Who We Are," BCBS Foundation of Minnesota, accessed December 31, 2013, http://bcbsmnfoundation.com/pages-whoweare-tier3-Purpose_and_Values?oid=7118.

The survey identified a range of employers and likely employers of CHWs and solicited their input. Survey responses highlighted a growing demand for CHW services. In particular, the survey found strong interest in developing the CHW workforce to meet three goals: (1) improve health care access by helping people navigate the health care system, (2) lower health disparities by increasing knowledge about health, and (3) improve health outcomes by serving as a bridge between communities and the health care system. Employers and potential employers were interested in having a standard set of skills that would define and characterize a community health worker.

Following the survey, the Blue Cross-Blue Shield Foundation brought together a range of stakeholders that could play a role in promoting CHWs in Minnesota. This group continued research on the local CHW workforce, this time with a focus on what CHWs thought they needed to perform in their jobs. It conducted focus groups with CHWs (in both English and Spanish) to explore their attitudes toward, among other things, the development of a standardized curriculum for CHWs. The response was positive.

Starting in 2003, the foundation gave seed funding to a coalition that included representatives from the Minnesota State Colleges and Universities (MNSCU), the foundation, health care providers and insurers, government, and CHWs. This coalition was called the Healthcare-Education-Industry Partnership (HEIP). The foundation successfully nominated HEIP for funding from the Local Funding Partnership program of the Robert Wood Johnson Foundation. Working with state health systems, HEIP developed an 11-credit certificate program for CHWs. Enrollment began in 2005. In 2010, HEIP expanded the curriculum to 14 credits to include coursework on specific health topics. In addition to spearheading the development of the curriculum, the group successfully advocated for legislation that authorized Medicaid payment for services provided by students who completed the curriculum. The Critical Links program made 41 grants related to CHWs until it ended in 2010, totaling around \$3.3 million. Some grants for CHWs have subsequently been made under other Foundation programs.

The CHW Curriculum and Peer Support

CHWs play many roles across a range of organizations. The CHW curriculum is based on the development of competencies that would be applicable in multiple roles and settings for CHWs. The original 11-credit curriculum focused on core competencies, and the additional 3 credit

hours are designated as health promotion competencies and cover basic knowledge about common health problems. The program is not designed to teach CHWs everything they need to know. Rather, it strives to provide a foundation; it is expected that employers will provide knowledge specific to the job. In all, the curriculum calls for about 20 weeks including four weeks of internship.

The core competencies are

- role, advocacy and outreach,
- organization and resources,
- teaching and capacity building,
- legal and ethical responsibilities,
- coordination and documentation, and
- communication and cultural competency.

The health promotion competencies are

- healthy lifestyles,
- heart and stroke,
- maternal child and teens,
- diabetes,
- cancer,
- oral health, and
- mental health.

The curriculum is offered at community colleges across the state but concentrated in Minneapolis and St. Paul. In recognition of the need for training CHWs nationally, the curriculum was made available online in 2012. Students completing the program online can do the coursework on their own schedule, but must participate in weekly conference sessions in which students meet online to exchange experiences. The cost for either online or in-person curriculum is the standard tuition and fees for 14 community college credits, and is frequently borne by the student's employer.

To date, more than 500 students have completed the program at one of the sites offering it. At the completion of the program, students receive a certificate. The certificate is not required to work as a CHW in Minnesota, but it is increasingly recognized as proof of the skills needed to be successful. The certificate is required for CHWs to receive reimbursement under Medicaid. Around 63 CHWs received certificates through a "grandfather" clause in the legislation allowing years of experience to substitute for formal classwork.

The focus group research also identified a need for development of a program for peer support for CHWs. HEIP chose WellShare International, a local group that worked with both international CHW groups as well as local immigrant communities, to create a CHW peer support program. The Minnesota CHW Peer Network¹² includes continuing education opportunities, a listserv to facilitate communication across the state, and several conferences each year for CHWs to meet their peers, share information, and update skills. The conference programs are developed by the CHWs themselves, and admission is free. WellShare also maintains online resources for CHWs including a CHW directory with contact information and populations served.

CHW Workforce in Minnesota

Demand for CHW training continues to be steady in the state, signaling growth in the CHW workforce. However, there is no comprehensive roster of CHWs working in the state. The alliance would like to see CHWs working across agencies in the state, not just in health departments.

In 2012, the alliance commissioned a scan of the CHW workforce in Minnesota that used an online survey and key informant interviews (Hardeman and Gerrard 2012). It found that most CHWs were hourly employees rather than salaried workers, with higher hourly rates paid to more experienced workers. Annual compensation ranged from \$26,000 to \$36,000. Those who worked full time might receive benefits in addition to their wages. Of those surveyed, 90 percent had paid employment and 60 percent worked full time. About half of the respondents had completed the certificate program, and 65 percent had received on-the-job training.

Medicaid Reimbursement

CHWs have served in many roles in Minnesota over the past several years. They have been employed chiefly in local programs under grant funding. One of the goals of the CHW initiative in the state has been to establish a sustainable funding stream for the profession. The state took a

¹² “MN CHW Peer Network,” WellShare International, accessed December 31, 2013, <http://www.wellshareinternational.org/chwpeernetwork>.

first step toward this goal when Medicaid reimbursement for CHW services was authorized under state legislation in 2007 (amended in 2008 and 2009).¹³

Minnesota may be the only state to have made CHW-provided services reimbursable as part of their standard Medicaid state plan.¹⁴ Other states that pay for CHW services have implemented financing under other mechanisms to support CHW work with Medicaid beneficiaries. These other approaches include section 1115 waiver programs (as in California) and administrative cost reimbursement (as in Arizona). In Minnesota, CHWs with a valid certificate from MNSCU can be paid for health education services provided to Medicaid beneficiaries, although amounts are limited. Minnesota continues working to promote additional reimbursement opportunities under Medicaid. Specifically, its legislation also allows reimbursement for care coordination services. The state has not yet sought federal approval for this service; it wants to define more clearly what is meant by care coordination and what role CHWs will play.

Looking to the Future

Medicaid reimbursement is only one part of the state's efforts to further develop the CHW workforce in Minnesota, but it is an important indicator of what stakeholders have been able to accomplish. The identification of roles and reimbursement for CHWs in Medicaid signals mainstream acceptance of community health work as an occupation and of CHWs as valued contributors to the health of the population. However, the partnership that developed to support this effort and still works for CHW advancement is the backbone of the CHW story in Minnesota. It began with HEIP and has expanded to include CHWs, local and national foundations, the Medicaid program, the state public health office, MNSCU, health plans, health care providers, and the mutual assistance societies that work with immigrant communities. HEIP

¹³ "Health Care Innovations Exchange Policy Innovation Profile: Alliance Creates Community Health Workers' Scope of Practice, Training Curriculum, Certificate Program, and Reimbursement Strategy, Expanding Their Integration Into the Health System to Reduce Health Disparities," AHRQ, last modified September 25, 2013, <http://www.innovations.ahrq.gov/content.aspx?id=3700>.

¹⁴ Cindy Mann, Director, Center for Medicaid & CHIP Services, CMS, letter to Bruce Goldberg, MD, Director, Oregon Health Authority, October 29, 2013. <http://medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/or/or-health-plan2-ca.pdf>. Oregon has recently received CMS approval for its waiver to cover some CHW services. CHW financing is the focus of reports from Dower et al. (2006) and PSC (2007); more research is needed. Alaska and California have waivers for Medicaid payment (National Health Care for the Homeless Council 2011).

evolved into the Minnesota CHW Policy Council, which became the Minnesota CHW Alliance in 2009 and is now housed in the Midwest division of the American Cancer Society.

The alliance is working to advance the CHW profession as part of its strategy for addressing health disparities in the state (Cleary 2012). Minnesota ranks among the healthiest states nationwide but has many groups that lag well behind. These groups include large immigrant populations who are not well-connected to the mainstream health care system. CHWs provide a bridge to these communities. Minnesota also has an active CHW program providing health information and serving as a bridge to the state's deaf community.

Evolution on the provision of care in the ACA era also offers opportunities to expand CHW roles in the state. The alliance seeks to integrate CHWs into the Minnesota health care system including into local medical or health homes. Embedding CHWs into care teams is seen as a way to improve care outcomes, reduce costs, and increase both provider and patient satisfaction. Expanding provider awareness of how CHWs can contribute to care teams is an important goal for the alliance moving forward. Potential new roles for CHWs as insurance navigators will accompany the expansion of Medicaid eligibility and development of health insurance exchanges. While the alliance is eager to take advantage of these opportunities in the medical system, it continues to promote CHWs' work outside of the medical model of care in areas that touch on patient engagement, community empowerment, and addressing the social determinants of health.

The Minnesota experience suggests that involving all stakeholder constituencies is important to crafting an effective educational and certification approach. CHW stakeholders have had remarkable success in winning limited Medicaid reimbursement for CHW services and a higher profile with public agencies. This work and advocacy constitutes a strong start to moving CHWs into the health mainstream, but all parties recognize that much more progress can be made, especially in private sector employment.

CHW Initiatives in Health Care and Public Health in Durham

by Theresa Anderson and Randall R. Bovbjerg

Introduction

This case study illustrates how community health workers (CHWs) in Durham contribute across a full spectrum of roles based on population needs and contexts. Such roles include being closely allied to high-end care in a teaching hospital as well as engaging in community outreach and education to disadvantaged subpopulations and in one Durham neighborhood experiencing specific health care needs. CHWs in Durham mainly, but not exclusively, work for the Duke University Health System. The following short write-up describes the roles undertaken by CHWs, the structure of their training and employment, and the financing used to support them.

Context

Duke University Health System is based in Durham, North Carolina, the county seat and home to Duke University. Located in the state's central Piedmont region, Durham is near the capital of Raleigh and even closer to Chapel Hill. An Institute of Medicine panel provided an apt thumbnail description:

Durham, North Carolina, is a small city with numerous medical and social resources that have not always translated into improved health outcomes for its inhabitants. Durham's population of 267,000 is about 38 percent African American, 46 percent white (not Latino/Hispanic), and 14 percent Latino/Hispanic, and while the median household income is slightly higher than that for the state of North Carolina, Durham residents also experience poverty at a higher than average rate. Furthermore, although Durham possesses a wealth of highly skilled primary care entities, including a top-10 ranked medical school and quickly rising school of nursing, Durham residents experience rates of chronic disease and health disparity that are only slightly lower than those statewide. To better align the needs and resources of Durham, a number of partnerships have been created with the assistance of the state and through local determination to improve the health of the city's residents. (Institute of Medicine 2012, 61–62)

Most states use managed care methods to operate most or all of their Medicaid programs. Many contract with capitated managed care organizations (MCOs) to provide for all care for enrollees. In lieu of prepaid, risk-bearing MCOs with limited panels of providers, other states use Primary Care Case Management (PCCM), which operates within the traditional fee-for-service payment model for all participating providers. PCCM encourages participating primary caregivers, almost always physicians, to serve as medical homes and oversee all care provided to

their enrolled patients, no matter where services are rendered. For this, the primary physicians receive a small capitated payment, often termed a “per member per month” payment (PMPM). They also receive other supportive services. In North Carolina, the PCCM model began with Duke Medicine and has grown into Community Care of North Carolina (CCNC), which consists of 14 geographic networks covering all 100 counties in the state.

The North Carolina Department of Health and Human Services (NC DHHS) makes PMPM payments to these 14 regional support networks and to the primary care doctors within those networks. The networks also include other important local stakeholders, including health departments and social services agencies, which play a role in Medicaid eligibility determination. The state also reports data back to the networks and sets priorities and requirements for the networks to fulfill.

The networks vary in composition and structure. In Durham and in neighboring counties, collaboratives involving Duke’s Division of Community Health (DCH) lead the two networks. The first, Durham Community Health Network (DCHN), covers urbanized Durham County, and the second, Community Care Partners (CCP), covers five adjacent counties, which are largely rural. Together, DCHN and CCP cover the six counties of the North Piedmont CCNC network. The state sets health care priorities, which have shifted over time. In early years, childhood asthma was the key focus, and attention now has turned to chronic conditions. The state emphasizes economizing initiatives. Health improvement is also sought, for example, through evidence-based guidelines, but not at the cost of increased spending.

In 2012, the state began adapting CCNC to serve dual-eligible patients (i.e., those who receive both Medicaid and Medicare), another Duke initiative. The dual-eligible approach is centered on beneficiary buy-in to achievable goals, using a team of “professionals and para-professionals whose purpose is to provide services and supports to help the beneficiary articulate and achieve their evolving personal health goals” (NC DHHS 2012).

CHW Roles and Functions in Durham

DCH considers CHWs to be lay people who primarily assist care management for clinical patients, but they may also assist in population-oriented interventions. When DCH was initially constituted, its leaders were strong advocates of CHWs’ value and affordable cost as they had

operated a non-federally qualified community health center in New Hampshire during the early 1970s. Persuading decision makers in Durham that CHWs were useful was an initial challenge, especially among physicians, according to several key informants. Business people were described as far easier to persuade, being accustomed to reaching decisions using imperfect information.

CHWs work with various combinations of nurses, social workers, and health educators to provide services to specific populations. Four primary activities completed by persons titled “community health workers” are (1) follow-up with high-risk and high-cost hospital discharges, (2) home visits and outreach to homebound elders, (3) support for Medicaid managed care, and (4) community health education. Each of these is discussed in turn.

CHWs typically serve as care coordinators who may also provide some basic health education. Their education levels can range from high school to college, though college-educated CHWs tend not to be trained in a health care field. They frequently come from Durham County, but not necessarily from the city, nor from the specific neighborhoods where they work.

Follow-Up with High-Risk and High-Cost Hospital Discharges

DCH is quite advanced in its use of technology to coordinate care and track patients, who are categorized and prioritized by medical, social, and environmental risk (Lyn et al. 2009).

Treatment team members also use technology to track payee information and direct patients to services that are appropriate for their insurance coverage. Through advanced data tracking systems, CHWs at most affiliated hospitals in the DCH receive alerts when patients are admitted who are eligible for CHW services. Patient eligibility for services varies among divisions of DCH, depending on insurance status and health condition. The CHWs check in with the most high-priority patients while they are in the hospital and follow up with eligible patients after discharge. In CCP, CHWs are required to follow up with all aged, blind, and disabled patients within 72 hours of release from the hospital. Other CHWs primarily follow up with patients who do not have insurance. The CHW identifies patients’ social or economic needs that might interfere with effective recovery, encourages the patient to follow the prescribed treatment plan, and connects the patient with needed community services and resources. In cases where the patient’s needs are beyond the CHW’s capacity, the CHW refers the patient to other members of the treatment team.

Home Visits and Outreach to Homebound Elders and People with Disabilities

DCH administers a program called Just for Us, which serves homebound elderly and disabled Durham residents in particular housing complexes, most of which are owned by the Durham Housing Authority.¹⁵ The goal of Just for Us is two-fold: to improve patients' lives and to reduce Medicaid expenditures. These goals can be accomplished by shifting use of services from expensive and episodic emergency care to preventive and regularly available community-based care, which is less expensive to provide and helps improve overall health of the patient. Just for Us uses treatment teams of a physician, physician assistant, nurse practitioner, social worker, registered dietitian, occupational therapist, and CHW (Alexander-Bratcher 2010). Duke University Medical Center, the Lincoln Community Health Center, the City of Durham Department of Social Services, and the Durham Housing Authority employ the team members (Lyn and Johnson 2011). Patients are enrolled in primary care at Lincoln Community Health Center and team members visit and follow up with them, helping reconcile medications, identifying social issues, providing referrals to support services, and helping manage chronic diseases (Lyn and Johnson 2011).

Just for Us was established in 2002 following a 10-year study of Durham's aged population that revealed that a high percentage of the elderly population lived alone. CHWs were not initially part of the care teams, but they were later added based on the evidence of their effectiveness. Just for Us functions within fee-for-service reimbursement; it receives normal Medicare reimbursement for patients with an "access impediment". Intensive care management is only feasible for those who qualify through the Older Americans Act or a Medicaid-waiver program, which provide higher funding. Duke itself pays for some non-billable hours for social workers (e.g., for staff meetings). The program is credited with substantially reducing ambulance, emergency room, and inpatient costs, while increasing prescription and home health costs. As of 2006, it was not yet covering its own costs, but changes were under way to move toward self-sufficiency (Yaggy et al. 2006).

¹⁵ "Just for Us," Division of Community Health, Duke Medicine, accessed December 31, 2013, <http://communityhealth.mc.duke.edu/clinical/?/justforus>.

Support for Medicaid Managed Care

Both DCHN and CCP employ CHWs. As of late 2012, DCHN employed two CHW full-time equivalents and oversaw care for around 20,000 Medicaid patients in seven primary care practices. CCP employed five full-time CHWs. Operations appear to be similar in the two networks; in both, CHWs appear to work as part of care coordination teams. In the rural areas, CHWs appear to have more autonomy. The original CCP model only had CHWs and did not have nurses, but now the CHWs work supportively with the CCP nurse(s) in their county enable the nurses to focus on tasks that require nursing capabilities. The networks are interested in doing more but are limited by state priorities and budget constraints.

LATCH (Local Access to Coordinated Healthcare) is the analogue of DCHN for the uninsured population in Durham. It primarily focuses on Spanish-speaking or bilingual populations. Like CCP, LATCH originally used CHWs as case managers. The purpose of LATCH is to provide “a culturally and linguistically-competent integrated system of care” through bilingual patient outreach and education, care management services, and navigation/advocacy.¹⁶ The LATCH treatment team consists of a program coordinator, CHWs, a health educator, and a social worker. As of late 2012, LATCH employed two full-time community health workers (CHWs) and used several volunteer community health organizers. It also contracted with El Centro Hispanico for bilingual outreach workers.

Community Health Education

An example of a popular community health education initiative in Durham is the African-American Health Improvement Partnership (AAHIP), created by DCH in 2007.¹⁷ AAHIP provides support groups to African-Americans with Type 2 diabetes (formerly called “non-insulin-dependent diabetes mellitus” or “adult-onset diabetes”). These groups are run by “ambassadors,” who come from a variety of backgrounds but are all members of the community hosting the support group. Some are retired nurses, who have more advanced health care training and education than many CHWs. However, the roles that the ambassadors play are similar to

¹⁶ “Local Access to Coordinated Healthcare (LATCH),” Division of Community Health, Duke Medicine, accessed December 31, 2013, <http://communityhealth.mc.duke.edu/clinical/?/latch>.

¹⁷ DCH, “African-American Health Improvement Partnership (AAHIP): A Community-Based Participatory Research Project,” Division of Community Health, Duke Medicine, accessed December 31, 2013, <http://communityhealth.mc.duke.edu/healthpromo/?/aahip>.

those played by community-based CHWs. Working with the support of an intervention coordinator, ambassadors bring together community members in churches and other community spaces to discuss issues related to diabetes. AAHIP was created and is run with the support of a variety of community-focused organizations, including the North Carolina Branch of the American Diabetes Association, the New Hope Missionary Baptist Association, the Community Health Coalition, and Dealing with Care, Inc. Each of these organizations plays its own role in the initiative, from creating training materials for the ambassadors to providing guest speakers for the groups. These groups are perceived very positively by the community and by the ambassadors themselves.

Research on outcomes, according to interviews, shows promise for AAHIP and reveals a modest but significant drop in hemoglobin A1C associated with frequency of support group attendance. However, because there is no control group, causality is unclear. Changes in attitudinal measures were more pronounced than changes in physical measures. Frequent group attendees showed much improvement on the diabetes worry scale over the course of the six-month intervention. This means that they were less stressed and worried and were more comfortable with their ability to manage diabetes.

Another example of a community health educator initiative in Durham is the Amigas Latinas Motivando el Alma (ALMA). This initiative is a collaboration between DCH and University of North Carolina at Chapel Hill Sheps Center for Health Services Research.¹⁸ This program trains and supervises female immigrants as CHWs, called “promotoras,” who attempt to decrease the prevalence of depression and anxiety among female immigrants by helping their fellow community members with coping skills, knowledge, and support (Duke Community Health 2012c). DCH is running this program as a research project to measure the effectiveness of the intervention on depression-related outcomes. The project is funded by a foundation grant, so its long-term sustainability is unknown, but the promotoras have been very enthusiastic about the program, and ALMA has been featured in several Spanish-language news.^{19,20,21}

¹⁸ “ALMA: Amigas Latinas Motivando el Alma,” Division of Community Health, Duke Medicine, December 31, 2013, <http://communityhealth.mc.duke.edu/healthpromo/?/ALMA>.

¹⁹ Jaramillo, Paola “ALMA para la salud.” *La Conexión USA*, January 25, 2012, <http://laconexionusa.com/content/alma-para-la-salud>.

Range of CHW Roles Needed to Address Patient and Population Issues

CHWs' roles differ according to the health care context in which they work in Durham. The most basic difference in how they perform is whether they serve (1) as an adjunct to patient or clinical care, either in the office or in the field, or (2) in a preventive or educational role, seeking to reach out to communities in general, usually through some targeting by need or cost, based on neighborhood or other targeting approach, rather than on following already identified patients. Both CHW roles exist in the Duke system, but patient or clinical care is more prevalent.

In CCNC, CHWs are almost all tied to clinical care, with CHWs as part of the caregiving team as opposed to promoting population-oriented approaches to health improvement. They are permitted to carry out controlled tasks that use protocols, and their efforts are tracked through a formalized data system. Nonetheless, they are allowed some autonomy and discretion in connecting patients with non-healthcare supportive services.

As discussed, LATCH and the community health projects (ALMA and AAHIP) take more of a community-based approach. Nonetheless, LATCH has become increasingly centralized and institutionalized as the demographics of the uninsured population have changed, and the other projects are time-limited initiatives.

Moving Toward More Permanent Employment and Financing of CHWs

All CHWs in the DCHN, CCP, and LATCH programs are full-time Duke employees, with a regular salary and benefits. Many of the CHWs were transferred into salaried positions from grant-funded positions or had been in grant-funded positions in previous jobs and moved into DCH upon the grant expiration. DCHN and CCP employees are partially financed with Medicaid add-on funds as well as the additional amount provided through the chronic care initiative. Duke finances a large portion of the CHW salary, particularly for LATCH, fiscally justifying this expense by the longer-term savings of decreasing emergency room use by uninsured or underinsured patients. As of late 2012, CHWs in CCP earned a little more than \$16 per hour after about eight years in the position. DCHN CHWs are paid for 40 hours per week and are not eligible for overtime. All of the CHWs employed by DCH receive retirement, health care, day

²⁰ Tupayachi, Eloy. 2012a. "Con ojos de mujer." *QuéPasa*, December 19, 2012.

<http://raleigh.quepasanoticias.com/noticias/raleigh/local/36653-con-ojos-de-mujer>.

²¹ Tupayachi, Eloy. 2012b. "Invitan a foro de salud en Durham." *QuéPasa*, December 19, 2012.

<http://raleigh.quepasanoticias.com/noticias/raleigh/local/32418-invitan-a-foro-de-salud-en-durham>.

care, dental, and tuition benefits. Duke has set salary ranges for given qualifications and titles, thus managers initially had little flexibility for CHW wage levels. However, a second level CHW position was created that provided higher wages for more capable and experienced CHWs. CHW tasks overlap with those done by separately credentialed “health educators,” for example — an illustration of how workforce “silos” in health care can impede managerial flexibility and career mobility.

Looking to the Future

Duke’s DCH and Medicaid’s CCNC network are the main drivers of CHW use in Durham, though some CHWs work for other organizations. The primary goals for Duke and CCNC are to keep uncompensated care at manageable levels and to constrain growth in Medicaid spending while improving quality. From the Duke perspective, one success has been reduced system costs and better outcomes through reductions in emergency room visits and hospitalizations. Improved relationships with its Durham community are another form of success. It is also providing some evidence that Duke can prosper within new financing and delivery models such as PCCM. Indeed, the statewide CCNC system in part grew out of Duke’s and others’ early successes with a network model, and the state is exploring adopting the approach to managing dual-eligible patients (Medicare and Medicaid) under a federal waiver. Overall, the PCCM model has helped the state see Medicaid savings for that population alone. For the Duke system overall, reduced expenses in more intense care is offset by increased primary care costs and other follow-up and coordination services.

The CHW approaches seen in Durham resonate with some central tenets of the ACA, including more general community outreach, public health outreach and education, screening, management of high-risk and high-cost care users, and follow-up with inpatients at risk beginning before discharge from the hospital. Nonetheless, funding and infrastructure will continue to be issues. Grant funding is erratic, and payers may not want the same things as CHW advocates who seek more and better care for disadvantaged people. Additionally, systems hoping to implement such a model need to have (and be willing to use) “actionable data for targeting” relatively high-risk and high-need patients (NC DHHS 2012).

Currently, the number of CHWs is tiny relative to the conventional workforce in health care. The major reason is that current payment rules only allow financial gain from CHWs’ targeting

their energy toward subgroups whose over-use of hospital care can be reduced by enhancing primary and community-based care. In contrast, conventional medicine can simply charge fees for its services, for which production is labor intensive. The CHW approach only seems scalable where the economic interests of health sector actors diverge from those of conventional fee-for-service practice, as they increasingly may under health reform.

The experience to date stands as a sort of proof of concept. More follow-up is necessary to ascertain the necessary ingredients for sustainability and expansion. Looking forward, the state experiment with dual-eligible patients will yield useful empirical data, as this population will likely pose unique changes to the healthcare system in the not-so-distant future (Wade et al. 2011).

The Pathways/Community HUB Model and Ohio Certification of CHWs

by Randall R. Bovbjerg and Elizabeth Richardson

Introduction

The Community Health Access Project, a pathways model of community care coordination, was created in Mansfield, Ohio, by Drs. Mark and Sarah Redding. It addresses serious population health problems by drawing upon earlier experience with the organization of community services in Alaska and the contributions of CHWs in that setting. These pathways are protocol-like plans that indicate how CHWs are to provide direct services to identified at-risk people or connect them with other evidence-based services (clinical, behavioral, or social). A key component of the model is the measurement of desirable outcomes such as effective health plan enrollment or delivery of a healthy full-term baby to determine the success of the intervention.²² In addition to being paid salaries, CHWs earn bonus payments for productive and effective performance.

Over time, CHAP has collaborated with numerous local agencies and leaders to develop a community hub to implement and track the pathways model. The hub is a clearinghouse and coordinating entity organized through collaboration among cognizant agencies and local leaders in a community. The hub implements, tracks, and manages CHW services delivered through pathways on behalf of multiple public agencies. It helps participating entities meet their separate but overlapping responsibilities for some aspect of assistance in their community. The goal is to target CHW services where they are most needed and can be most effective, rewarding good performance in meeting community objectives.

The CHAP model is of great policy interest because it

- focuses accountability on measured results rather than on number of services delivered,
- implements evidence-based interventions or services,
- combines a community focus for identifying needs with an individual focus on improvement,
- combines and improve case management across health and other agencies,
- seeks to blend previously separate funding streams,

²² This model's pathways go beyond the care pathways or protocols used in medical quality control. The latter focus on clinical services to a patient during an encounter or course of care, whereas the pathways model also includes identifying high-risk clients, non-clinical services, achievement of a specified outcome, and pay for performance.

- avoids wasteful duplication, and
- streamlines tracking and management of effective help for at-risk people.

Early experience provided proof of concept. Demonstrations in multiple areas are further testing the concepts.

The Pathways Model

The CHAP model is named for its central pathways, which address one health or social issue for an identified high-risk client, specify evidence-based action steps, and end with a measurably good outcome for the client. Pathways are implemented by CHWs, who work with clinical, behavioral, and social service providers in the community to help clients.

The Reddings’ development of the pathways model was sparked by their positive experience as newly minted physicians in Alaska, where they worked for the Native Corporation (Kenyon Alumni Bulletin 1999; CHAP 2005). Difficult conditions and different social and medical infrastructures there led to non-traditional ways of organizing and delivering services. The Reddings saw first-hand the benefits that a community-wide approach to problems can deliver, as well as the contributions that CHWs can make—especially through community outreach to improve birth outcomes in isolated communities.

The CHAP project began in 1999 to improve services for individuals considered “most in need” in Mansfield, which is the county seat of Richland County, about halfway between Cleveland and Columbus. The central goals were to improve population health and reduce disparities in health outcomes among disadvantaged residents. The county outside of Mansfield is rural, with about 10 percent minority population and a per capita income below state and national levels. About a quarter of are from poor families (US Census 2013a, 2013b). The county has two hospitals in one non-profit system and three federally qualified health centers.²³ The

²³ “MedCentral Health System,” MedCentral, last modified August 7, 2013, <http://www.medcentral.org/Main/AboutMedCentral.aspx>; “Health Centers in the County of Richland County, Ohio,” HRSA, accessed December 31, 2013. http://findahealthcenter.hrsa.gov/Search_HCC.aspx.

county operates a public health clinic and neighborhood clinics, and offers an array of social and other services.²⁴

CHAP is a 501(c)(3) charitable organization. The Reddings believed that new forms of service delivery and accountability could improve on the approaches of conventional fee for service medicine and social programs. Traditional service “systems” fail to systematically deliver good services, owing to fragmentation, excessive focus on service counts, and weak evidence bases. Conventional approaches to care coordination only operate within each program’s own “silo,” not across programs. Typically, the highest risk clients have multiple needs (e.g., pregnancy, smoking, homelessness, depression, and lack of job-supporting education). Program managers in social services and public health are also often rewarded for serving the most clients, not for achieving the best overall results or for reducing disparities. Barriers to accessing preventative and ongoing health care also lead them disproportionately to consume expensive emergency services.

CHAP’s logo characterized the program as “neighbors helping neighbors,” and the program’s stated mission was “to improve health and social outcomes through the support of Community Health Workers” (CHAP 2005, 1). The steps in each pathway constitute the activities needed to achieve a good outcome for each client. Each step taken is grounded in evidence of its contributions toward that outcome. One pathway is used for each type of intervention needed, such as for pregnancy leading to healthy newborns.

Each pathway has three general stages—find, treat, and measure (CHAP 2010):

1. **Find.** The “initiation step” is identifying individuals in great need, typically from population-level information, and assigning them to responsible CHWs.
2. **Treat.** The CHW meets with each client, assesses needs, qualifies them for a pathway, and shepherds the client through a series of “action steps” known to lead toward a good outcome.
3. **Measure.** The “completion step” is achieving the good outcome and documenting its achievement through objective measurement.

²⁴ “Homepage,” Mansfield/Ontario/Richland County Health Department, accessed December 31, 2013, <http://www.richlandhealth.org/>; “Homepage,” Richland County, Ohio, accessed December 31, 2013, <http://www.richlandcountyoh.us/>.

CHWs provide some services themselves, such as health education. They also connect clients to other services in the community, such as clinical care or social services. For the latter, CHWs' role is to provide support and case management. They ensure that appointments are kept and any indicated follow-up is obtained. At the same time, they also address non-medical problems like lack of transportation or telephone. CHWs earn bonus-like payments for achieving key benchmarks en route to a successful conclusion. The completion step triggers the last such payment. Accordingly, the pathways model also constitutes a form of pay-for-performance, although not merely the clinical performance on which most such ideas focus.

The pathways developed to date include

- health insurance,
- medical home,
- medical referral,
- social service referral,
- medication assessment,
- medication management,
- smoking cessation,
- pregnancy,
- postpartum,
- family planning,
- immunization screening,
- immunization referral,
- developmental screening,
- developmental referral,
- lead screening, and
- behavioral referral.

These pathways are reported as developed by Sarah Redding.²⁵ The pathways address various problems in different ways, but they all are implemented using the same three key stages. To start, high-risk clients are identified using population metrics. Then, an intake home visit assesses client needs using straightforward checklists. The pathways then dictate the evidence-based action steps to be followed for each identified client issue.

The CHW begins working with the client and, if possible, a supporting family member. The CHW identifies barriers to success, such as uninsurance or lack of transportation, and makes plans for remediation. Other services are supported and confirmed, and any identified problems documented and planned for. Missed visits are likewise followed by identification of the problem and implementation of a remedial plan.

Crucially, all pathways end with a specific positive outcome, achievement of which is recorded and rewarded. For example, the completion step for the health insurance pathway is

²⁵ Redding, Sarah A. Graphics prepared for CHW roundtable of Care Works project of Urban Institute / Rockefeller Foundation. Personal communication, January 2013.

confirming that the client has insurance. For pregnancy, it is delivery of a healthy baby weighing at least 2,500 grams. For immunization, completion constitutes having up-to-date immunizations. Multiple pathways may apply depending on the client's needs. Subsequent pathways are implemented as appropriate, for example, after childbirth addressing postpartum care and family planning (Brennan et al. 2010).

Early Pathways Implementation in Ohio

CHAP began by targeting the public health problem of low birth weight childbirths (CHAP 2005). This issue was of interest to its early funders and remains a problem for Ohio today. Low birth weights are associated with higher risks of infant mortality and various early illnesses (CDC 2012) as well as longer-term developmental problems (Aarnoudse-Moens et al. 2009).

To find at-risk clients, the program plotted the geographic location of low birth weight babies in Mansfield, Ohio, over five years. Two census tracts with only 7 percent of county residents accounted for almost 30 percent of low birth weight babies (under 2500 grams) in all of Richland County, as well as 100 percent of the very low birth weight cases (under 1500 grams). In those areas, 24 percent of all births were low birth weight cases—triple the national rate of 7.6 percent in 1999, according to CDC data (Mathews et al. 2003, table 4). Such geographic targeting of high-risk expectant mothers was an early version of medical “hot spotting,” a community policing term subsequently popularized for medicine by experience in Camden, New Jersey.²⁶ High-risk pathways clients may also be identified by clinical or other risk factors found among health plan enrollees or other populations.

CHAP recruited women from this community to serve as CHWs, finding them through local churches and other community-based organizations (CBOs). The initial applicants took a 19-credit hour course of training in Alaska-style community outreach created at the local community college (later reduced to 12 credits). In July 2000, new CHWs began reaching out to area residents on a pilot basis and connecting them to appropriate prenatal care. But simple referrals to public health or community health clinics proved far from sufficient. Numerous barriers to success often needed to be addressed, and hands-on help was often required. As highlighted in the program manual, “a pregnant teenager with unsafe housing, no phone, no

²⁶ Gawande, Atul. “The Hot Spotters: Can We Lower Medical Costs by Giving the Neediest Patients Better Care?” *New Yorker*, January 24, 2011. http://www.newyorker.com/reporting/2011/01/24/110124fa_fact_gawande.

transportation, no insurance or medical provider required many specific and accountable steps to increase the chance of a positive outcome for her unborn child” (CHAP 2005, 2).

Fundraising for CHAP

Distilling the initial experience led to the formal pregnancy pathway designed to promote healthy full-term births. The focus on producing useful data was sharpened by an early charitable funder that wanted good documentation of success. Additional funding came from a number of sources, including foundations, Temporary Assistance for Needy Families, and grants (Brennan et al. 2010, 11). More recently, funds come from Medicaid managed care, state-run maternal and child health programs, state grants, United Way, and foundations (Leath 2012, 38). Data allow assessment of many issues: The time elapsed to complete each step is recorded, as are initial barriers to success, problems met en route, and remedial plans. The percentage of clients reaching the completion step is another key measure.

The record keeping that supports this data collection was initially a simple paper-based process. However, current technology can support data collection in the field using a mobile application on an encrypted tablet or other device, along with web-based access to materials while in the field.

CHAP subsequently obtained funding and in-kind assistance from the Ohio Department of Health to develop additional pathways. There were six in all: pregnancy, lead screening, immunizations, medical home, smoking in pregnancy, and health/social service referrals.²⁷ Use of the pathways was demonstrated at several locations around the state.

Implementing Pathways through a Community Hub

Traditionally, responsibility for helping those in need is fragmented. Various insurance, clinical, behavioral, and social support services come from and are paid by various health plans, public agencies, and private organizations. The pathways model can be implemented to help clients of a single health plan, agency, or other sponsor, staying within their “silo” of assistance. But at-risk clients have cross-cutting needs, so they often have multiple coordinators for different services.

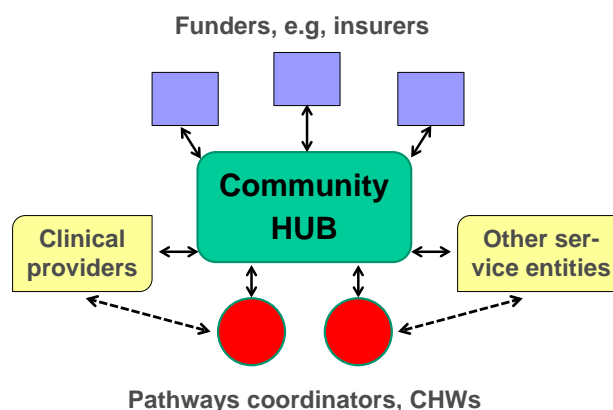
²⁷ By 2011, CHAP and its collaborators had developed a slightly different list of six core pathways—Medical Home Referral, Medical Referral, and Social Service Referral (all tracking referrals to completion), plus Health Insurance, (including other ways to pay for care), Medication Assessment (including adherence), and Pregnancy (CCCLN 2011).

For example, CHAP’s work identified one client with 15 different coordinators (Redding and Lucas 2012). The result is duplication of effort by coordinators of various service agencies and potentially inconsistent and burdensome interactions with clients. The pathways model seeks to address interrelated needs comprehensively by coordinating with multiple responsible entities.

CHAP and its funders decided that overall coordination could be more powerful if the scope of covered services were broader. Moreover, having a broad geographic base would encourage a focus on whole populations. CHAP decided to have a single entity serve clients of multiple funders, using a variety of pathways. This promotes coordination of all needed services, not just those from one public agency, medical provider, or health plan.

To address this issue, CHAP leaders developed what they called a “community hub” to create a single locus of responsibility (figure 1). This arrangement facilitates interaction among a network of key actors—the pathways coordinators who directly serve clients, the clinical caregivers and other service entities that meet specific client needs, and the funders who set priorities and provide resources. In return, CHAP provides data on client outcomes to assure funders that funds are being appropriately used. Thus, a single hub can consolidate service and outcome data from multiple sources and can, to some extent, consolidate funding for care coordination (Brennan et al. 2010; Redding and Lucas 2012).

Figure 1. How a hub helps communities coordinate services and funding with a pathways model



Source: adapted from Redding and Redding 2011; Redding 2013.

In Richland County in the early 2000s, funders—including agencies that provide or pay for services, local foundations, and other local leaders—agreed on health problems and priorities, and collaborated to specify a hub. They agreed on the target population and specified pathways, along with payments for outcomes—to be overseen by the hub (CHAP 2005; Brennan et al 2010). CHAP was paid not per capita, by the hour, or by services delivered, but rather for the

completion of pathways and success in hitting performance targets. CHAP then paid the CHWs' salaries and bonuses.

Different institutional arrangements for operating a hub may be appropriate for different communities; the concept is administratively flexible. For instance, sometimes one existing agency or CBO is already involved in a large share of service provision and is well regarded by other actors. Such a lead agency can readily serve as a hub (Redding and Lucas 2012). Alternatively, a new entity can be created to serve hub functions.

Under agreements with funders, hubs seek to locate appropriate clients using public health data, insurance claims, or other information. The focus needs to be on high-risk clients in order to justify substantial investments in assistance and oversight. Risk determination can be conducted through geographic "hot spotting", risk scoring by age and condition (whether behavioral, medical, or social), or a combination of the two approaches.

The hub then assigns each client to a single CHW or other care coordinator, employed directly by the hub or by CBO intermediaries. The hub also tracks services as they are delivered. It coordinates payments, receiving and transmitting funds, or overseeing transmittal from funders to employers as benchmarks for payment are achieved. The hub also serves as a data repository about clients, services, and services providers. Accordingly, it must meet federal privacy standards under HIPAA (the Health Insurance Portability and Accountability Act of 1996). Having good, real-time data is crucial for good management and learning from experience how to improve over time.

Care coordination agencies may also hire CHWs and enter into agreements with their area hub to provide care coordination of services. To do so, they must meet hub requirements related to training and data submission, and their payments are based on pathways completed.

Education and Certification of CHWs

CHAP's CHWs initially received 19 credit hours of community college coursework, as already noted. Later, the training became 12 credit hours, usually meaning 3 weeks of intensive instruction, then several months of practical instruction one day per week (Brennan et al. 2010,

24). Early in CHAP's operations, formal credentialing became available for CHWs (through the Ohio Board of Nursing) under House Bill 95 enacted in 2003 (Ohio Legislature 2003).²⁸

The law took effect in 2005 under implementing regulations.²⁹ CHAP and CHWs from around the state lobbied for the bill and then worked with the Board of Nursing to implement it (Ohio Board of Nursing 2003). The board oversees both the certification of CHWs and the approval of training programs. The statute does not bar an uncertified CHW from performing the same functions as certificated one, but only the certified ones can refer to themselves as certified, and state policy restricts state funding to CHWs with certification. The law's existence also suggests that CHWs provide valuable services recognized by the state authorities, and it provides a remedy for disciplining objectionable behavior by certified CHWs. As of September 2013, there are four approved training programs: two in Cincinnati, one in Mansfield, and one in St. Martin (Ohio Board of Nursing 2013).

Subsequent Developments

Over time, the CHAP model expanded beyond Mansfield and Richland County to Toledo and Cincinnati. State and other support has kept the model in business in these three areas for some years, although not uniformly. The state recently allocated additional funding to expand the model to the underserved Appalachian region in southeast Ohio (Governor's Office of Health Transformation. 2012). AHRQ funded demonstrations of the pathways-and-hub approach in 16 communities across the country during 2008-10.³⁰

Not all of those pathways relied heavily upon CHWs, and not all have been maintained beyond the initial demonstration. A Texas start-up, for instance, ceased operations when external funding ran out; it had shown strong evidence of a good return on investment but relied heavily on volunteers' contributions of time.³¹

²⁸ Ohio Rev. Code, § 4723. <http://codes.ohio.gov/orc/4723>. The act amended various provisions in Ohio Revised Code that govern the nursing board.

²⁹ Ohio Admin. Code § 4723-26. <http://codes.ohio.gov/oac/4723-26>.

³⁰ "Health Care Innovations Exchange Community Care Coordination at a Glance," AHRQ, last modified March 20, 2013, <http://www.innovations.ahrq.gov/CommunityCare.aspx>. The six case studies are highlighted in a sidebar "Community Care Coordination Profiles." See also Brennan et al. (2010).

³¹ "Health Care Innovations Exchange Service Delivery Innovation Profile: Volunteer Provider Network Cares for Uninsured Working Poor, Leading to Lower Utilization and Costs, Better Outcomes, and Positive Return on Investment," AHRQ, last modified June 5, 2013, <http://innovations.ahrq.gov/content.aspx?id=2228>.

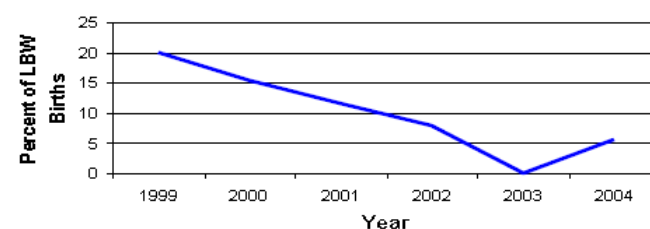
Other funders have also supported efforts across pathways-like programs that are advanced enough to collaborate on standardizing metrics (Leath et al. 2012). The Innovation Center of CMS (the federal Center for Medicare and Medicaid Services) has also funded a number of interventions that include CHWs, along with other care coordinators (Bovbjerg et al. 2013a, appendix 3). Even so, CHAP itself has struggled to maintain consistent funding, especially its core funding (Redding and Lucas 2012).

Evidence on Performance of the CHAP Model

CHAP's effects are best documented for its targeted interventions on low birth weight babies in Ohio. Compared with prior experience, the CHAP intervention was followed by a drop in the rate of low weight births in its target area from over 20 percent of newborns in 1999 to single digits within three years (figure 2) (CHAP 2005, 14). CHAP leaders also concluded that these better outcomes were achieved without

using more resources, that is, more case managers (CHAP 2005, 5). This report did not present underlying data. The AHRQ summary says that the approximate average cost of intensively case managing a pregnant or other high-risk client is around \$1,000 per year.³² It

Figure 2. Low birth weights (LBW): Early CHAP results, 1999-2004



suggests that per client costs may decline as participation by more agencies creates economies of scale. Another account says that CHAP serves about 1,200 clients a year in Richland and adjacent Knox counties on an annual budget of only \$800,000, but that key executives volunteer their time (Leath et al. 2012). About 12 percent of clients served are at-risk pregnant women.

In later years, the pathways and hub approach was used more broadly throughout Richland County. During that time, countywide birth weights were substantially improved compared with the rest of Ohio (figure 3). Long-term experience suggests that the pathways interventions reduced low birth weights by 30 percent. A more formal analysis is under review for publication, conducted by researchers from CHAP, Ohio State University, and the state health department. It

³² "Health Care Innovations Exchange Service Delivery Innovation Profile: Program Uses "Pathways" to Confirm Those At-Risk Connect to Community Based Health and Social Services, Leading to Improved Outcomes," AHRQ, last modified December 5, 2012, <http://www.innovations.ahrq.gov/content.aspx?id=2040>.

found a substantial return on investment from the pregnancy pathway, comparing CHAP clients with matched controls from the area (Redding et al. 2013).

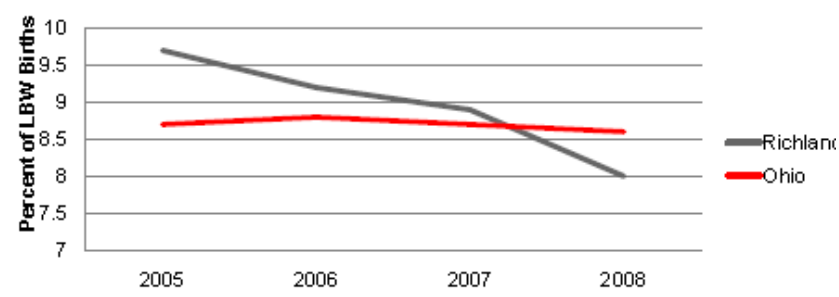
The AHRQ Innovation

Exchange gave CHAP an evidence rating of only “moderate” for its “before-vs-after” evidence base.³³

However, AHRQ’s assessment of the model’s value was shown more pragmatically by the

agency’s funding of 16 demonstrations just noted. Six cases studies of these initiatives reported generally positive findings.³⁴ CHAP and its affiliates have also received continued support from the state of Ohio.

Figure 3. Low birth weight (LBW) rates in Richland County vs. Ohio: 2005-2008



State officials accept that the Richland County pathways model achieved a reduction of 30 percent in low birth weights and reduced duplication of effort across agencies and programs (Governor’s Office of Health Transformation 2012; Leath et al. 2012). The model saved \$3 for every \$1 invested in the first year, and \$6 for every \$1 through the next three years, according to one summary of results (James 2012;³⁵ Redding et al. 2013). Ohio officials believe that the value for Medicaid is high, given that low-weight births represent about 10 percent of all Medicaid births but over 50 percent of all birth related expenditures (Governor’s Office of Health Transformation 2012).

³³ Ibid.

³⁴ “Health Care Innovations Exchange Community Care Coordination at a Glance,” AHRQ, last modified March 20, 2013, <http://www.innovations.ahrq.gov/CommunityCare.aspx>. The case study reports are highlighted in the sidebar “Community Care Coordination Profiles.”

³⁵ Arthur R. James, MD, is a general obstetrician and gynecologist and associate clinical professor in the Department of Obstetrics and Gynecology at The Ohio State University Wexner Medical Center, (see full biography at <http://medicalcenter.osu.edu/patientcare/findadoctor/Pages/profile.aspx?provid=42485>). He cochairs the oversight committee of the Ohio Collaborative to Prevent Infant Mortality and represents the collaborative to the public. The collaborative is operated by the Ohio Department of Health (see <http://www.odh.ohio.gov/odhPrograms/cfhs/OCTPIM/infantmortality.aspx>).

Looking to the Future

Care coordination through the pathways and hub model has high facie validity for at-risk clients because its core concepts are strong: the approach improves accountability by tying payments to demonstrably helpful activities and to positive outcomes. Accountability and the ability to improve are both enhanced by the specification of key activities and careful generation of performance data. Even the early paper records of CHAP improved on traditional methods of oversight. The standardization and quantification built into client records make them far easier to understand and review than the typical narrative notes on client encounters traditionally kept by social workers, public health nurses, and other front-line providers of assistance.

Sustaining the pathways-and-hub model over time seems to be a substantial challenge. It is insufficient for a hub to have funding only from service contracts with public agencies that serve community needs (e.g., a social services agency or Medicaid managed care plan). Supplemental funding from private and public grants or philanthropy also appears to be needed. Such funds meet start-up costs and also help maintain core infrastructure once the hub is operational (Brennan et al. 2010, 10–12). The scope of needed funding is not clear from available information.

Evidence on performance is not extensive and does not yet include analytic reports (online or published in scholarly journals). This is in contrast with, for example, another approach to home visiting developed over a longer time by Healthy Families America.³⁶ Thus, AHRQ rated CHAP as having “moderate” evidence of success in scientific terms. There is practical, “real world” evidence of CHAP’s success, both in terms of its continued support from funders and in its long-time engagement with the Ohio Department of Health and at least one state Medicaid managed care plan (Redding and Lucas 2012). It appears that maintaining good administrative data with a process amenable to managerial oversight is more important to funders than peer reviewed publication.

³⁶ “About Us: Overview,” Healthy Families America, accessed December 31, 2013, http://www.healthyfamiliesamerica.org/about_us/faq.shtml. HFA targets “overburdened families who are at-risk for adverse childhood experiences.” CHWs might qualify to work as “Family Assessment Workers (FAWs) and Family Support Workers (FSWs)” employed by HFA, but somewhat more education is needed; three quarters of the latter have at least some college education.

It remains to be seen how replicable and scalable the Ohio model is. As previously noted, the model has been expanded in Ohio, AHRQ funded 16 sites for a time, and other funders have also contributed, currently including the Innovation Center of CMS. But not all efforts to transfer the model have been maintained, even for CHAP itself.

Demonstrating added value is particularly challenging for a cross-cutting program because savings may accrue in many different ways to various current payers. Not only must CHWs show funders that their interventions are better than usual practices, they may also be asked to show that they are superior to other approaches to similar ends.

Another challenge to expansion may be concern over job loss within service agencies and among existing care coordinators. Sustainability remains an important policy issue for investigation. The new Ohio demonstration and a number of ongoing Innovation Center grants from CMS may well provide more convincing evidence about the value of CHWs and working within a pathway-and-hub model. Using evidence on performance to win funders' support for CHW-based interventions is another key aspect of sustainability. Any shift to more consolidated funding of medical, behavioral, and social services would make it easier for innovations to make their case for improved cross-cutting care coordination. So would more global payments or pay-for-performance rather than reliance on paying traditional service fees.

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