INTEGRATING COMMUNITY HEALTH WORKERS INTO A REFORMED HEALTH CARE SYSTEM

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SUMMARY AND INTRODUCTION

The continuing rise in health care spending and demand for affordable care is creating new opportunities for workers who can help expand cost-effective care. At the same time, there is a growing appreciation for services that promote prevention and wellness and their contribution to individuals' health in ways not achieved through traditional medical services. The "triple aim" — better care, better health, and lower costs — captures the breadth of system changes sought by both private reformers and the federal Patient Protection and Affordable Care Act (ACA). Community health workers (CHWs) can be productive contributors to achieving the triple aim, as this paper documents. Challenges in health financing, workforce training, and service organization need to be addressed to better integrate CHWs into health promotion and health care efforts.

Health reform expands opportunities for CHWs who can work effectively with health professionals to promote wellness, prevent and manage chronic conditions, and help coordinate medical care and meet post-acute care needs efficiently. CHWs are typically laypeople whose close connections with a community enable them to win trust and improve health and health services for those they serve. CHWs can play a variety of roles. Some work directly with health care providers and hospitals, for example, by helping patients with chronic conditions manage their heart disease, asthma, or diabetes between clinical visits or adhere to recommended medications, diet, and exercise. Other CHWs work with health plans to help clients enroll in coverage and access care. CHWs can also coordinate with public health professionals to encourage healthy living among target populations, whether living in specific locations or within other communities, such as people living with HIV. CHWs can also help patients access clinical and other services among poorly served populations, while supporting medical providers to serve the large influx of newly insured patients under the insurance expansions begun in 2014.

Although the ACA explicitly recognizes CHWs as a profession to help address the triple aim, growth in this field relies on building better and more permanent financing structures. Their services have not been reimbursed by Medicare, Medicaid, or private health coverage. Currently, CHWs are funded heavily through grants and limited public health funding, which are not generally stable over time. There are some signs of change in health services funding, especially in state Medicaid programs, as in Minnesota where payments now cover some CHW services. Changes in how health care is financed from fee-for-service to capitated or bundled payments could also facilitate CHWs' joining newly organized teams of providers to maintain the health of enrolled populations. Whatever funding approaches evolve, better understanding of how CHWs can add value is the first step toward greater opportunities for CHW employment.

Another step in integrating CHWs into health care systems is helping individuals seize opportunities to work as CHWs. This requires, first, identifying the specific skills they will need and, second, training them for available jobs. CHWs do not need a college degree or medical training. However, they do need to learn both core professional skills and specific job-related skills. These skills include knowledge of disease or condition they are addressing and how to conduct specific tasks such as screening clients for health issues or helping someone apply for Medicaid. Successful CHWs must also have personal attributes that make them right for the job. Such "soft" skills are vital, including empathy, resourcefulness, and the interpersonal skills needed to win trust, encourage healthy behavior, and promote clients' self-advocacy.

This paper highlights the roles played by CHWs, assesses evidence of their achievements, describes the increasing opportunities for them under health care reform, and considers productive next steps for training and growing the CHW workforce. Complementary papers from the same authors provide more detail on the current knowledge about CHWs and opportunities for them under health reform. The papers draw on prior research, interviews with key players, case studies, and a roundtable discussion with national experts.[1]

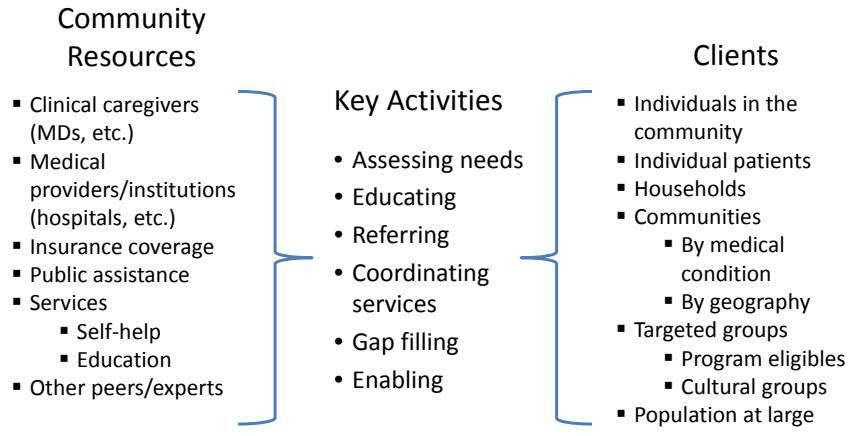
[1] The two companion papers and an edited volume of the case studies can be found at www.urban.org/CareWorks.

HOW COMMUNITY HEALTH WORKERS CAN IMPROVE MEDICAL SERVICES AND PUBLIC HEALTH

CHWs work on the front lines of medical care and public health, mainly helping people in their communities, often disadvantaged communities. The American Public Health Association (APHA) developed an early definition that still emphasizes CHWs' traditional public health roles of promoting population health. A community health worker is an "intermediary between health/social services and the community" who also builds "individual and community capacity by increasing health knowledge and self-sufficiency through … outreach, community education, informal counseling, social support and advocacy" (APHA 2001, 2009). More recently, the Department of Labor adopted a broader definition, that CHWs "promote, maintain, and improve individual and community health,"[2] reflecting CHWs' apparently increasing integration into many clinical medical delivery teams that care for identified patients. Spanish-speaking immigrants have been a particular community of interest for CHWs, or *promotoras de salud*. The CHW concept can also be broadened to consider nonethnic communities such as deaf people or persons living with HIV, and to consider as CHWs laypeople with strong empathy for a community in lieu of roots in that community.

As these definitions suggest, CHWs can play many roles, whether in population-oriented public health, clinical services, health insurance, or environmental or other areas that influence health and safety. One way or another, CHWs' role is typically as a bridge between clients and community resources (figure 1). Communities feature many different health-supporting resources (left column), and these are sometimes not readily accessed by the disadvantaged or chronically ill subpopulations who live there, for various reasons. Among the most familiar resources are medical services from physicians, clinics, hospitals, and other caregivers. Other forms of public and private assistance, education, social services, transportation, nutritional, and the like

Figure 1. How CHWs Create Bridges between Clients and Community Resources



Source: Authors' construct from environmental scan; see especially Berthold et al. (2009).

[2] "Standard Occupational Classification: 21-1904. Community Health Workers," US Bureau of Labor Statistics (BLS), last modified March 11, 2010, http://www.bls.gov/soc/2010/soc211094.htm.

are also important.[3] CHWs need to know their communities and their available supports. Self-help is another resource, one that often needs educational and enabling services to emerge.

CHWs' clienteles (right column) also vary. Clients may be especially needy individual patients identified by medical practitioners or health plans. Other individuals might be identified as lacking good connection to health care, perhaps by high use of emergency rooms. Targeted clients may also be an entire-risk subpopulation, identified by census tract analyses, door-to-door canvassing, or otherwise—including clients likely to deliver low-birthweight babies, prone to hypertension or another chronic condition, or living in unhealthy environments or lifestyles.

CHW tasks vary by function (figure 1, center). They may assess clients' needs and connect them to assistance. They may arrange for transportation, accompany clients to referrals, and promote better patient-provider communication. Education in wellness of all kinds is another activity, along with lifestyle modification, coaching, and self-advocacy. CHWs may also help coordinate care, help clients manage chronic conditions, and teach appropriate access to clients who may be overusing emergency departments and hospital admissions. CHWs may be hired to provide very specific services, or they may address a broad swath of issues at once.

Much of CHWs' work thus relates to medical care. However, unlike their counterparts in other countries, CHWs in the United States typically do not provide direct medical services other than health screenings and blood pressure monitoring (figure 2). In addition to promoting access to medical services, CHWs often promote self-help, wellness, and safe environments. Such "primary prevention" helps people before they get sick and can reduce need for medical services. CHW services of this type are typically integrated into public health initiatives, but they may also involve building bridges to non-health services, as just noted.

Figure 2. The Divide between Medical Services and Supportive or Community Services

In other countries, especially developing nations, CHWs often directly improve individual access to some medical care and other services in underserved areas, along with community health endeavors of many kinds, as well as community development. Hence, some CHWs may be termed "barefoot doctors."

In the United States, hands-on medical services are reserved for licensed physicians and, to a lesser extent, nurses. Others, including CHWs, are blocked from providing direct care. This control over medical "turf" is most obviously set by statute and implementing regulation but also by a host of quasi-public rules of accreditation, insurer practices, and control of delivery mechanisms by traditional providers. Hence, even after generations of experience with CHWs, they are still often termed "nontraditional" providers.

Narrow scope-of-practice exceptions have been created for particular supportive or ancillary care, and community education and support fall outside of medical care altogether. This approach has created numerous "silos" within which particular services may be provided by others, such as drawing of blood by phlebotomists. In practice, there are gray areas at the boundaries between care and support. CHW capabilities, even their core competencies, are typically described in far broader terms. CHWs do provide limited medical and dental care in some instances—for example, in Alaska's remote areas, under the Indian Health Service, and in tribal areas choosing that approach.

Appendix A provides a more detailed illustration of how CHW interventions relate to the health care system, including CHWs' roles and employers. CHWs may work alongside nurses or other coworkers, integrated into a caregiving team, or largely on their own in the community, with backup

[3] For one community's full list, see "The Salud Manual," My Community NM, http://mycommunitynm.org/main/salud_manual_main.php, full document at http://www.readbag.com/mycommunitynm-docs-salud-print-english-7-16-08.

elsewhere. Roles exist in primary prevention before medical service, as well as in clinical care (secondary or tertiary prevention). Employers vary accordingly, including health departments, community-based organizations, health providers, and health insurers.

CHWs have varied personal, health, and educational backgrounds. They are selected for their people skills and leadership qualities. Their training can range from strictly on-the-job learning to an associate's degree. The jobs may also be time-limited, based on the project or employer they support, and be volunteer or low-paying. This variety of job descriptions has often hampered clear understanding of their roles and the value of their many contributions to the health of the populations they serve.

CHWs are often as economically vulnerable as their clients. The occupation thus offers a potentially important leg up in the aftermath of the Great Recession, which has reduced opportunities on the lower rungs of the workforce ladder. Shared backgrounds and experience with clients help win their trust, enabling CHWs to communicate better with them than can most conventional clinical personnel.

In sum, CHWs roles vary widely. They can make substantial contributions to medical care, health-promoting services, and community empowerment, especially for disadvantaged people but also for those with chronic diseases or other substantial problems. CHW roles may also address what have become known as the social determinants of health, notably including lifestyle factors and the environment. These factors are widely believed to exert more influence on health than do medical services (Institute of Medicine 2012).

Nonclinical determinants of community health are now seen as critical drivers of health improvement.

— Isham et al. (2013), from MN-based HealthPartners health plan

EVIDENCE ON CHW SUCCESSES

ACCUMULATING EVIDENCE

Existing information on CHWs has become voluminous (HRSA 2007a and b; Viswanathan et al. 2009).[4] Many accounts exist of successful interventions: case reports, descriptive analysis, and more controlled studies. Most studies address the effectiveness of CHW interventions for a health condition of interest to a potential payer of CHW services and focus on a few measures of process improvement or intermediate medical outcomes. Sufficient examples are available for informed observers, such as the Centers for Disease Control and Prevention (CDC), to conclude that CHWs can make important contributions in each of the roles already described, especially for at-risk populations, people with chronic conditions, and very high users of medical and social resources (Brownstein et al. 2011).

> *Our experience indicates that good asthma care management can prevent up to 99% of children's asthma hospitalizations and 95% of emergency visits. In children's asthma, it works better for everyone—and even costs less—to do the right thing, rather than do the wrong thing over and over and over again.*
>
> *— Guillermo Mendoza, MD, Chief, Dept. of Allergy, Kaiser Permanente Napa-Solano (Legion et al. 2006)*

Among other things, CHWs are reported to have improved take-up or enrollment in Medicaid and other public programs; increased vaccination rates; increased access to community services so as to prevent institutionalization; improved control of hypertension, diabetes, and childhood asthma; and reduced inappropriate use of hospital and other resources by very "frequent flyers" with complex problems. In one Kaiser plan's successful proactive approach to childhood asthma, a CHW or *promotora* "reinforces health education and skills in language the family understands, provides culturally competent social support, and helps the family minimize the child's exposure to asthma triggers in the home (for example tobacco smoke, mold, and dust mites)" (Legion et al. 2006,11).

CHWs have thus won attention for their profession. CHWs are often referenced in the ACA and have received high-level attention within federal agencies. They are the focus of numerous recent issue briefs or summary essays aimed at policymakers (e.g., Sprague 2012; Rosenthal et al. 2010). Moreover, many champions of CHWs strongly believe in their value—not just CHW advocates but also researchers as well as health care providers and other employers of CHWs. This belief stems from experience and from published results.

RESEARCH AND OPERATIONAL PERSPECTIVES

For researchers, the most convincing evidence of an intervention's effectiveness comes from large randomized trials or demonstrations with advanced statistical controls. However, most traditional CHW interventions have not occurred within research-oriented or well-funded institutions, hence

[4] Two companion reports, found at www.urban.org, summarize and provide many more references (Bovbjerg et al. 2013a, 2013b).

the predominance of descriptive analyses. In the 2000s, more studies of interventions with CHWs received (time-limited) federal research support, which is perceived to have improved scientific quality. Systematic reviews of research evidence about the effectiveness of CHWs have found mixed evidence of moderate quality. The typical research response is to call for continued improvement in study methods (Lewin et al. 2005, 2010; Viswanathan et al. 2009; Postma, Karr, and Kieckhefer 2009).

Meeting the clinical and epidemiological gold standard of randomized trials or large demonstrations is good where feasible. However, high-quality, large-scale research is expensive. Even good effectiveness research can seldom include all factors that made for success (or failure) of the demonstration (Glenton, Lewin, and Scheel 2011). And effectiveness research typically ignores issues of practical implementation and sustainability, a lack occasionally noted before (Alvillar et al. 2011). Rather than focusing only on more and better effectiveness research, a potentially more productive approach would be to develop supplemental information that helps potential employers and financers of CHWs decide whether to support CHW interventions and how to replicate past successes.

> *When disseminating the results of their work, researchers engaged in community settings must find an appropriate balance between displaying scientific rigor and describing important processes that enable the research and contribute to its effectiveness.* — O'Brien et al. (2009)

Most operational decisions made by practical executives do not rely on randomized trials. However, decisionmakers at a minimum need to have a prima facie case that the benefits achieved by CHWs exceed their costs. Even effective interventions may cost too much or achieve benefits for too few people. But such key elements of a business case, seen from an employer perspective, receive relatively little attention in effectiveness research. Even the simple point of whether CHWs are volunteers or paid in a particular intervention—an important component of costs and of likely sustainability—is omitted from numerous studies reviewed for the Agency for Healthcare Research and Quality (Viswanathan et al. 2009). Not surprisingly, the same few articles on savings in medical spending achieved by CHW interventions tend to be repeatedly cited and may not take an employer perspective (Bovbjerg et al. 2013a).

In addition, employers need to know at least the basics of how a CHW-related intervention achieves its results, as well as how they can monitor progress and make midcourse corrections in overseeing a new and unfamiliar workforce. Many such issues of intervention design, operation, and management can affect results and costs. Four broad elements of design and operations capture the essentials (listed below and in appendix B):

- *Workforce issues*: Who are CHWs, what skills do they need, and how are they recruited and trained?
- *CHWs' employers and financing*: Who hires CHWs, on what basis, and with what funds?
- *CHWs' roles and functions*: Just what clients or communities are targeted for CHW services? What specific tasks do CHWs perform? What outcomes are sought? What are the pathways of CHW influence? How many clients can a CHW help?
- *Measurement and management*: What data track the intervention? What supports and managerial oversight do CHWs need to achieve their results and keep costs affordable?

Implementation research and policy analysis tend to address such matters, whereas effectiveness research typically does not.[5] Implementation studies also often follow an intervention over time to see whether and how it has won ongoing support. Such "market test" evidence of sustainability is quite useful. It is challenging, however, to present the extent of practically useful information needed within the confines of medical literature.

[5] "Policy Implementation Analyses," CDC, last updated July 19, 2011, http://www.cdc.gov/program/data/policyanalyses/.

CHW EMPLOYMENT: OBSTACLES AND EXAMPLES

IMPEDIMENTS TO HIRING CHWS

The most notable challenges for building upon CHW successes have been unreliable funding, disconnects between the incurring of CHW costs and the reaping of benefits, and employers' unfamiliarity with CHWs' potential.[6] Such obstacles restrict CHWs employment in mainstream US medicine and public health.

Insufficiently reliable funding. The predominant fee-for-service model of health financing does not let CHWs or their employers routinely bill Medicaid or other insurers for their services. Traditional fee-for-service payment also undercuts the business case for prevention and for care coordination, areas where CHWs might contribute most. Fee-for-service not only fails to reward good results, but also actively rewards failures by paying for the additional services that result. Nor have traditional public health functions included routine provision of CHW services. CHW services have therefore often been heavily reliant on volunteers or workers paid under time-limited project grants or contracts. Without regular support, employment is not readily sustainable.

Separation of costs from benefits. Medical care and public health are fragmented into separate provider "silos," such as vaccination programs and provision of hospital care to Medicaid patients—each separately funded and managed. Costs are borne and benefits accrue in different places and times—the familiar problem of externalities. For instance, public health departments or nongovernmental organizations (NGOs) can hire CHWs to help families improve childhood asthma prevention. Such efforts can curb use of emergency departments, but savings accrue later on to insurers and hospitals, not to the CHWs' employers. Similarly, individual providers may not be motivated to improve coordination of care across providers and between episodes of care because only payers and patients benefit from reduced future spending.

Employer knowledge and behavior. Many potential employers are unfamiliar with what CHWs can accomplish, for what types of clients, and under what circumstances. And many do not think of CHWs as a workforce category. Recruitment costs may be high for unfamiliar types of employee. New managerial training and methods may be needed to support and manage CHWs' work. Accustomed modes of professionalization create turf boundaries that tend to exclude CHWs. Finally, many medical practices and clinics may not have the scale needed to support CHWs in a way that provides attractive career ladders and holds down training and managerial costs.

> *I wondered why I was invited to participate in this CHW roundtable because we employ zero CHWs. But after hearing this discussion, I realize that we actually have 30, just called by other names, like outreach worker.*
>
> *—Clinical director of a multisite FQHC, January 2013*

[6] Dower and colleagues (2006) offer the single best examination of CHW finance.

EMPLOYERS THAT DO HIRE CHWS

The following examples suggest how various types of employers of CHWs find them worthwhile in the pre-reform era. Employer incentives for hiring differ by type of employer and focus of CHW activity, and funding is often limited.

- Public agencies may hire CHWs as employees or may contract with vendors that actually hire CHWs. State Medicaid agencies often seek outside assistance with outreach and enrollment for Medicaid (or similar public insurance). Over time administrators have learned that they can affect enrollment by expanding or reducing outreach. And if expansion is the goal, CHWs can be a key component in reaching out to disadvantaged communities, notably immigrants, as a part of Medicaid administration (Dorn, Hill, and Hogan 2009). Some state or local programs pay for CHWs to bring some expertise about medicine and health to underserved populations. Kentucky Homeplace is a small but durable program for the state's underserved rural areas; the San Francisco Department of Public Health has long hired CHWs, and the Indian Health Service supports many CHWs either directly or indirectly via funding for tribal organizations (Dower et al. 2006). Some public health agencies or entities affiliated with them have hired CHWs to help promote improved management of diabetes, as in Baltimore (Fedder et al. 2003), or to help conduct home visits under maternal and child programs, as in New York (Goodwin and Tobler 2008; Koshel 2009).

- Health plans may pay for CHWs to help assist and educate very high cost enrollees to obtain community help, manage their conditions better, and use inpatient care more appropriately. Examples include the Molina Medicaid health plan in New Mexico and the Meridian Health Plan, owned by Detroit-based physicians (Johnson et al. 2012).[7] Molina is spreading the approach to its operations in other states. Specialized CHWs called *accompagnateurs* provide enhanced adherence support to people with HIV/AIDS whose inability to stay on treatment regimens leads to extensive but preventable medical and other social spending, an approach from Boston now spread to 25 locations (Behforouz, Farmer, and Mukherjee 2004).[8] In Ohio, very specific, evidence-based "pathways" to improvement were developed that CHWs can follow to help targeted clients achieve socially desired goals, with Medicaid plans among the funders. The first pathway targeted at-risk pregnant women in a low-income neighborhood that generated a hugely disproportionate number of low-birthweight babies. Others have since been developed.[9]

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[7] See also "Health Insurers See Big Opportunities in Health Law's Medicaid Expansion," Phil Galewitz, Kaiser Health News, March 8, 2013, http://www.kaiserhealthnews.org/Stories/2013/March/08/Molina-Health-Care-Florida-Medicaid-managed-care.aspx.

[8] See also "Personal Approach to HIV," Karen Weintraub, *Boston Globe*, October 3, 2011, http://www.boston.com/lifestyle/health/articles/2011/10/03/taking_a_personal_approach_to_hiv.

[9] "Program Uses 'Pathways' to Confirm Those At-Risk Connect to Community Based Health and Social Services, Leading to Improved Outcomes," Agency for Healthcare Research and Quality, US Department of Health and Human Services, last updated December 5, 2012, http://www.innovations.ahrq.gov/content.aspx?id=2040#a3.

- States may also fund CHWs directly under Medicaid. In North Carolina, the state Medicaid program pays monthly per enrollee fees to primary care doctors who agree to serve as medical homes. The program pays similar amounts to regional organizations that provide support services for the physicians, including CHW support to help improve targeted enrollees' medical usage and outcomes (Dobson and Hewson 2009).

- NGOs, also known as community-based organizations (CBOs), may employ CHWs to conduct health education, train in self-help, and connect residents to available services. CBOs typically lack independent resources; they aggregate and channel charitable giving, research grants, Medicaid, and other funds into community purposes, including CHWs' work (Dower et al. 2006). CBOs can thus be vendors to state Medicaid programs or other public or private entities. In Durham, North Carolina, El Centro Hispanico acts in this way. Throughout North Carolina, the regional primary care case management networks are not-dissimilar community-based, but quasi-public entities (Dobson and Hewson 2009). CBOs have the potential to serve as an institutional home for CHWs, enabling the workers to serve multiple employers and to shift their activities without shifting employers.

- Hospitals may also hire CHWs. Their motivations to do so include to improve community relations, offer community benefits (legally required of nonprofits), educate future doctors in community approaches (in the case of teaching hospitals), prepare for a future of medical funding that may be more community oriented, and to help manage their safety net responsibilities and hold down uncompensated care in the emergency department and in inpatient care. For example, New York Presbyterian has made outreach via CHWs part of its basic approach to medical education and provision of community care, especially for asthma (Peretz et al. 2012). The Christus Spohn Health System in Corpus Christi, Texas, hires CHWs to help meet its responsibilities for safety net care under a contract with the county, in part by reducing costs for very high cost users of the emergency department (Dower et al. 2006). Duke Medicine also hires CHWs through its Division of Community Health. Working within several programs, CHWs are funded by the state Medicaid medical home program, by grants, and from Duke's own resources; savings come from reductions in high-cost usage of uncompensated care (Lyn, Silberberg, and Michener 2009).

  Through a partnership with several community organizations, Duke has created a program that uses bilingual/bicultural social workers, community health workers, and a health educator to help uninsured populations gain access to care, better manage their health conditions, and avoid risk-taking behavior.

  — Duke University Health System (2003, 5)

  Enrollees are significantly more likely to seek routine, preventive care through a "medical home" and less likely to seek more expensive care at a hospital emergency department. *— Duke University Health System (2011, 9)*

- Community health centers may also hire CHWs as part of providing culturally sensitive community-based services, although they may be called outreach workers, peer coaches, or by other titles (Altstadt 2010; Willard and Bodenheimer 2012).

- Physicians' offices can benefit from using health coaches resembling CHWs to more productively interact with patients during and between office visits, and in following up on referrals (Bennett et al. 2010; Thom et al. 2013).

These are only a few examples of ways CHWs can best contribute within various types of organizations. Better understanding of past successes and limitations would be very helpful to those trying to find CHW models that may work for their circumstances. A substantial limitation has been conventional fee-for-service payment (FFS), which still dominates US medical finance. FFS limits the extent to which health providers or payers can reap the benefits of efficiently achieving good outcomes through nontraditional services like those of CHWs. Keeping clients healthy and reducing medical use merely reduces FFS payments. CHW services cannot increase revenues because CHWs lack a FFS provider number and procedure codes for their services. (Some Medicaid programs offer small exceptions.)

Viable business models for CHWs under FFS depend upon either reducing near-term costs or expanding provider productivity. Insurers can benefit most from reducing costs because they bear all of them, at least during an enrollment year. Clinicians can benefit from improved productivity because they get the same fees per service yet provide more services where CHWs cut the time needed for difficult patients, for instance. Health reforms may improve CHWs' ability to make the case to be paid for helping to improve value for enrollees or patients—the topic of the next section.

NEW OPPORTUNITIES FOR CHWS UNDER HEALTH REFORM

PRESSURES FOR CHANGE

"Business as usual" in health care delivery and financing seems unsustainable. Numerous public and private efforts are seeking reform, much of which is congenial to CHWs (Martinez et al. 2011). The ACA's top goal was to expand health coverage to tens of millions of uninsured people. State Medicaid programs and private insurance sold in new state-level exchanges, or marketplaces, will greatly increase. Expansion will immediately increase demand for care, pressuring the existing stock of caregivers, especially in primary care, and will encourage more employment of non-physician caregivers.

The ACA and similar private pressures for improvement also increasingly reflect the "triple aim" of lower cost per person, better health care, and better population health (Berwick, Nolan, and Whittington 2008; Bisognano and Kenney 2012). These forces can create new niches within a reforming health sector for CHWs to work with clinicians, health institutions, and health insurers (including self-insured employers), or with public health agencies. However, goals and incentives vary in strength across private and public purchasers of health care. Both want to stem the constant spending increases and cut costs where possible. Payers are interested in getting better value and more accountability by, for example, focusing rewards on results achieved rather than only services delivered, again opening a door to caregivers other than physicians.

Lifestyle-related chronic illnesses are recognized to account for the bulk of spending.[10] They need solutions that go beyond the traditional clinical care that has done so little to prevent them. CHWs and other community-based prevention can help there as well (Isham et al 2013).

ACA reforms also directly encourage more efficient delivery of services, mainly through demonstrations, but also through policy provisions. The ACA also shows greater appreciation—although little in the way of new funding or regulation—for the importance of public health and prevention (Koh and Sebelius 2010). Least clear is how much societal commitment and political will there is to ending disparities in care, helping low-income communities beyond the ACA's coverage expansions, and promoting jobs for disadvantaged workers as the era of economic stimulus gives way to federal sequestration and budget cutting. Beyond health reform, some federal and state programs, as well as private sector initiatives, have sought to support disadvantaged people, including in health sector jobs. Efforts are ongoing to learn which approaches work best and to win higher levels of support.

In short, new market and public health niches are emerging that may be filled by current and new employers of CHWs. Unless CHWs and their supporters seize the current moment, those niches may be filled by different delivery mechanisms and occupations. The fast pace at which the ACA is being implemented both offers an initial set of opportunities for CHWs and challenges them to quickly develop actionable paths to greater employment.

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[10] "Chronic Diseases—The Power to Prevent, The Call to Control: At a Glance 2009," http://www.cdc.gov/chronicdisease/resources/publications/aag/chronic.htm.

EMPLOYMENT OPPORTUNITIES, NEAR TERM AND BEYOND

The broad goals of the Triple Aim will translate into CHW jobs only as they affect the immediate calculus of potential employers. Hiring CHWs must serve an employer's mission and have a sustainable funding flow to support it. The rationale for wanting to employ CHWs varies by mission, incentives, and other circumstances of each employer as well as the capabilities and costs of CHWs. Near-term jobs for CHWs exist where practical roles for CHWs already exist under FFS payment (above), and reforms will expand them. In the medium term, increased demand for care and the pressures to restrain cost growth will create new opportunities where CHW roles exist but funding mechanisms remain to be defined. Longer-term opportunities will arise as new care delivery models mature and as patient and societal expectations shift. In all time periods, opportunities are likely to be found in both health care delivery and in public health, in both private- and public-sponsored insurance, and both within clinic walls and in larger communities.

Near-term windows of opportunity are greatest where existing business models support paying CHW wages. Some ACA provisions clearly specify activities that overlap with CHW capacities and suggest quite specific opportunities for CHW employment.

- Helping states reach out to eligible Americans for enrollment in public coverage plans;
- serving as culturally appropriate insurance-choice Navigators, which state-level insurance-marketplace exchanges must provide to help applicant/enrollees make informed choices among competing insurance options;[11]
- helping hospitals avoid payment penalties for having unduly high rates of readmission within 30 days of discharge back into their communities; and
- helping nonprofit hospitals meet new obligations for community-based planning and health improvement in their areas.

The clarity of these mandates will motivate potential employers to respond. That response does not guarantee CHW employment. CHWs most clearly add value in overcoming problems of communication—based on either language or health literacy—and cultural barriers to good outcomes. But CHWs must demonstrate that they complement other activities or can work in teams and that their involvement adds value more cost effectively than do alternative options.

In the ***medium term***, there are opportunities for CHWs within the existing health services sector, but sustainable funding streams must be developed. Again, opportunities seem clearest for CHWs to serve disadvantaged populations or address large health risks or expensive health conditions. CHWs can help:

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[11] Some 19 states have sought to restrict Navigators to traditional agents and brokers or those working closely with them (Katie Keith, Kevin W. Lucia, and Christine Monahan, "Will New Laws in States with Federally Run Health Insurance Marketplaces Hinder Outreach?" *The Commonwealth Fund Blog,* July 1, 2013, http://www.commonwealthfund.org/Blog/2013/Jul/Will-State-Laws-Hinder-Federal-Marketplaces-Outreach.aspx).

- health plans and safety net hospitals avoid inappropriate utilization among high users of care, notably in hospital emergency departments and inpatient wards. Problems are concentrated among people with complex conditions, multiple chronic illnesses, mental and behavioral health problems, combined with interrelated problems of housing and income support, and challenges of language or culture. CHWs may facilitate improvements through coordination of care, social supports, and education in wellness and self-help.

- primary care practices become more productive by undertaking non-clinical tasks and enabling doctors and nurses to focus on their most productive tasks. Logical CHW tasks include helping patients communicate with clinicians and better understand and comply with indicated regimens.

- health plans or employers promote wellness among enrollees or employees, thereby achieving gains in worker productivity and satisfaction and reductions in health costs.

Entities responsible for all care for very sick or disabled people and providers serving an uninsured population have the best business case for hiring CHWs—for now, mainly certain integrated public hospital systems and Medicaid programs. They are legally required to provide care, well-motivated to improve cost effectiveness, and able to track spending on interventions and other care. Among private employers, safety net hospital systems and community health clinics may be the biggest potential employers in the medium run, as the ACA increases coverage for a segment of their traditional clientele: low-income individuals and families, recent immigrants, and persons of color.

Public health agencies might also expand their employment of CHWs if dedicated funding can be found. Whether reform will in fact boost public health spending remains to be seen.[12] Traditionally, CHWs have played many roles in community outreach and education as well as in targeted health campaigns:

- general outreach to and education of individuals and households, especially in disadvantaged areas;

- specific preventive education and other activities for high-risk individuals, notably for conditions like HIV, asthma, obesity, diabetes, hypertension, and pregnancies at high risk of low birthweight; and

- help for public maternal and child programs or other public health programs conducting home visiting for disadvantaged populations.

Longer-run opportunities are more difficult to identify. By definition, new roles and business cases not now clear will evolve only over time. For example, the ACA promotes accountable care organizations (ACOs) to take overall responsibility for associated patients. Others may call such entities coordinated care organizations (CCOs). ACOs or CCOs may well succeed and expand. Their

[12] Catherine Hollander, "Public Health Community Worries About Money as Obamacare Begins," *National Journal*, August 31, 2013, 8.

acceptance of bundled rather than FFS payments to achieve good outcomes could alter accustomed practices throughout FFS medicine. Patient expectations can shift as well. It is widely expected that new modes of care delivery will emphasize cost-effective prevention and better management of chronic conditions. Acute care is expected to be more often provided by collaborative teams of caregivers and to involve assistance outside clinical encounters, such as:

- helping patients better navigate the health system beyond primary care, notably for follow-up and referral care;
- helping patients better manage their chronic conditions themselves, with targeted outpatient medical and social supports, as well as community and non-clinical supports not typically covered within FFS practice;
- helping primary caregivers encourage more health-promoting behaviors among at-risk patients or populations; and
- helping new partnerships of medical providers and public health and other agencies collaborate on community-based interventions.

"A community health worker accompanies a heart patient to the supermarket to show him how to buy heart-healthy foods. A peer wellness specialist helps a troubled young woman navigate the mental health system and develop a tailor-made toolbox for recovery. A personal health navigator connects an elderly immigrant to a primary care physician who speaks her language and is sensitive to her fear of the formal healthcare system. If coordinated care organizations (CCO) work as intended, they're expected to rely on non-traditional healthcare workers to improve health outcomes and help reduce costs for [Oregon's] Medicaid population."

— Kyna Rubin, "Preparing for New Cost-Saving, Health-Enhancing Workers on the Care Team," The Lund Report [online Oregon nonprofit health care newsletter], *October 16, 2012, http://www.thelundreport.org/resource/preparing_for_new_cost_saving_health_enhancing_workers_on_the_care_team.*

Finally, many CHWs seek to help foster a long-term strategy of individual and community empowerment. CHWs seek to teach the assertiveness about access to public and community services more often seen in higher-income neighborhoods. CHWs' careers may also serve as inspirational role models. Economic and political development is believed to foster better individual health and improved ability to care for oneself and one's family. Triggering more community engagement is also believed to promote higher self-esteem and productivity and to promote economic development in disadvantaged communities.

STRATEGIES FOR FURTHER MAINSTREAMING CHWS

GENERATING AND DISSEMINATING MORE ACTIONABLE INFORMATION

Documentation of CHW effectiveness as *a concept* is rather well advanced. The need now is to generate documentation that supports *practical action*—funding, implementation, replication, and expansion for particular CHW roles. Controlled trials' value for implementation can be improved with associated qualitative research that explores which elements of an intervention seem to promote success or failure. Implementation research can help as well. All such research needs to consider the mindset of potential employers, especially with regard to measurable benefits, costs, and management ability to track progress and make mid-course corrections.

Better information also needs better dissemination. The most strongly recommended path forward from this project's national expert roundtable was to "get the word out" about CHWs. The literature on diffusion of technical innovations and on translation of scientific findings into clinical use shows that information must be presented in ways relevant to the business needs of its target audiences (Rogers 2003, Berwick 2003. Woolf 2008). It should also be disseminated in the languages of key policymakers and potential employers. Dissemination channels need to go well beyond traditional research publication. Further exploration is needed on what modes of communication might be most accessible for each particular audience.

Actionable evidence will vary across different potential employers of the CHW model, and it will be useful to set priorities among all such efforts. Private employers, safety net hospital systems, and community health clinics may be the biggest potential employers in the near and medium runs, as the ACA increases coverage for new segments of their traditional clienteles. These stakeholders seem especially likely to benefit from CHW-style help to use their new coverage effectively and appropriately, and so are an important early audience to target with information and technical assistance derived from the experience of successful pioneers.

CHW networks, the APHA, and others are trying to develop information hubs to improve dissemination. Attention needs to be paid to dangers of monopolization, group think, and disconnect from employer and payer concerns. Like accreditation standards, compilations of information need to be monitored to assure that they continue to serve employer needs.

SUPPORTING WORKFORCE DEVELOPMENT EFFORTS

Assuming that better integration of CHWs into health care and public health systems will increase demand for workers, assuring a good supply of CHWs also needs attention. Education and training must meet the needs of employers and offer equal opportunity to all workers. Many community colleges and other training providers have already developed competency-based training programs for CHWs. Some have stronger connections to employers than others, with greater potential to promote success and sustainability. Two examples are the pioneering City College of San Francisco and the Minnesota curriculum, both developed with input from CHWs and potential employers.

Promoting strong partnerships between employers and trainers of CHWs seems a good strategy. Such partnerships can help ensure the quality and relevance of the training, encourage employer

investments in CHW training, and attract learners with solid prospects for subsequent employment. Engagement can involve curriculum development, work-based learning opportunities like apprenticeship, instructors/faculty provided by employers, and industry-recognized credentials. The results of employer-community college partnerships could include greater professionalism and recognition of the CHW workforce that could support continued job growth and quality for CHWs.

Creating more professional credentials for CHW work may help and has certainly been a key part of CHW developmental efforts to date, including recent legislation in Oregon. Professionalization may be a prerequisite of acceptance in medical precincts, given the widespread use of accreditation within health care. Employers may face lower search costs for hiring if they can rely on standardized professional credentials or educational attainments. Other approaches might also reduce employers' recruitment costs as well, such as having universities or associations act as intermediaries or developing CHW registries.

The CHW workforce can be a rewarding career or an entry point into the burgeoning health sector for low-income people without advanced education. The current CHW workforce typically reflects the population being served—by representing the community or health issue addressed—and is often financially and educationally disadvantaged. Not everyone can qualify, given the requisite "soft" skills for teaming with others and leading clients to change behavior. On a small scale, several grants under the Health Profession Opportunity Grant program, funded through the ACA, offer CHW and other occupational training to Temporary Assistance for Needy Families participants and other low-income individuals. Approaches developed under such initiatives may serve as models for future expansion.

ENGAGING KEY STAKEHOLDERS AND THOUGHT LEADERS

Engagement of leaders in various stakeholder groups as champions of CHWs would also help expand the integration of CHWs.

> "*Absolutely" was the emphatic answer of Don Berwick when asked whether CHWs have a place in future health care. "Are you familiar with the good work of Dr. Behforouz?" he continued.*
>
> *— interview with former Acting Administrator of the Centers for Medicare and Medicaid Services, referring to community health promoters (Behforouz et al. 2004).*

Policy entrepreneurs, social entrepreneurs, and opinion leaders play an outsized role in promoting social advances; physician champions facilitate change within medical institutions; and early innovators influence the speed of dissemination of new technology. The most thorough review of CHW financing concluded that durable CHW programs always have a charismatic leader capable of rallying and sustaining efforts through changing patterns of support (Dower et al. 2006). Not dissimilarly, multiple accounts of how entities began hiring CHWs highlight the role of a key manager with prior first-hand experience of CHWs as internal advocates for innovation. This project's Expert Roundtable in January 2013 attracted stakeholders in care delivery, health financing, worker advocacy, policy research, and public management. Important contributions can come from thought leaders who move comfortably within two worlds — devoted caregivers and health promoters as well as practical managers of private and public plans or programs. Continuing such engagement could serve effective development, but is challenging to achieve.

Many observers marvel at the passion that CHWs so often bring to their work. Those not paid are clearly mission driven, and many appear to bring unusual and valuable zeal to their efforts. Identifying and channeling that passion into building better business cases would help foster support for the work they are passionate about.

BUILDING BROADER BUSINESS CASES BEYOND HEALTH SERVICES MARKETS

The market for health care services, even after ACA expansion, does not truly address the underlying causes of ill health or social needs of disadvantaged people. Increased understanding of the role of the social determinants of health in fueling health care cost growth is helping bring greater attention to this under-resourced area of intervention. Research that illuminates the potential return on investment in public health, disparities reduction, and community and economic development may create new support for funding CHWs in broader roles in community health. This challenge is a general one for social goods, which goes far beyond enabling CHWs to serve as one contributor to improvements. One organization promoting innovation in medicine and health calls this challenge "making prevention popular."[13] It could help simply to improve the clarity of the underlying logic models that detail the pathways between expected beneficial outcomes and the requisite inputs in dollars and other effort, processes, and management for putting the logic into practice.

A time-limited opportunity exists to seek new public sector funding even in the new era of austerity. Under ACA expansions, most spending now directed at the uninsured will become less necessary as those people obtain insurance. For example, hospitals will incur less uncompensated care for non-parental, low-income people made newly eligible for Medicaid. Public and mental health agencies providing or contracting for services to the uninsured will be able to repurpose dollars or employees to different duties. Developing the case that some of those savings be devoted to community health and health workers could help persuade state policymakers to recapture and reallocate those savings.

Similarly, any reinvigoration of the ACA's rationale for workforce assistance would help CHWs, along with many other occupations that draw on expertise and productivity that does not derive from formal education. Promotion of self-interested motivations for employers to complement altruistic and ethical concerns could help make the case. Society needs to foster work not only as an alternative to welfare but also as a way to make the whole economy more productive. Demographic trends are leading to an American society that is older and more ethnically diverse. Continued economic growth and opportunity and appropriate support of older Americans will require labor force participation and productivity growth throughout society.

[13] "Making Prevention Popular and Profitable," TEDMED, last accessed October 3, 2013, http://www.tedmed.com/greatchallenges/challenge/297.

CONCLUSION

CHW development has reached the end of the beginning. CHWs are poised to enter the mainstream of health services and public health. A coherent conceptual basis for their contributions has been developed: CHWs can serve as effective bridges between community members and health insurance and other programs, between patients and their health care providers, and across separate locations and specialties of care, fostering a more integrated system of care for their clients. They can also promote wellness and population health. CHW jobs appear to be growing in practice, and experience suggests enough "proof of concept" for CHW applications to justify promoting CHW employment. Still, major gaps in knowledge remain, and good strategies are needed to promote jobs and reduce traditional impediments to CHW employment.

CHWs may or may not become key members of emerging systems, depending on the developments of the next few years under health reform. Accordingly, effective support for these developments now could have outsized influence moving forward. Three general rationales support increased CHW employment at this critical point:

- Targeting their work appropriately can achieve some near-term and net cost savings, especially among very high utilizers of clinical care;
- CHWs can help manage chronic illnesses, again contributing to better health outcomes and more appropriate health care utilization; and
- CHWs can help promote longer-term improvements through primary prevention and community-based interventions.

The first CHW role is easiest to "sell" as a business case. The latter two depend upon how thoroughly health reform shifts priorities from today's dominant fee-for-service financing and delivery toward tomorrow's prevention within clinical caregiving and in the community, with a focus on achieving outcomes rather than on deploying inputs. Developing the CHW workforce offers the potential to improve health and bend the health care cost curve while promoting employment among often disadvantaged populations. Making the most of this opportunity will depend on how well better cases can be made for the second and third approaches.

REFERENCES

Altstadt, David. 2010. *"Growing Their Own" Skilled Workforces: Community Health Centers Benefit from Work-Based Learning for Frontline Employees.* Boston, MA: Jobs for the Future. http://www.jff.org/publications/workforce/growing-their-own-skilled-workforces-com/1151.

Alvillar, Monica, Jennie Quinlan, Carl H. Rush, and Donald J. Dudley. 2011. "Recommendations for Developing and Sustaining Community Health Workers." *Journal of Healthcare for the Poor and Underserved* 22: 745–50.

American Public Health Association (APHA). 2001. APHA Governing Council Resolution 2001-15. Recognition and support for community health workers' contributions to meeting our nation's health care needs. Washington, DC: APHA [superseded by 2009 policy statement, next].

———. 2009. "Support for Community Health Workers to Increase Health Access and to Reduce Health Inequities." Policy Number 20091. Washington, DC: APHA. http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1393.

Behforouz, Heidi L., Paul E. Farmer, and Joia S. Mukherjee. 2004. "From Directly Observed Therapy to *Accompagnateurs*: Enhancing AIDS Treatment Outcomes in Haiti and in Boston." *Clinical Infectious Diseases* 38 (Suppl 5): S429–36.

Bennett, Heather D., Eric A. Coleman, Carla Parry, Thomas Bodenheimer, and Ellen H. Chen. 2010. "Health Coaching for Patients with Chronic Illness." *Family Practice Management* 17(5): 24–29. http://www.aafp.org/fpm/2010/0900/p24.html.

Berthold, Tim, Jeni Miller, and Alma Avila-Esparza, eds. 2009. *Foundations for Community Health Workers*, San Francisco, CA: Jossey-Bass.

Berwick, Donald M. 2003. "Disseminating Innovations in Health Care," *JAMA* 289(15):1969-1975

Berwick, Donald M., Thomas W. Nolan, and John Whittington. 2008. "The Triple Aim: Care, Health, and Cost." *Health Affairs* 27(3):759–69. doi: 10.1377/hlthaff.27.3.759.

Bisognano, Maureen, and Charles Kenney. 2012. *Pursuing the Triple Aim: Seven Innovators Show the Way to Better Care, Better Health, and Lower Costs*. San Francisco, CA: Jossey-Bass.

Bovbjerg, Randall R., Lauren Eyster, Barbara A. Ormond, Theresa Anderson, and Elizabeth Richardson. 2013a. "Opportunities for Community Health Workers in the ACA Era." Washington, DC: The Urban Institute.

———. 2013b. "The Evolution, Expansion, and Effectiveness of Community Health Workers." Washington, DC: The Urban Institute.

Brownstein, J. Nell, Talley Andrews, Hilary Wall, and Qaiser Mukhtar. 2011. *Addressing Chronic Disease through Community Health Workers: A Policy and Systems-Level Approach.* Atlanta, GA: Centers for Disease Control Division for Heart Disease and Stroke Prevention. http://www.cdc.gov/dhdsp/docs/chw_brief.pdf.

Dobson, L. Allen Jr., and Denise Levis Hewson. 2009. "Community Care of North Carolina—An Enhanced Medical Home Model." *North Carolina Medical Journal* 70(3): 219–24.

Dorn, Stan, Ian Hill, and Sara Hogan. 2009. *The Secrets of Massachusetts' Success: Why 97 Percent of State Residents Have Health Coverage.* Washington, DC: The Urban Institute. http://www.urban.org/UploadedPDF/411987_massachusetts_success.pdf.

Dower, Catherine, Melissa Knox, Vanessa Lindler, and Ed O'Neil. 2006. *Advancing Community Health Worker Practice and Utilization: The Focus on Financing*. San Francisco: University of California, San Francisco, Center for the Health Professions, and National Fund for Medical Education. http://futurehealth.ucsf.edu/Content/29/2006-12_Advancing_Community_Health_Worker_Practice_and_Utilization_The_Focus_on_Financing.pdf.

Duke University Health System. 2003. "LATCH Reaches Out to Uninsured." Partners in Care Newsletter, Winter. Durham, NC: Duke University Health System.

———. 2011. *2011 Report on Community Benefit*. Durham, NC: Duke University Health System. http://www.dukemedicine.org/repository/dukemedicine/2013/03/07/09/09/39/1238/cbr_02feb11.pdf.

Fedder, Donald O., Ruyu J. Chang, Sheila Curry, and Gloria Nichols. 2003. "The Effectiveness of a Community Health Worker Outreach Program on Healthcare Utilization of West Baltimore City Medicaid Patients with Diabetes, with or without Hypertension." *Ethnicity and Disease* 13(1): 22–27.

Glenton, Claire, Simon Lewin, and Inger B. Scheel. 2011. "Still Too Little Qualitative Research to Shed Light on Results from Reviews of Effectiveness Trials: A Case Study of a Cochrane Review on the Use of Lay Health Workers." *Implementation Science* 6: 53. doi:10.1186/1748-5908-6-53.

Goodwin, Kristine, and Laura Tobler. 2008. "Community Health Workers: Expanding the Scope of the Health Care Delivery System." Denver, CO: National Conference of State Legislatures. http://www.ncsl.org/print/health/chwbrief.pdf.Health Resources and Services Administration (HRSA). 2007a. *Community Health Worker National Workforce Study*. Rockville, MD: US Department of Health and Human Services, HRSA, Bureau of Health Professions. http://bhpr.hrsa.gov/healthworkforce/reports/chwstudy2007.pdf.

———. 2007b. *Community Health Worker National Workforce Study, An Annotated Bibliography.* Rockville, MD: US Department of Health and Human Services, HRSA, Bureau of Health Professions. http://bhpr.hrsa.gov/healthworkforce/reports/chwbiblio07.pdf.

Institute of Medicine (IOM). 2012. *For the Public's Health: Investing in a Healthier Future.* Washington, DC: National Academies Press.

Isham, George J., Donna J. Zimmerman, David A. Kindig, and Gary W. Hornseth. 2013. "HealthPartners Adopts Community Business Model to Deepen Focus on Nonclinical Factors of Health Outcomes." *Health Affairs* 32(8): 1446–52. doi: 10.1377/hlthaff.2011.0567.

Johnson, Diane, Patricia Saavedra, Eugene Sun, Ann Stageman, Dodie Grovet, Charles Alfero, Carmen Maynes, Betty Skipper, Wayne Powell, and Arthur Kaufman. 2012. "Community Health Workers

and Medicaid Managed Care in New Mexico." *Journal of Community Health* 37(3): 563–71. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3343233/pdf/10900_2011_Article_9484.pdf.

Koh, Howard K., and Kathleen G. Sebelius. 2010. "Promoting Prevention through the Affordable Care Act." *New England Journal of Medicine* 363: 1296–99. doi: 10.1056/NEJMp1008560.

Koshel, Jeff. 2009. "Promising Practices to Improve Birth Outcomes: What Can We Learn from New York?" MCHB Technical Assistance report. Rockville, MD: US Department of Health and Human Services, HRSA, Maternal & Child Health Bureau. http://mchb.hrsa.gov/grants/nyrpt10262009.pdf.

Legion, Vicki, Mary Beth Love, Jeni Miller, and Savi Malik. 2006. *Overcoming Chronic Underfunding for Chronic Conditions: Sustainable Reimbursement for Children's Asthma Care Management.* San Francisco, CA: Community Health Works. http://www.communityhealthworks.org/images/ReimbursementforChildren_sAsthmaCareManagement.pdf.

Lewin, Simon, Judy Dick, Philip Pond, Merrick Zwarenstein, Godwin N. Aja, Brian Evan van Wyk, Xavier Bosch-Capblanch, and Mary Patrick. 2005. "Lay Health Workers in Primary and Community Health Care." *Cochrane Database of Systematic Reviews* 2005(1). doi: 10.1002/14651858.CD004015.pub2.

Lewin, Simon, Susan Munabi-Babigumira, Claire Glenton, Karen Daniels, Xavier Bosch-Capblanch, Brian Evan van Wyk, Jan Odgaard-Jensen, Marit Johansen, Godwin N. Aja, Merrick Zwarenstein, and Inger B. Scheel. 2010. "Lay Health Workers in Primary and Community Health Care for Maternal and Child Health and the Management of Infectious Diseases." *Cochrane Database of Systematic Reviews* 2010(3). doi: 10.1002/14651858.CD004015.pub3.

Lyn, Michelle J., Mina Silberberg, and J. Lloyd Michener. 2009. "Community-Engaged Models of Team Care." In *The Healthcare Imperative: Lowering Costs and Improving Outcomes; Workshop Series Summary,* edited by Pierre L. Yong, Robert S. Saunders, and LeighAnne Olsen (283–94). Washington, DC: National Academies Press. http://www.nap.edu/openbook.php?record_id=12750&page=283.

Martinez, Jacqueline, Marguerite Ro, Normandy William Villa, Wayne Powell, and James R. Knickman. 2011. "Transforming the Delivery of Care in the Post–Health Reform Era: What Role Will Community Health Workers Play?" *American Journal of Public Health* 101(12):e1–5.

O'Brien, Matthew J., Allison P. Squires, Rebecca A. Bixby, and Steven C. Larson. 2009. "Role Development of Community Health Workers: An Examination of Selection and Training Processes in the Intervention Literature." *American Journal of Preventive Medicine* 37(6, Suppl 1): S262–69. doi: 10.1016/j.amepre.2009.08.011.

Peretz, Patricia J., Luz Adriana Matiz, Sally Findley, Maria Lizardo, David Evans, and Mary McCord. 2012. "Community Health Workers as Drivers of a Successful Community-Based Disease Management Initiative." *American Journal of Public Health* 102(8): 1443–46. doi: 10.2105/AJPH.2011.300585.

Postma, Julie, Catherine Karr, and Gail Kieckhefer. 2009. "Community Health Workers and Environmental Interventions for Children with Asthma: A Systematic Review." *Journal of Asthma* 46(6): 564–76. doi:10.1080/02770900902912638.

Rogers, Everett M. 2003. *Diffusion of Innovations* (5th ed.). New York: Free Press.

Rosenthal E. Lee, J. Nell Brownstein, Carl H. Rush, Gail R. Hirsch, Anne M. Willaert, Jacqueline R. Scott, Lisa R. Holderby, and Durrell J. Fox. 2010. "Community Health Workers: Part of the Solution." *Health Affairs* 29(7): 1338–42.

Sprague, Lisa. 2012. "Community Health Workers: A Front Line for Primary Care?" Issue Brief 846. Washington, DC: National Health Policy Forum, George Washington University. http://www.nhpf.org/library/issue-briefs/IB846_CHW_09-17-12.pdf.Thom, David H., Amireh Ghorob, Danielle Hessler, Diane De Vore, Ellen Chen, and Thomas A. Bodenheimer. 2013. "Impact of Peer Health Coaching on Glycemic Control in Low-Income Patients with Diabetes: A Randomized Controlled Trial." *Annals of Family Medicine* 11(2): 137–44. doi: 10.1370/afm.1443.

Viswanathan, Meera, Jennifer Kraschnewski, Brett Nishikawa, Laura C. Morgan, Patricia Thieda, Amanda Honeycutt, Kathleen N. Lohr, and Dan Jonas. 2009. *Outcomes of Community Health Worker Interventions.* Report 09-E014. Rockville, MD: Agency for Healthcare Research and Quality. http://www.ncbi.nlm.nih.gov/books/NBK44601/; full report with appendices at http://www.ahrq.gov/downloads/pub/evidence/pdf/comhealthwork/comhwork.pdf.

Willard, Rachel and Tom Bodenheimer. 2012. *The Building Blocks of High Performing Primary Care: Lessons from the Field*, Oakland, CA: California Health Care Foundation, April http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/B/PDF%20BuildingBlocksPrimaryCare.pdf.

Appendix A. Roles for Community Health Workers in Enhancing Medical Services and Community Well Being

illustrative roles for CHWs	*general wellness education*; *encouragement, coaching*; *facilitation of pub hlth*; *facilitation of self-help*; *inspection of environs*	*education on risks*; *facilitation of access*; *screening for risks*; *encouragement of follow up*; *identifying environmental risks*; *assess social determinants of health*	*identification of needs*; *encouragement, coaching*; *facilitation of access to health care*; *facilitation of access to social services*; *coordination of care*; *compliance with regimen*; *counseling, comforting*
focus of activity	*primary prevention* (a.k.a. community prevention, operates at population level)	*secondary prevention* (a.k.a. clinical prevention)	*tertiary prevention* (among diagnosed patients)
definition of goals	protect from threats, promote healthy living, act before development of diseases/conditions to preempt them	identify risk factors and intervene or screen before clinical onset (e.g., for cancers), so as to intervene early and delay onset of conditions or mitigate their effects	prevent progression of manifest disease or condition, attendant suffering (e.g., chronic care)
client(s), targeted populations	people of similar ethnicity/experience as the CHW; may target whole community/ high-risk subpopulation (e.g., general outreach, ad campaign) or individuals/ households (e.g. prenatal services)	individuals/households of similar ethnicity/ experience, especially for high-risks (may be entire community or a subpopulation); typically work one on one with clients	individuals/households of similar ethnicity/ experience who have targeted condition(s) (e.g., men with known high cholesterol, women with gestational diabetes); typically work one on one with clients
types of likely employers	public entities, also population-oriented health plans/HMOs/MCOs, quasi-public CBOs/NGOs, foundations, charities, faith-based organizations	mix of population-oriented entities (left) & providers (right)	health care providers, especially where prepaid (e.g., capitation or bundling) or regulated (e.g., no payment for early return to hospital); also case-managing health plans
	PH departments; CBOs/NGOs; large self-ins'd workplaces; HMOs/MCOs; health plans/ ACOs	PH departments; NGOs/MCOs; workplace groups; health plans; ACOs; prepaid providers; medical homes	hospitals; medical homes; CHCs; other clinics; community care organizations; hospices

Source: authors' construct from literature & interviews. Notes: "Facilitation" applies for screening and for care; it includes referrals, transportation, other services. "Health plan" includes self-insured workplace groups. ACO = accountable care organization; CBO = community based organization; CHC = community health center; HMO = health maintenance organization; MCO = HMO like managed care organization; NGO = nongovernmental organization; PH = public health

Appendix B. Four Key Elements of CHW Interventions

Workforce issues	Employers, Payers, Financing	Roles, Functions	Measurement/Management
Employment pool	Employer	Clientele/target of work effort	Inputs, tasks, services that
Attributes[1] -- qualities or soft skills[2]	- public agency	- population-oriented	are tracked
- peer of clients, by, e.g.:	- non-governmental organization	* by neighborhood or community	Outputs or outcomes tracked
* geography, culture, experience	- medical provider	* targeted by health issue (e.g., diabetes)	Resource costs tracked
- personal qualities, e.g.:	* physician practice	- individual clients	Other important data
* mature, non-judgmental	* clinic	* found within community or referred	How data are obtained
* empathetic, friendly, persistent	* hospital	* targeted by health issue, severity	- self reported by CHW
- work readiness, e.g.:	- health plan, integrated delivery	- nature of benefit sought	- administrative data
* dependable, literate, sociable	system	Specific responsibilities[3]	- from payment system
* honest, polite, dedicated	Source of funds	- general health education, promotion,	- client survey
Skills,[2] a.k.a. hard skills, teachable,	- public budget	organizing, advocacy	- other exogenous source
- literacy, basic education	- institutional funds	- outreach & enrollment to health coverage	Data availability, real-time or
- understanding of conditions & care	- grant or other project funding	- screening and referral to care	retrospective
- understanding of delivery system	- payment for care (FFS, bundled)	* may be primary or specialty care	How data are assessed & used
- screening, 1st aid, other services	Payment method	- active care coordination/navigation	How work is supervised
- counseling, communication	- paid or volunteer	* specific follow-up, e.g., post-hospitalization	
Training[2] (for expected scope of work)	- full-time, part-time, project-specific	* ongoing, especially MCH & chronic care	
Credentialing: before hire,	- flat wage or per service	Work conditions	
earned on job	- may have bonuses or incentives	- solo/independent or part of a caregiving team	
Career ladders & retention	Costs of intervention	- in field, in office/clinic, or mixed	
	- start up, ongoing; fixed, marginal	- workload	

Notes: 1. The National Community Health Advisor Study report lists 18 qualities (1998, p.17); the NY report (Matos et al. 2011, p. 16) lists 29 within 8 categories. 2. Attributes or soft skills plus hard skills at end of training = capabilities or competencies, terms frequently used in place of the two separate terms used here. 3. The National Report lists 7 "core roles" (p. 12); Matos et al. also list 7 (similar) roles, with more than 50 subsidiary ones within those categories. N.B. Exogenous factors also affect roles, e.g. scope of practice rules, liability climate, other

Source: authors' construct, based on literature scan, key-informant interviews