Attachment 5: Cost Effectiveness, Payment Models and Funding Mechanisms

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To operate successfully, programs require adequate payment models for CHW positions and stable funding sources. To justify funding, CHWs services should be cost-effective in terms of health care spending. The following sections describe current literature on these three interrelated CHWs topics:

1. Cost effectiveness / funding rationale for CHW services
2. Payment Models for CHW positions
3. Program Funding

Cost effectiveness / funding rationale

Evidence of cost effectiveness is important in determining whether to allot funds or seek funding for CHW programs. While many researchers have examined whether use of CHWs has been associated with positive health outcomes for patients, other evaluation projects have centered on determination of cost effectiveness or cost savings of various CHW programs.

Unfortunately, the research literature on CHW intervention cost-effectiveness is somewhat limited. Several reviews of CHW programs have noted a lack of research on cost-effectiveness. For example, A 2009 US Agency for Healthcare Research and Quality (AHRQ) report published in 2009 noted that definitive conclusions on cost-effectiveness of CHW programs relative to non-CHW interventions was very challenging due to the lack of analysis according to standardized and commonly accepted measures (Viswanathan, et al., 2009).

A 2006 National Fund for Medical Education report specific to CHW financing issues also noted that robust research on cost-effectiveness of CHW interventions was quite limited. However, the authors cited a recent study that had found a Colorado-based intervention to be quite cost effective and went on to note, "Additional evidence from numerous sources, though of weaker research design, indicates significant savings and cost-effectiveness of CHW programs and services" (Dower, Knox, Lindler, & O'Neil, 2006). In a 2011 review of the literature, Martinez, et al. describe three specific areas where CHWs have shown positive impacts on costs of care:

1. *Helping eligible individuals connect to and enroll in health insurance programs*. Evaluations of programs in New York and Texas and have shown that CHW interventions led to increased enrollment in Medicaid and other health plans. In Massachusetts, CHWs played a particularly important role in assisting thousands of individuals enroll in subsidized health insurance plans after the state's enactment of health care reform legislation (Anthony, Gowler, Hirsch, & Wilkinson, 2009)
2. *Coordinating timely access to primary care and preventive services*. CHW programs have been found to be effective in increasing the number of at-risk individuals accessing preventive

services such as mammography and cervical cancer screening, potentially decreasing health costs in the long-term. By educating and helping them navigate the health care system, CHWs can assist individuals access less costly primary care services, as opposed to using more expensive emergency room or inpatient care services.

The most frequently cited report on cost effectiveness of CHW programs involves a program operated by Denver Health, the primary health care safety net for Denver, Colorado. Denver Health employs multiple CHWs to conduct outreach with residents in specific neighborhoods and among populations with special needs (e.g. pregnant women). Outreach for the program involves community-based screening and health education, assistance with enrollment in publicly funded health plans, referrals for services, assistance with system navigation and care management. Researchers examined data on service utilization, charges, and reimbursements for 590 men in the nine month period prior to first contact with a CHW and the nine month period following first CHW contact. Analysis showed primary and specialty care visits increased and urgent care, inpatient, and outpatient behavioral health care utilization decreased. The shift from more resource intensive services to less resource intensive services resulted in a reduction of monthly uncompensated costs by $14,244. CHW program costs were $6,229 per month, resulting in a return on investment ratio of 2.28:1.00 and an annualized savings total of $95,941. (Whitley, Everhart, & Wright, 2006)

3. *Helping individuals manage chronic conditions.* By helping people manage chronic diseases such as asthma, cancer, and HIV/AIDS according to treatment protocols, CHWs can facilitate reductions in emergency care and preventable hospitalization. Martinez, et al. (2011) describe a Baltimore program in which CHWs worked with residents with diabetes to better manage their health. Analysis showed the program generated a savings of $2,200 per patient per year.

Payment models for CHWs

A significant factor in CHW program funding involves remuneration for individuals providing CHW services. A defining characteristic of individual CHW programs is the payment model, specifically whether CHWs serve as volunteers or receive monetary compensation for their services.

Cherrington, et al. (2010) state that differences in paid versus volunteer positions stem from "philosophical differences, programmatic needs and financial realities". The authors cited numerous examples of programs that utilize volunteer CHWs and programs in which CHWs are paid. Based on these examples, several observations regarding volunteer and paid CHW positions were drawn. Paid CHW positions are more appropriate than volunteer positions for programs that require labor-intensive and highly-structured interventions. On the other hand, volunteer CHWs may be seen as perceived as having greater allegiance with the community, as they are not being paid by an external organization. This perceived allegiance to the community can make volunteer CHW positions more appropriate for

programs in which initiating and maintaining communication with members of the target population is difficult.

In 2007, the U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) released the results of national CHW Workforce Study. Using survey results and a comprehensive review of the literature, HRSA estimated approximately one-third of CHWs served in voluntary positions, with the remaining two-thirds operating in paid CHW positions.

Prior to 2010, the United States Bureau of Labor Statistics (BLS) did not directly track employment or wage statistics on CHWs. However, due to interest in the CHW model, BLS introduced a distinct CHW Standard Occupation Code in 2010 to collect employment data specific to this workforce (United States Department of Labor Bureau of Labor Statistics, 2009). Paid positions that match the following criteria are now categorized by a CHW-specific code - SOC 21-1094:

> Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Excludes "Health Educators" (United States Department of Labor Bureau of Labor Statistics, 2013)

In March 2013, BLS provided national, state, and metropolitan area estimates on the number of CHWs in the paid workforce, as well as wage information and industry profile for May 2012 (United States Department of Labor Bureau of Labor Statistics, 2013). The BLS data is summarized in the following tables:

Community Health Workers Estimated Occupational Employment and Wages, May 2012			
	Number of individuals employed	Mean hourly wage	Mean annual age
United States	38,020	$18.02	$37,490
Pennsylvania	1,290	$19.30	$40,150

Pennsylvania Metropolitan Areas - Community Health Workers Estimated Occupational Employment and Wages, May 2012			
	Number of individuals employed	Mean hourly wage	Mean annual age
Allentown-Bethlehem-Easton, PA-NJ	80	$16.73	$34,790
Erie, PA	Estimate not released	$16.24	$33,790
Newark-Union, NJ-PA Metropolitan Division	70	$19.79	$41,160

Philadelphia, PA Metropolitan Division	900	$20.81	$43,290
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1,090	$20.14	$41,900
Pittsburgh, PA	110	$17.29	$35,960
Youngstown-Warren-Boardman, OH-PA	Estimate not released	$13.47	$28,020

CHW wages and salaries vary across paid positions. It is worth noting that some programs have implemented innovative payment models for CHWs. In particular, the Ohio Community Health Access Project offers CHW financial bonuses to meet certain measurable outcomes. In this model, all CHWs are paid a base salary, but have the opportunity to make significantly more money by reaching goals related to service quality, number of home visits, number of active clients, and number of targeted outcomes achieved. (Dower, Knox, Lindler, & O'Neil, 2006)

Funding CHW programs

Overview of funding techniques

Stability of funding for CHW programs has long been a concern. Even for programs utilizing volunteer CHWs, funding is necessary to support infrastructure, cover administrative costs, and provide incentives and non-monetary compensation for CHWs. (Cherrington, et al., 2010). Unstable or time-limited funding can lead to low employee morale and high turnover. (Dower, Knox, Lindler, & O'Neil, 2006)

In the 2006 *Advancing Community Health Worker Practice and Utilization: the Focus on Financing* report, Dower, et al. provide a summary of the status of CHW program funding in the United States. According to the authors, funding for CHW programs is often pieced together from a variety of sources. The most common source of funding is time-limited grants from government agencies or charitable foundations. These grants are often tied to specific parameters, e.g., working with particular populations or addressing specific health conditions. The *Financing Community Health Workers: Why and How* report echoes concerns with the current status of CHW funding, suggesting that its current piecemeal and prescriptive nature can have deleterious effects on CHW programs, including limiting the amount of time programs can operate, restricting programs' scope of work and size, and preventing programs from working with populations that could benefit from CHW interventions (Public Sector Consultants, Inc., 2007).

While funding programs can be challenging, many organizations have discovered ways to achieve workable funding solutions. Dower, et al. (2006) describe four types of funding models in use by CHW programs:

1. Government agency and charitable foundation grants and contracts
2. Private or public insurance (with a particular focus on Medicaid)

3. Government general funds
4. Hospital, Managed Care Organization and Employer budgets

It is important to note that many organizations use multiple funding sources from one or more of the above categories to support CHW programs.

The following sections provide details about funding models according to the outline presented by Dower, et al. (2006).

Funding Model 1: Government agency and charitable foundation grants and contracts. Time-limited grants and contracts are the most common funding sources for CHW programs. Government agencies such as the National Institutes of Health and the Health Resources and Services Administration provide grant funding to programs dedicated to addressing various health issues, e.g. asthma, family planning, prenatal care and maternal and child health. While grant funding can allow a program to thrive in the short-term, the unstable nature of grants makes long-term planning and implementation difficult. Furthermore, grant opportunities may not be available to meet the needs of all populations or communities (Dower, Knox, Lindler, & O'Neil, 2006).

Funding Model 2: Private or public insurance (with a particular focus on Medicaid). In some instances, organizations have implemented CHW programs using funding from public or private insurance. Of particular note to organizations considering CHW programs are organizations or systems that have secured Medicaid funding, since this funding sources is relatively stable.

CHWs are not recognized as reimbursable service providers under current Medicaid regulations. However, CHW programs have obtained Medicaid funding through the following mechanisms:

- Direct reimbursement through a permanent state plan amendment: Minnesota, a state with a very organized and proactive CHW workforce, applied for and received a Medicaid state plan amendment enabling direct reimbursement for CHW services. There are several important items to note about Minnesota's Medicaid state plan amendment. In 2005, the state's Community Health Worker Alliance developed both a detailed "scope of practice" describing appropriate CHW activities and a standardized, statewide credit-based curriculum offered at community and technical colleges. The curriculum required completion of 14 credits for certification purposes. By citing literature showing a greater investment in CHWs would be budget neutral, the Alliance was able to convince the state legislature to approve direct hourly reimbursement for CHW work under Medicaid. The following year, the Centers for Medicare and Medicaid Services (CMS) approved a Medicaid state plan amendment authorizing payment for CHWs who work under the supervision of approved clinicians (Rosenthal, 2010).

- Reimbursement through a §1115 Waiver Project: several states have received Medicaid §1115 Waivers, allowing at least short-term Medicaid funding for CHW services. These research and demonstration grants are designed to further the objectives of the Medicaid program. (Dower, Knox, Lindler, & O'Neil, 2006). In 2011, Oregon received a §1115 demonstration waiver to implement "Coordinated Care Organizations". These organizations must offer CHW services to

assist patients in navigating the healthcare system and provide linkages to community and social support services. Through the waiver, CHW services will be Medicaid reimbursable. As part of the waiver program, Oregon Health Authority must establish training and certification programs for CHWs, which fall into three classes – community health workers, peer wellness specialists, and personal health navigators. (Peers for Progress, 2012)

- Reimbursement through Administrative funds for Medicaid outreach or coordination services. Community based programs can receive federal Medicaid administrative match funds for Medicaid Administrative costs. CHWs in several states have used these matching dollars to partially fund programs. (Dower, Knox, Lindler, & O'Neil, 2006). For instance, the Ingham County (Michigan) Health Department and the Michigan Department of Community Health received CMS approval to develop a Medicaid reimbursement process for specific CHW outreach activities. Reimbursable activities include teaching residents about Medicaid eligibility and benefits, assisting with Medicaid applications, and providing a variety of other outreach services. These services are reimbursed by Medicaid at a 50% match rate. The Health Department uses a variety of other funds to cover the other 50% of program costs. (Public Sector Consultants, Inc., 2007). Another example of Medicaid administrative cost reimbursement involves a program in Virginia employing bilingual CHWs. While the actual CHW salaries are not reimbursed through Medicaid, 40% of the *administrative costs* associated with operating the program are reimbursed (Dower, Knox, Lindler, & O'Neil, 2006).

- Funding via capitation payments through Medicaid managed care contracts: Within federal, state, and location regulations, Medicaid managed care organizations (MCOs) have discretion over how to spend capitation payments. Some MCOs have used capitation moneys to fund CHW services. In some cases, MCOs directly hire and house CHWs. For instance, a Medicaid MCO providing services to 280,000 New York City residents employs CHWs to deliver targeted outreach to enrollees, as well as provide general community education services. (Dower, Knox, Lindler, & O'Neil, 2006). In other instances, the MCO contracts with other organizations to provide CHW services. An example of this arrangement can be found in New Mexico, where a Medicaid MCO contracts with another organization to provide services geared at reducing costs and improving care for certain high-risk members (Public Sector Consultants, Inc., 2007).

While Medicaid funding offers greater stability than other types of funding for CHW programs, the literature suggests several potential drawbacks. First, a significant amount of resources must be devoted to plan amendment or waiver application processes. Analysis must show CHW programs would be budget neutral, which has the potential to negatively affect other programs, possibly making other stakeholders reluctant about adding CHW reimbursement to state Medicaid plans (Peers for Progress, 2012). To receive Medicaid reimbursements, organizations must have the capacity to handle ongoing billing, accounting and reporting requirements, which may be challenging for some CHW programs. Finally, not all populations are eligible for Medicaid services. (Dower, Knox, Lindler, & O'Neil, 2006)

Funding Model 3: Government General Funds. In this mechanism, government entities at the federal, state or local level use general funds to pay for CHW services. In other words, CHWs are included as

dedicated line item within operating budgets. Examples of this funding mechanism can be found in Fort Worth, TX, the Kentucky State Cabinet for Health Services, and the San Francisco Department of Public Health. (Dower, Knox, Lindler, & O'Neil, 2006)

Funding Model 4: Hospitals, Managed Care Organizations and Employers. Similar to Funding Model 3 above, CHWs programs in this model are funded through an organization's general operating budget. Dower, et al. (2006) cite examples in which hospitals, managed care organizations directly fund CHWs with the expectation that their services will achieve cost savings, particularly by reducing inappropriate emergency department use and preventing costly diseases.

Emerging funding opportunities

Community health workers are explicitly described within the 2010 Patient Protection and Affordable Care Act (PPACA) as important members of the health care workforce with the ability to positively impact quality of health care for many people (Rosenthal, 2010). In addition to the actual reference to CHWs in the PPACA, many of the act's goals are well aligned with the CHW service delivery model. These include a focus on patient-centered care, mechanisms to encourage patients' increased engagement with services, promotion of preventive services, and an emphasis on cost-effective and high-quality care coordination. (Martinez, Ro, Villa, Powell, & Knickman, 2011)

Two specific areas of promise within the PPACA include endorsement of Accountable Care Organizations (ACOs) and patient-centered medical homes. ACOs are clinical and administrative systems capable of providing evidence-based health care and engagement services and coordinating care among providers. CHWs can play important roles in ACO's engagement and care coordination services. (Martinez, Ro, Villa, Powell, & Knickman, 2011)

CHWs are also well-suited to activities within a patient-centered medical home model, in which a health care team works with patients to deliver coordinated and comprehensive care that incorporates understanding of each patient's unique needs, culture, values, and preferences. In explaining how CHWs could play an important role in the health team, Rosenthal (2010) points toward CHWs' expertise in cultural competence, as well as their ability to facilitate communication between providers and patients. Martinez, et al. (2011) also cite the unique value CHWs can offer patient-centered medical homes:

> CHWs can play a valuable role on the team by providing contextual data about patients' attitudes, behavior, and environment that can inform development of an effective care plan. In the implementation of such a care plan, CHWs work with patients to help them understand what is being asked of them by providers; assist them with navigating medical, behavioral, and social services; and provider critical feedback to providers to ensure that care plans are tailored appropriately to the needs of each patient.

ACOs and patient centered medical home payment structures outlined in PPACA have the potential to provide sustainable funding for CHWs in the long-term (Martinez, Ro, Villa, Powell, & Knickman, 2011)

The PPACA also created a number of grant programs that could potentially support CHW programs. An organization called Peers for Progress recently compiled a list of PPACA grants applicable to CHW programs. The table below summarizes information from Peers for Progress's *Opportunities for Peer Support in the Affordable Care Act* (2012).

Grant Opportunity	PPACA Section	Status of appropriation
Community Health Teams to Support the Patient Centered Medical Home	§3502	Unappropriated
Patient Navigator Program	§3509	Appropriated
National Diabetes Prevention Program	§10501	Appropriated
Medicaid Incentives for the Prevention of Chronic Diseases	§4108	Appropriated
Grants to Promote the Community Workforce	§5313	Unappropriated
Community Health Center Fund	§10503	Appropriated
Cultural Competency, Prevention, and Public Health and Individuals with Disabilities Training	§5307	Unappropriated
Grants for Small Businesses to Provide Comprehensive Workplace Wellness Programs	§10408	Unappropriated
Prevention and Public Health Fund	§4002	Appropriated
Community Transformation Grants	§4201	Appropriated
Medicare's Hospital Readmission Reduction Program	§3025	Appropriated

While grant funding can be an important component of CHW programs, its limitations have been noted earlier (e.g. time-limited nature of funding and limitation on program scope).

In looking at funding possibilities in the current and emerging health care system, Martinez et al. (2011) outline several models of relevance to CHW programs.

1. **Capitation.** Through this model, health care service providers are paid a pre-determined amount for each person assigned to them. Providers could potentially recognize cost-savings by incorporating CHWs into their health delivery model by helping patients access less resource intensive primary care and prevention health services.

2. **Bundled payment**. In this model (also referred to as episode-of-care payment, case rate, etc.) a single payment for all services related to a treatment would be disbursed. This payment could extend to multiple providers in varied settings. CHWs could offer a cost-effective approach to assist in care coordination and health management.

3. **Shared savings**. This model is relevant to the ACOs promoted in the PPACA. Through a shared savings approach, a per-person health spending target would be determined by Medicare. If

providers could reduce Medicare spending below the predetermined target, they would be eligible to share the financial savings with the government. As part of an ACO, CHWs could assist with the identification of costly community health issues, serve as liaisons to health care providers and the community, and tailor and deliver interventions for patients at high risk of utilizing more resource intensive health services.

4. **Pay-for-performance**. Financial incentives would be available to health care providers who achieve specified performance goals in this model. By conducting outreach, education, patient navigation and other services, CHWs could assist health organizations in meeting performance targets.

While there is agreement throughout the literature that more stable funding models should be sought out for CHW programs, authors differ regarding the most promising type of model. Martinez, et al. (2011) concluded, "Fully or partially capitated payments systems that include outcome-based incentives hold the most potential for supporting CHWs." Rosenthal (2010) emphasized the potential of stable funding through Medicaid, CHIP and other major funding sources.

Regardless of type of funding pursued, Dower et al. (2006) noted common elements of successfully funded CHW programs. The authors list the following characteristics:

- A mandate or mission to provide services to a specific targeted population with insufficient resources to do so in the traditional manner.
- Identification of a specific healthcare need that was not being met in a particular population or community and a clear articulation of the role CHWs might play in meeting that need.
- The big picture in view and/or responsibility for a population's, or group of enrollees' entire health care.
- An individual or small group of champions who believe in the value of the CHW role and who can find ways to successfully win support.
- Solid outcomes data indicating positive impact on access, costs or health status.
- Targeted training of the CHWs that focuses on the services and population being served.

Summary

While the literature regarding cost effectiveness of CHW programs remains limited, evidence appears to indicate CHW programs can play a valuable role in providing high-quality and cost-effective health services. Current payment models for CHWs include volunteer and paid positions, with new BLS data providing information about the state of the CHW workforce and wages. Experts in the field often note the inadequacy of current CHW funding sources. However, recent reports suggest that health care reform and the development of new funding models may bring about greater opportunities for CHW programs.

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