



# ASPE

## ISSUE BRIEF

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### COMMUNITY HEALTH WORKERS: ROLES AND OPPORTUNITIES IN HEALTH CARE DELIVERY SYSTEM REFORM

By John E. Snyder

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*This report reviews select health services research findings on Community Health Worker (CHW) utilization that are relevant to U.S. policymakers and considers the key challenges to fully realizing the potential for CHWs to improve health care delivery.*

#### **Main Findings**

- Community Health Workers (CHWs) are an emerging group of health professionals that have recently drawn increased national attention because of their potential to deliver cost-effective, high quality, and culturally competent health services within team-based care models.
- The apparent benefits of integrating CHWs into health care teams seem to depend on context. The strongest evidence of these benefits supports utilizing CHWs to deliver certain specific, high-value, preventive services – focused on reducing risk factors for cardiovascular disease and other chronic conditions – to low-income, minority, or other underserved populations.
- Despite growing interest in engaging CHWs in national delivery system reform efforts, there are several uncertainties about how to best proceed with this. Questions remain around standardizing CHW training, certification, and licensure; establishing strong economic and other evidence to support their use; and securing reimbursement for their services to ensure financial sustainability of CHW programs.

#### **Introduction**

Health care reform activities since the 2010 passage of the Affordable Care Act have resulted in significant and innovative shifts in health service delivery and reimbursement – with an overall movement towards increased value, coordination, and accountability in care. Accompanying these changes, many of the traditional roles and services of providers such as physicians, nurses, and other health care workers have expanded and evolved. In addition, some emerging, new occupations are playing an increasing role in patient-centered medical homes (PCMHs) and other team-based models for health care delivery.<sup>1</sup> Although community health workers (CHWs) have

been embedded in community-based outreach programs for decades, significant national policy interest is emerging for this the occupation due to the potential ability of CHWs to improve health care access, service delivery, and care coordination, and to provide enhanced value in health care investments.<sup>2</sup>

Although there is some variability in how the U.S. Department of Labor<sup>3</sup> and other organizations<sup>4</sup> define a “Community Health Worker,” a CHW is typically a frontline public health worker who is a trusted member of, and/or has an unusually close understanding of, the community served. This trusting relationship enables the worker to serve as a link between community members and needed health and social services within their community. CHWs hold a unique position within an often rigid health care system in that they can be flexible and creative in responding to specific individual and community needs. Their focus is often on the social, rather than the medical, determinants of health – addressing the socioeconomic, cultural practices, and organizational barriers affecting wellness and access to care.<sup>5</sup> CHWs are known by numerous names in their communities and in the health literature, including Promotores de Salud, Community Health Advisors, and related titles,<sup>6,7,8</sup> reflecting their widely variable roles and responsibilities. This variability can present a challenge for demonstrating their value through outcomes research and for attempts to standardize CHW educational pathways, certification, and reimbursement.<sup>9,10</sup>

This report reviews select health services research findings on CHW utilization that are relevant to U.S. policymakers and considers the key challenges to fully realizing and quantifying the potential for CHWs to improve health care delivery. Although not intended to be a comprehensive and critical analysis of the full body of research around CHWs, this paper builds on information from a number of recent reports from across the Department of Health and Human Services (HHS) – including a 2009 systematic review by the Agency for Healthcare Research and Quality (AHRQ),<sup>11</sup> a 2014 evidence assessment published by the Centers for Disease Control and Prevention (CDC),<sup>12</sup> a 2015 CDC policy brief on CHW interventions for chronic disease management,<sup>13</sup> and a 2015 summary of findings by the CDC-supported Community Preventive Services Task Force on cardiovascular disease interventions.<sup>14</sup> This material is supplemented with select additions from the primary health literature and reports by health policy research organizations.

### **Roles in health care delivery**

The primary goals for deploying CHWs in health care teams are to increase access, deliver screening and preventive services, and improve system navigation, care coordination, and disease management outcomes through education and other approaches (Table 1). The unique strength of CHWs is their ability to develop rapport with patients and other community members due to shared culture, community residence, and life experiences. They are also able to enhance the cultural and linguistic appropriateness of care and help to counteract factors such as social exclusion, poverty, and marginalization.<sup>15,16</sup> As such, and aside from the objectives for deploying them from the health system perspective, an important component of the CHW occupational identity can be to advocate for the socioeconomic, environmental, and political rights of their communities.<sup>17</sup>

The ability of CHWs to relate to patients can enable them to elicit candid information and collect more accurate clinical data than other health care workers.<sup>18</sup> Additionally, their patient- and family-centered approaches can improve the comprehension of and adherence to provider

instructions.<sup>19,20</sup> Expertise in conducting outreach positions some CHWs as a resource for navigating health insurance options and successfully enrolling people in Medicaid or Marketplace plans.<sup>21,22</sup> CHW work at the interface between health systems and the community has the potential to reduce the inappropriate use of high-cost health services, such as emergency room visits for primary care health needs and unnecessary hospital readmissions.<sup>23</sup>

CHWs are most often deployed to improve outcomes in communities with high levels of health disparities or a disproportionate prevalence of chronic disease.<sup>24</sup> One major goal of delivery system reform is to respond strategically to the growing national prevalence of multiple chronic conditions by improving care coordination. By 2020, 157 million people in the U.S. are anticipated to have one chronic condition and 81 million to have multiple chronic conditions.<sup>25</sup> The growing national burden of chronic illness is borne to a greater extent by minority and low-income populations, who experience poorer health outcomes.<sup>26</sup> For example, the likelihood that non-Hispanic black adults in the U.S. will die prematurely of cardiovascular or cerebrovascular disease is at least 50 percent greater than for non-Hispanic white adults,<sup>27</sup> and infant mortality rates for non-Hispanic blacks are more than double those of non-Hispanic whites.<sup>28</sup> Diabetes is more prevalent in non-Hispanic black adults, those with Hispanic ethnicity, adults with lower incomes, and those without a college education than in other segments of the population.<sup>29</sup>

Such health inequities have large individual, community, and economic impacts. According to a 2009 study by the Joint Center for Political and Economic Studies, the combined additional costs

**Table 1. Major Roles for Community Health Workers in the U.S. Health System.**

<b>Model</b>	<b>Function</b>	<b>Examples of goals/activities</b>
<b>Lay Health Worker/ Promotora de Salud</b>	Address social determinants of health and risk factors for chronic diseases	<ul style="list-style-type: none"> <li>• screening for behavioral and other risk factors (e.g., hypertension) for chronic conditions (e.g., cardiovascular disease)</li> <li>• encouraging self-reporting and facilitating self-management around health behaviors (e.g., smoking cessation, exercise)</li> <li>• offering social support and informal counseling</li> </ul>
<b>Health Educator</b>	Provide education services	<ul style="list-style-type: none"> <li>• delivering individual or group education</li> <li>• encouraging adherence and compliance with treatments and medications</li> </ul>
<b>Outreach and Enrollment Agent</b>	Increase care access	<ul style="list-style-type: none"> <li>• identifying individuals and families eligible for medical services</li> <li>• assisting in the application for medical services</li> </ul>
<b>Team-Based Care Member</b>	Collaboratively provide direct health services with medical professionals	<ul style="list-style-type: none"> <li>• improving care coordination</li> <li>• providing patient support when paired with licensed health care providers (physicians, nurses)</li> </ul>
<b>Care Coordinator and Navigator</b>	Assist in care coordination for those with complex health conditions	<ul style="list-style-type: none"> <li>• monitoring and follow-up (appointment reminders, home visits)</li> <li>• assisting individuals and families in navigating complex medical service systems and processes</li> </ul>
<b>Community Organizer and Capacity Builder</b>	Share social, cultural, and economic characteristics with community	<ul style="list-style-type: none"> <li>• supporting community development</li> <li>• serving as liaisons between the community and health care systems</li> <li>• advocating for patients and communities, promoting community action</li> <li>• building community support for new activities</li> </ul>

Sources: Community Preventive Services Task Force (<http://www.thecommunityguide.org/cvd/CHW.html>); Rural Assistance Center (<https://www.raconline.org/communityhealth>)

to the national economy of health inequalities and premature death of minority groups in the U.S. were estimated to be total approximately \$1.24 trillion from 2003–2006.<sup>30</sup> This is likely due to a combination of both direct expenses from delivering health care to a sicker and more disadvantaged population and indirect costs attributed to employment-related factors and premature mortality (e.g., lower productivity, lost wages and tax revenues, leave to deal with avoidable family illnesses). Strategies that can effectively address social determinants of health and counteract health inequities experienced by vulnerable patient populations will have significant societal and economic benefits for the nation. Given their strong bonds with communities and ability to facilitate access, coordination, capacity building, and service delivery, CHWs are seen as one potential solution for achieving these aims.

**Table 2. Community Health Worker employment – facts and figures.**

<b>Number of CHWs in the U.S., 2012</b>	99,400
<b>Projected percent change in employment from 2012 to 2022 (average for all occupations is 11%)</b>	21%
<b>Paid versus volunteer</b>	Up to 40% may work as unpaid volunteers
<b>Median pay, 2012</b>	\$41,830 annually or \$21.11 per hour
<b>States with the highest CHW employment level</b>	<ul style="list-style-type: none"> <li>• California</li> <li>• Illinois</li> <li>• Texas</li> <li>• New York</li> <li>• Florida</li> </ul>
<i>Sources:</i> Bureau of Labor Statistics (2012) and National Community Health Worker Advocacy Survey (2014)	

### **CHW Training and Credentialing**

CHWs are distinct from the other members of health care teams in that they are hired primarily for their understanding of the populations and communities they serve rather than for expertise or credentials obtained through formal health education.<sup>31</sup> As such, they are traditionally trained after hiring to use their personal perspectives and experiences to link patients within their communities to services. According to one 2014 survey, up to 40 percent of all CHWs nationally may work as unpaid volunteers (Table 2)<sup>32</sup>. Thus CHWs differ from most other health care workers who usually have prolonged training in clinical care and formal qualifications prior to employment and who are generally paid for their services.

The extent to which CHWs are trained to perform their roles and whether or how they become certified or licensed to deliver care varies greatly from state to state, based on state and organizational licensure requirements. Several states have passed legislation identifying CHW training that could eventually be used as a prerequisite for reimbursement, while many other states are at various stages of the policy development process. For example, in Minnesota, a CHW state-standardized curriculum is offered through the postsecondary educational system.<sup>33</sup> CHWs receive a certificate on completion of this curriculum that qualifies them to enroll for reimbursement under the state Medicaid program, one of only two established reimbursement models for CHWs within public insurance programs to date in which CHWs are reimbursed directly.<sup>34</sup> By contrast, the state of New Mexico has no statute regarding CHWs but their Department of Health maintains a robust CHW advisory board that recommends certification standards and training, and which has disciplinary authority.<sup>35</sup>

Legislative tracking of CHW training and certification requirements is performed by the Association of State and Territorial Health Officials (ASTHO). As of October 2015, ASTHO reports<sup>36</sup> that:

- Six states (FL, MA, NM, OH, OR, TX) have laws or regulations which establish CHW certification program requirements.
- Two states (IL, MD) have statutes creating a CHW advisory board, taskforce, or workgroup to establish certification program requirements.
- Seven states (IN, MS, NE, NV, NY, SC, WA) have no laws in place but have state-led training or certification programs.
- Two states (AK, MN) have established Medicaid payments for services provided by a certified CHW.
- One state (FL), which already provides some CHW credentialing guidelines, has reintroduced legislation (that did not move forward in the prior legislative session) to define the duties of a CHW and establish a voluntary process by which a department-approved third-party credentialing entity may grant a credential to an eligible individual.
- The remaining 33 states and the District of Columbia have not taken or introduced regulatory or legislative action around CHW education, certification requirements, or establishing Medicaid payments for CHW-provided services.

Although flexibility in responding to specific individual and community needs is considered to be a key strength of CHWs, the lack of consistent, standardized CHW educational pathways and the varying scopes of practice observed across different CHW roles are likely reasons why more universal credentialing standards have not been developed.<sup>37</sup> This is a well-recognized barrier for CHWs in achieving greater respect among the other health care professions, improving their compensation and working conditions, increasing their job stability and portability, and better integrating them into the U.S. health system.<sup>38,39,40</sup> In addition, as credentialing is often a critical component for insurance reimbursement, this lack of standardization may limit the potential for CHW service reimbursement by both public and private insurance plans.<sup>41</sup> To this end, the focus of the Community Health Worker Core Consensus (C3) Project is to help advance consensus in the CHW field around local, state, and national training curricula and practice guidelines for the occupation.<sup>42</sup> On the other hand, many CHWs have expressed concerns that standardized credentialing could create job entry barriers for the best-suited CHW candidates, such as members of diverse, low-income communities who may additionally have language barriers.<sup>43</sup>

### **A National Profile of CHWs**

In 2014, the Arizona Prevention Research Center of the University of Arizona, working through a cooperative agreement with the CDC, collected information from 1,767 CHWs from 45 states and four U.S. territories through the online National Community Health Worker Advocacy Survey.<sup>44</sup> This research project examined demographic information, training, work environment, job-related roles and activities, and target populations served. The voluntary, and potentially non-representative survey was distributed online to CHWs through local, state, and national organizations and was available in three different languages (English, Spanish, and Korean).

Results of the survey showed that CHWs were more likely to be female (89 percent) with an average age of 45. The range of self-reported race and ethnicity roughly matched the composition of the communities served. The most common self-identified race was white (23 percent), and 45 percent of CHWs identified their ethnicity as Hispanic. Almost all had a high school diploma or equivalent, 13 percent had no college, approximately two-thirds reported at least some college education, and 14 percent held a graduate degree.

Paid CHWs (60 percent of the sample) tended to be full-time workers, whereas volunteers worked an average of 12 hours per week. Excluding volunteers, income varied but mostly ranged between \$10-50,000 per year, and 78 percent reported having employer-sponsored health insurance. Site of employment varied greatly, with community-based sites (37 percent) the most common, followed by federally-qualified health centers (17 percent), hospitals (14 percent), local health departments (12 percent), and other clinics (10 percent). Consistent with medical literature and case studies, the survey found that most CHWs worked to deliver or promote preventive services (67 percent) although 36 percent reported working to increase access to health care services, and 24 percent reported working in areas related to mental and behavioral health. Many reported roles managing various common chronic diseases, such as cancer, cardiovascular disease, HIV infection, and diabetes.

Although known by a slightly different term, Community Health Representatives (CHRs) have served American Indian/Alaska Native communities in a manner similar to CHWs for several decades, and are supported by HHS through Indian Health Service (IHS) funds.<sup>45</sup> There are currently more than 1,700 CHRs representing 264 tribes.<sup>46,47,48</sup> The National Association of Community Health Representatives (NACHR) has representatives from twelve service areas who help to shape national policies for CHRs and to identify and disseminate promising practices.<sup>49</sup> A 2013 NACHR survey, similar to that performed by the Arizona Prevention Research Center, collected data on CHRs, with a subsequent report<sup>50</sup> describing many characteristics of the CHR workforce. The IHS provides training and technical assistance to the Indian, Tribal, and Urban Facilities who utilize CHR's across the twelve service areas. In the IHS publication *Trends in Indian Health* (2014 edition),<sup>51</sup> the three leading activities since 2007 for CHRs were case management (23 percent), health education (14 percent), and patient care services (15 percent). CHRs received over 1.7 million referrals from community contacts and providers during that period, providing about 5.7 million client contacts to address health concerns related to diabetes mellitus (15 percent), hypertension (10 percent), other health promotion/disease prevention (10 percent), heart problems (5 percent), nutrition (4 percent), dialysis (4 percent), and other health care needs.

It is notable that utilization of CHWs within health care systems has been far more extensive internationally than it has been in the United States.<sup>52,53</sup> In many other countries, CHWs are increasingly being integrated into community-based health care systems as paid, full-time health care workers. For example, the One Million Community Health Workers Campaign is training and deploying CHWs into the health systems of sub-Saharan Africa, and as many as 600,000 CHWs in India currently provide certain primary care services, such as vaccination, and are reimbursed for their work through a fee-for-service system. In parts of Europe and in Brazil, CHWs are integrated into health care teams providing maternal and child health care, mental health services, and chronic disease management.

### **Evidence on the Clinical Impact of CHWs**

In line with the far greater extent of CHW deployment seen in other countries, much of the evidence base demonstrating CHW effectiveness in improving health care outcomes has been established internationally.<sup>54</sup> HHS has conducted several reviews of the literature on the achieved outcomes, cost-effectiveness, and regulation of CHWs in the United States. These literature summaries and systematic reviews, performed or supported by CDC and AHRQ, seem

to suggest that CHWs provide highly context-dependent benefits – with the greatest advantages seen when CHWs deliver certain specific preventive services to low-income, minority, or other underserved populations. The findings from these efforts are briefly summarized below.

In 2009, AHRQ commissioned the RTI International–University of North Carolina Evidence-based Practice Center to perform a systematic review of the health literature on the outcomes, costs, and cost-effectiveness of CHW interventions.<sup>55</sup> This review concluded that, while large-scale evidence on CHW effectiveness in the U.S. is lacking, there are numerous smaller studies in the literature from state and local programs or that focused on specific patient populations. From the 68 identified studies, limited evidence favored CHW interventions over control groups or alternative approaches. However the clinical context of individual studies was deemed to be important, since the most encouraging findings were from interventions focusing on low-income, minority, or other underserved populations. Relatively positive outcomes were seen when CHWs facilitated delivery of certain specific preventive services (e.g., disease prevention, asthma management, cervical cancer screening with Pap smears, and mammography screening) but not others (e.g., clinical breast examination, breast self-examination, colorectal cancer screening, chronic disease management, and most maternal and child health interventions). Such studies commonly focused on specific health or cost-effectiveness outcomes related to integrating CHWs onto health care teams to help manage chronic diseases or to deliver preventive services. This review noted that the identified studies can be limited by inadequate power and a lack of rigorous research methodology. They often use non-quantitative approaches, have null findings, may be influenced by a Hawthorne effect, or are not easily comparable to each other due to differing approaches. Therefore, this review concluded that, without further research, methodological limitations make it difficult to draw definitive conclusions from the existing body of literature in order to inform policy decisions at a national level.

A CDC report in 2014 assessed and summarized the strengths and limitations of the evidence base behind a number of chronic disease policy interventions that included CHWs. From this, the CDC determined the potential for these interventions to inform future chronic disease policy decision-making (Appendix A).<sup>56</sup> The greatest potential was seen for CHW deployment onto interprofessional teams under provider supervision (nurse practitioners or physicians) for interventions focused on access, patient self-management, chronic disease management, cost reduction, and improved social outcomes. This was particularly true if CHWs were assisting patient groups with significant health disparities – such as those who were low-income, uninsured, or belonging to certain racial and ethnic minority groups (e.g., African American, Asian, Filipino, Bangladeshi, Vietnamese, and Hispanic populations).

Another CDC report summarized evidence around CHW interventions designed to prevent chronic diseases, particularly those which tend to be influenced heavily by socioeconomic factors – such as hypertension, diabetes, cancer, and asthma.<sup>57</sup> The clearest results were observed for patient education interventions focused on improving treatment adherence and self-management among specific patient groups based on age, race, or ethnicity. For example, there was some evidence that working with CHWs could be a cost-effective way to reduce symptoms of asthma in adolescents, for certain cancer patients to achieve more timely diagnosis and treatment, or for hypertensive patients to better adhere to medical appointments and prescribed medications.

In 2015, the CDC-supported Community Preventive Services Task Force systematically reviewed evidence from 31 research publications on prevention-focused CHW interventions targeting cardiovascular disease (CVD) risk factors, such as hypertension and dyslipidemia, in certain minority groups and underserved communities.<sup>58</sup> The Task Force determined that there was strong evidence across the literature base supporting the effectiveness of integrating CHWs into team-based care models, alongside physicians and nurses, to improve patient blood pressure and cholesterol levels. Some benefits were also observed for interventions focusing on health education, insurance outreach and enrollment activities, and in increasing patient health behaviors involving diet, exercise, and tobacco cessation. Little evidence was identified for CHWs improving outcomes related to health system navigation, decreasing costs, reducing hospital length of stay or readmissions, decreasing emergency room visits, or improving mortality.

### **Reimbursement**

Providing reimbursement for CHW services is an evolving and important policy area since lack of sustainable funding remains a significant challenge to the CHW occupation.<sup>59</sup> The short-term grants and contracts that currently support most CHW programs potentially create unstable work prospects because funding streams are vulnerable to changes in economics, politics, and agency strategies. Reimbursement for CHW services might additionally incentivize health care systems, provider groups, and health plans to recruit, use, and retain effective CHWs to improve the quality of care delivered to their served populations. Medicaid reimbursement for CHW services is currently possible through a few different mechanisms – including leverage of the January 2014 Centers for Medicare & Medicaid Services (CMS) final rule (CMS-2334-F) on Essential Health Benefits.<sup>60,61</sup> This rule gives states the new option to provide Medicaid reimbursement for preventive services recommended by, rather than provided directly by, a physician or other licensed practitioner. Hence, direct patient medical services can be furnished at the recommendation of a licensed provider by another health worker, such as a CHW, who may or may not be formally licensed by the state. As of November 2015, no states have completed this state plan amendment process to tap into this new reimbursement stream.

Additional Medicaid reimbursement mechanisms include capitation, direct reimbursement arrangements, waivers, and state support of administrative costs (see Appendix B for a more detailed discussion of this). Of these, capitation is likely the most promising as per-member, per-month payments to managed care health plans can be used to pay CHW salaries so long as this option is in accordance with the contract and both federal and state regulations.<sup>62</sup> Through direct reimbursement arrangements with a provider, community, or tribal organization, state Medicaid offices may opt to make CHWs a billable provider.<sup>63</sup> Such arrangements specify allowable reimbursement rates as well as the education, training, and certification requirements for providers. The CMS Center for Medicaid and CHIP Services (CMCS) may also match a percent of staffing and administrative expenses for state Medicaid offices and clinics to better achieve cost control, improve information technology infrastructure, and provide interpreter, outreach, and coordination services.<sup>64</sup> Some of these activities may include using CHWs. State-initiated waivers, such as those allowed under Section 1115 of the Social Security Act, provide opportunities for a state Medicaid program to pilot innovative, budget-neutral demonstration projects which include CHW and other services not traditionally covered by the program.<sup>65</sup> Many states are taking advantage of funding through “Delivery System Reform Incentive

Payment” (DSRIP) initiatives, a type of Section 1115 Waiver tied to performance metrics, to promote payment and system redesign which helps them achieve statewide population health goals.<sup>66</sup> Complementing this, CMS launched the Medicaid Innovation Accelerator Program in 2014 with the goal of supporting states’ efforts to fast-track reforms aimed at improving health care for Medicaid beneficiaries.<sup>67</sup> As opportunities such as DSRIP waivers and the Medicaid Innovation Accelerator Program help states move towards more integrated care for safety net populations across all delivery settings, this can be an impetus for states to consider incorporating CHWs into their health programs. And as new payment models continue to evolve toward capitated mechanisms for reimbursement or global payments, it may be less important for CHWs to be reimbursable as a provider type or as someone who provides a specified service.

### **Opportunities through the CMS Innovation Center**

The mission of the CMS Innovation Center is to foster health care transformation by developing and testing new models to pay for and deliver health services that can lower costs and improve care – and encouraging widespread adoption of models that achieve this.<sup>68</sup> As the focus of CHW services is often to help better manage chronic disease, improve care quality and outcomes, and decrease the overall cost of care, many care models being tested within the CMS Innovation Center demonstrations seek to leverage the strengths of CHWs. These workers are included in a number of State Innovation Model strategies (in CO, CT, DE, HI, IA, IL, MD, ME, MI, MN, OH, OR, and PA – see Appendix C) and in many of the demonstration projects that have been funded under the Center’s Health Care Innovation Awards (Appendix D).<sup>69,70,71,72</sup> It will be important to follow the outcomes of these funded initiatives to determine if CHW interventions help achieve the CMS Innovation Center’s goals, and if these health system strategies should be more widely disseminated across the nation.

### **Conclusions**

Health care delivery system reform efforts are stimulating movement away from traditional, fee for service-based reimbursement towards newer payment models that focus on value, quality, care coordination, and accountability. Integrating CHWs into care teams may be one potential strategy to further facilitate this transformation.<sup>73</sup> The literature suggests that CHWs may be helpful in achieving specific patient and population health goals in underserved communities with high rates of chronic disease and complex health needs. The integration of CHWs into a comprehensive care model shows some promise for improving health outcomes, particularly for interventions targeting vulnerable populations, by addressing health disparities concurrently with chronic disease prevention and management strategies. Although existing research remains limited, some evidence also suggests that using CHWs to provide health care services can be cost-effective. In addition, the patient navigation services that CHWs provide may make integration of these workers into care teams an appealing strategy for organizations and practices. Although the literature is promising overall, the variable and context-dependent outcomes seen in the U.S. to date make it difficult currently to justify broad, national policies to deploy CHWs into the health workforce and provide reimbursement for all of their services. Additional research is still needed to test and identify the most effective and economical ways that CHWs can be deployed, particularly where existing evidence is lacking or contradictory. Initiatives funded through the CMS Innovation Center may provide prototypic models for how to successfully deploy CHWs to achieve national public health aims. As promising practices for

CHW training and deployment are further identified, optimal approaches for integrating CHWs into the national health care workforce should become more evident, and CHWs may take on a more clearly defined role in health care delivery reform efforts.

## Appendix A: CDC Assessment of Policy Impact Potential for CHW Interventions

Category	Potential for Policy Impact*	Conclusions Drawn
<b>Use in Chronic Disease Management</b>	Best potential	Evidence supports that CHWs largely provide chronic disease care services, consistent with the IOM recommendation that CHWs be used in the prevention and control of chronic diseases <sup>74</sup> .
	Best potential	CHW interventions improve access to and use of care, patients' understanding of their condition and self-management, health status, and some social outcomes.
Settings for interventions	Best potential	Evidence supports the use of CHWs in urban, rural, clinical, community, emergency department, and regional settings.
Populations served	Best potential	Outcomes often best achieved for groups historically experiencing health disparities: low income; uninsured; and racial and ethnic groups (African American, Asian, Filipino, Bangladeshi, Vietnamese, and Hispanic populations).
Cost and cost-effectiveness	Best potential	Two studies found that interventions were low cost, one demonstrated cost-effectiveness (e.g., gains in Quality Adjusted Life Years compared with usual care) and two found Medicaid cost savings.
<b>Integration in Team-Based Care</b>	Best potential	A mix of evidence by credible sources, including the IOM and peer-reviewed journals, supported inclusion of CHWs in multidisciplinary health care teams by demonstrating improved health-related outcomes, particularly in clinic settings and for groups experiencing health disparities (low-income, uninsured, African American, Filipino, and Hispanic populations). Lower level evidence suggested this is a low-cost approach.
Supervision by a health care provider	Best potential	CHWs practicing under provider supervision (nurse practitioner or physician) resulted in cost savings and improvement in some health, patient self-management, chronic disease, and social outcomes—especially in community-based settings, an emergency department, and for patient groups with health disparities (low-income, uninsured, African American populations). However, supervision requirements could limit the benefit of Medicaid reimbursement for CHW interventions.
<b>Training and Certification</b>	Best potential	Some support from practice/theory and from peer-reviewed literature suggested that standardized core competency curricula and certification for CHWs, such as the various models at the state level, could cost-effectively improve chronic disease outcomes and promote a common base of professional knowledge among CHWs. However, other evidence suggested that this approach could limit CHW adaptability and potential to assist diverse populations.
<b>Reimbursement by Medicaid</b>	Best potential	Evidence suggested improvements in health and health equity-related outcomes when Medicaid reimbursed for CHW services, and improved health care access and reduced resource utilization and costs for high-level health care consumers in a regional Medicaid managed care intervention (New Mexico).
<b>Scope of Practice</b>	Promising	Three studies supported using certification standards for providing specialty health care services (e.g., for the treatment of specific diseases such as hypertension), showing that these improved health-related outcomes. These studies were run in various settings and focused on patient groups with health disparities (low-income and African American populations). One intervention resulted in a large cost savings.
<b>Reimbursement by Private Insurance</b>	Emerging	Evidence suggested that some private insurers cover and reimburse CHW services, which could help support CHW interventions, although little evidence suggested this improved health-related outcomes.
<b>Educational Campaigns to Support Integration</b>	Emerging	Limited evidence from practice and theory, largely by nonprofit and government organizations, supported use of educational campaigns to promote integration of CHWs and increase acceptance into the health care system.
<b>Grants to Support Integration</b>	Emerging	Limited evidence suggested grants and other financial incentives to promote the CHW workforce and support its development could lead to enhanced CHW interventions, broadening of their reach, and improving health outcomes.

\*The CDC assessed strength of the evidence base by using the Quality and Impact of Component (QuIC) Evidence Assessment method,<sup>75</sup> which categorizes research and practice sources of both empirical and non-empirical support for a policy area on a continuum of Emerging, Promising Impact, Promising Quality, and Best to suggest potential impact.

## Appendix B: Opportunities for CHW Service Reimbursement through Medicaid

Mechanism	Approach	State Example
<b>Essential Health Benefits – Preventive Services Rule</b>	In January 2014, CMS issued a final rule (CMS-2334-F) <sup>76,77</sup> giving states a new option to provide Medicaid reimbursement for preventive services <i>recommended by</i> , rather than <i>provided directly by</i> , a physician or other licensed practitioner. Hence, direct patient services can be furnished at the recommendation of a licensed provider by another health worker, such as a CHW, who may or may not be formally licensed by the state. The preventive benefit at 42 CFR 440.130(c) requires providers to furnish direct medical care for the express purpose of diagnosing, treating or preventing illness, injury or other impairments to an individual's physical or mental health, and that is directed at the patient rather than at the patient's environment.	States electing this option must submit a State Plan Amendment (SPA) to the Center for Medicaid and CHIP Services (CMCS) specifying what direct medical patient services they propose to cover, what providers will furnish these services, the required education/training, credentialing, and licensure of these providers; and the reimbursement methodology. As of November 2, 2015, no state had submitted an SPA to reimburse for CHW services. <sup>78</sup>
<b>Direct Reimbursement Arrangements</b>	Although some private insurance policies may directly reimburse for CHW services, this is uncommon in Medicaid. However, state Medicaid offices may opt to develop a direct reimbursement arrangement with a provider, community, or tribal organization, making a CHW a billable provider. <sup>79</sup> Such arrangements specify allowable reimbursement rates as well as the education, training, and certification requirements for providers.	The Minnesota legislature passed a law in 2007 allowing Medicaid reimbursement for CHW health education services provided under supervision of a Medicaid-approved physician or advanced practice nurse. <sup>80,81</sup> CHWs must first earn a certificate from an accredited post-secondary school offering the state-approved curriculum. CMCS approved an SPA authorizing these payments. Minnesota later expanded supervisory requirements to include government public health nurses and dentists. CMCS approved both changes.
<b>Capitation</b>	A state Medicaid office, through a Medicaid Managed Care Organization (MCO), may pay a capitated (per-member/per-month) amount to a health plan employing CHWs directly, or a contracted amount to a community-based organization employing CHWs, who in turn pay the CHWs' salaries so long as this is in accordance with the contract and both federal and state regulations. <sup>82</sup> Federal regulations don't allow CMS to recognize CHWs as a provider qualifying for direct service reimbursement, but also don't prohibit CHW employment. <sup>83</sup>	Medicaid Managed Care serves up to 70 percent of all Medicaid enrollees nationally and aims to manage costs, utilization, and quality by delivering health services through contracted arrangements. <sup>84</sup> Health Plus, a large MCO in New York City, utilizes CHWs to deliver targeted outreach, provide community-based education, perform health risk assessments, make referrals to case managers, schedule/facilitate appointments (e.g., prenatal and well-child visits), assist in targeted clinical interventions, and offer home visits and emergency department follow-up. <sup>85,86</sup>
<b>Waivers and Other Statutory Authorities</b>	Under Section 1115 of the Social Security Act, the HHS Secretary can approve a state Medicaid program pilot for an innovative, budget-neutral demonstration project promoting CMCS objectives but providing services not traditionally covered, expanding coverage eligibility, or able to improve care or lower costs. <sup>87</sup> Other Medicaid waiver options and statutory authorities include Delivery System Reform Incentive Payment (DSRIP) waivers, <sup>88</sup> Section 1915(b) Managed Care Waivers, Section 1915(c) Home- and Community-Based Services Waivers, <sup>89</sup> the Enhanced Prenatal Benefit (42 CFR §440.250), Targeted Case Management (42 CFR §440.169 and 42 CFR §441.18), <sup>90</sup> and Section 1945 of the Affordable Care Act (Health Home State Plan Option). <sup>91</sup>	Through a Section 1115 waiver initially approved by CMCS in 1999 and after three years of already functioning through state program funding, California expanded Medicaid services statewide through the Family PACT (Planning, Access, Care and Treatment) Program. Through this program, CHWs provide family planning services to 1.8 million low-income Californians today. <sup>92,93</sup>
<b>State Support of Administrative Costs</b>	Since 2005 CMCS has matched 50-75 percent of state Medicaid administrative expenses related to staffing/operating state Medicaid offices and clinics to better achieve cost control, improve information technology infrastructure, and provide interpreter, outreach, and coordination services – some activities may include using CHWs. <sup>94</sup>	The Blue Ridge Area Health Education Center (AHEC) in Virginia's Shenandoah Valley employs bilingual CHWs as health care interpreters, with up to 40 percent of administrative costs (i.e., worker salaries but not interpreter costs) reimbursable by state Medicaid. Their <i>Promotores de Salud</i> program has trained over 200 Spanish-speaking lay health promoters to work with members of the local community. <sup>95,96</sup>

## Appendix C: CMS Innovation Center – State Innovation Model Test Awards

<p><b>State Innovation Model Test Awards: Round One (6 states: AR, ME, MA, MN, OR, VT)</b></p> <p>Over \$250 million in Model Test awards is supporting six states to implement their State Health Care Innovation Plans: proposals that describe a state’s strategy to use all of the levers available to it to transform its health care delivery system through multi-payer payment reform and other state-led initiatives.  Source: <a href="http://innovation.cms.gov/initiatives/State-Innovations-Model-Testing/index.html">http://innovation.cms.gov/initiatives/State-Innovations-Model-Testing/index.html</a></p>	
<b>SIM state</b>	<b>CHW component of demonstration project</b>
<b>Arkansas</b>	Arkansas has a health workforce goal of defining requirements for care coordinators, including the number and geographic distribution, skills and training curricula. The state is focusing on five core characteristics of successful population-based care, including team-based care coordination. Multi-disciplinary teams, including primary care providers, care coordinators, and support services providers, will collaborate to improve care planning, diagnosis, treatment, patient coaching to ensure treatment adherence, and management through transitions of care. Teams will extend their reach beyond the walls of the hospital or physician’s office to include pharmacists, social workers, and others.
<b>Maine</b>	Maine will pilot a community health worker (CHW) model designed to leverage existing community connections to address the population health needs of underserved populations.
<b>Massachusetts</b>	Massachusetts will use a Comprehensive Primary Care Payment (CPCD) model that would give practices added flexibility to provide the right kind of care at the right time and in the right setting. This payment model may support expanding the care team, offering phone and email consultations, allowing group appointments, targeting appointment length to patient complexity, leveraging community health workers, etc., while allowing a range of primary care practice types and sizes to participate and to operationalize behavioral health integration.
<b>Minnesota</b>	Minnesota will be piloting the concept of Accountable Communities for Health (ACHs) – and will implement population-based prevention strategies and integrate care across the spectrum of health care and social services through development of multi-disciplinary teams, which may include emerging professions such as community health workers, community paramedics, and dental therapists. ACHs will empower and involve citizens to set measurable and measured community-based goals for improved population health, health care and cost management, and take specific steps to achieve those goals.
<b>Oregon</b>	Oregon’s Coordinated Care Model is expressly intended to change how health care services are delivered with a strong focus on primary and preventive care and more effective care management, especially across transitions of care, and on integration of physical and behavioral health services, as well as better coordination with non-coordinated care organization services such as long-term support services and intellectually and developmentally disabled services. Patient-centered primary care homes; proactive, collaborative care planning; ongoing community health needs assessments; evidence-based practices; health information technology and broader use of non-traditional health care workers (e.g., community health workers, peer wellness specialists) are key strategies that Oregon’s model are expected to use to improve health and reduce health disparities. The state plans to establish systems for training certifying non-traditional health workers, and plans to certify 300 new community health workers by December 2015.
<b>Vermont</b>	Vermont has developed and implemented the nationally recognized multi-payer Blueprint for Health, which is supported in part by the Center for Medicare and Medicaid Innovation’s Multi-payer Advanced Primary Care Practice (MPAPC) demonstration project. This includes extended community health teams, including the Medicaid care coordinators that are part of the Vermont Chronic Care Initiative, Support and Services at Home (SASH). These initiatives will continue to be advanced to reach specific state-defined care coordination targets.
<p><b>State Innovation Model Test Awards: Round Two (11 states: CO, CT, DE, ID, IA, MI, NY, RI, OH, TN, WA)</b></p> <p>The State Innovation Models Initiative Model Test Awards will provide financial and technical support over a four-year period for states to test and evaluate multi-payer health system transformation models. States must produce and implement a detailed and fully developed proposal capable of creating state-wide health transformation for the majority of care within the state.  Source: <a href="http://innovation.cms.gov/initiatives/State-Innovations-Model-Testing-Round-Two/index.html">http://innovation.cms.gov/initiatives/State-Innovations-Model-Testing-Round-Two/index.html</a></p>	
<b>SIM state</b>	<b>CHW component of demonstration project</b>

<b>Colorado</b>	Colorado is developing standard, consensus-based criteria for community health workers and patient navigators that will support both professionals and training programs. The Colorado Department of Public Health and Environment will require funds to support initiatives and infrastructure related to population health. These funds will cover personnel who will be tasked with overseeing the establishment of a state certification program for community health workers and patient navigators.
<b>Connecticut</b>	Connecticut plans to develop training and certification standards for Community Health Workers to help ensure that CHWs with common core competencies become an integral part of the health care workforce.
<b>Delaware</b>	Delaware will complement the care delivery and payment innovations with a new approach to population health that puts Delaware on a path to be one of the top five healthiest states in the nation. The core innovation is the “Healthy Neighborhoods” model, which integrates communities with their local care delivery systems, and better connects community resources with each other. Integration will be achieved through dedicated staff and a Neighborhood Council of community organizations, employers, and providers (including care coordinators and community health workers who lead care coordination in the community and across clinical settings). These connections will be reinforced with a set of common goals to ensure providers and community organizations share a focus on health, wellness, prevention, and primary care.
<b>Idaho</b>	Idaho’s model maximizes the use of the existing health care workforce by adopting a team-based model of care that allows each practitioner to practice at the top of their licensure. Using this approach, PCMHs will be led by physicians, nurse practitioners, or physician assistants under the supervision of a physician. Some Idaho communities are so severely under-resourced that they are unable to provide team-based care within the primary care setting. In these underserved areas, two practitioner types — community health workers (CHWs) and community health emergency medical services (EMS) personnel — will be developed and advanced as key components of PCMH team-based care. Idaho’s unique PCMHs will be “virtual PCMHs,” as the team working together to provide coordinated primary care will be staffed across multiple agencies in the community or region.
<b>Iowa</b>	In Iowa, local public health agencies will provide resources and collaborate with the delivery system through a community health worker/care coordination model. Iowa proposes to “leverage and spread existing community transformation initiatives focused on the social determinants of health,” which will include the utilization of CHWs to increase access to care and to improve care coordination. Community Care Teams will act as a platform to connect the delivery system to resources available in the community and mitigate access to care challenges resulting from medical provider shortages. Teams will include social workers, pharmacists, community health workers, nurses, and others.
<b>Michigan</b>	A Michigan advisory committee, including State innovation leadership, assembled in 2013 to conduct a systematic review of Michigan’s Public Health Code. A primary objective of updating the Code is to verify that health care professionals practice at the top of their training and licensure, and to review the overall licensing scheme for emerging health professions while being attentive to the goal of avoiding unnecessary regulation. A policy objective is to incorporate non-traditional professions, such as Community Health Workers, into service coordination while also supporting standards for the training and skill sets of these occupational groups so that their outcomes can be measured.
<b>New York</b>	New York’s Advanced Primary Care model will be structured to support integrated delivery systems that link with NY’s model health home program and with community-based providers that support health through services such as housing, transportation and employment.
<b>Ohio</b>	Ohio currently participates in Home and Community Based Services waiver programs to promote community based care. Specific waivers focus on the aged, individuals with disabilities, and those with developmental disabilities. These segments are among the most in need of specialized care coordination. Ohio will tailor PCMH and episode-based payments design to transform care for these populations, coordinating model design with existing programs where appropriate. Ohio will align incentives, loans, and loan repayment policies to encourage primary care and PCMH participation and also align workforce priorities. For example, licensure boards in eligible disciplines provide matching funds for the State Loan Repayment Program grant in order to support additional primary team members. These disciplines include physician assistants, nurse practitioners, certified nurse midwives, psychiatric nurse specialists, health service psychologists, licensed professional counselors, licensed clinical social workers, marriage and family therapists and registered dental hygienists, pharmacists, and community health workers.
<b>Rhode Island</b>	Rhode Island’s Community Health Worker definition is unclear and awareness of their existence and function is low among providers. The state plans to develop uniform credentials and license requirements for CHWs, integrate services within the PCMH model, include CHWs in provider directories, ensure awareness around CHWs among care teams, develop a clear career path and opportunities for people with this credential, and create a pool of workers to support the expansion of value-based care.
<b>Tennessee</b>	In Tennessee, practices will promote better population health by shifting the focus of care towards prevention, health maintenance, and proactive management of chronic

	conditions. Patient Centered Medical Homes (PCMHs) will reward providers for addressing the social and behavioral determinants of health such as discussing environmental asthma triggers with parents, connecting tobacco users to the Tennessee Tobacco Quitline, and connecting patients to community social services. CHWs are not directly referred to in the state's innovation plan.
<b>Washington</b>	Building on Washington's broad scope and authority for its workforce, the state's innovation project will specifically focus on non-traditional workforce growth for community health workers including peer support specialists. Over the duration of the project, regulatory and legislative action also will be pursued to normalize and expand the reach of tele-medicine into health professional shortage areas. Finally, real-time, rapid assessment and dissemination of key health care employer and labor projections will inform workforce supply planning.

## Appendix D: CMS Innovation Center – Health Care Innovation Awards

Health Care Innovation Awards Round One: Awarded Projects	
<p>The CMS Innovation Center announced the first batch of awardees for the Health Care Innovation Awards on May 8, 2012 and the second (final) batch on June 15, 2012. These organizations will implement projects that aim to deliver better health, improved care, and lower costs to people enrolled in Medicare, Medicaid, and the Children's Health Insurance Program (CHIP), particularly those with the highest health care needs. Funding for these projects is for three years. The proposed/estimated 3 Year Savings should be viewed with caution as this is based on award recipients' initial applications, and the actual savings realized from finalized projects has not yet been determined.</p> <p>Source: <a href="http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/Project-Profiles.html">http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/Project-Profiles.html</a></p>	
Grant recipient	CHW component of project
<p><b>BEN ARCHER HEALTH CENTER</b>            Project Title: "A home visitation program for rural populations in Northern Dona Ana County, New Mexico"            Geographic Reach: New Mexico            Funding Amount: \$1,270,845            Proposed/Estimated 3-Year Savings: \$6,352,888</p>	<p>Using nurse health educators and community health workers to bridge the gap between patients and medical providers, aid patient navigation of the health care system, and offer services including case management, medication management, chronic disease management, preventive care, home safety assessments, and health education, thereby preventing the onset and progression of diseases and reducing complications.</p>
<p><b>CHILDREN'S HOSPITAL AND HEALTH SYSTEM, INC.</b>            Project Title: "CCHP Advanced Wrap Network"            Geographic Reach: Wisconsin            Funding Amount: \$2,796,255            Estimated 3-Year Savings: \$2,851,266</p>	<p>Children's Hospital and Health System received an award to create Care Links, which will support members of Children's Community Health Plan (CCHP), the system's Medicaid HMO in Southeast Wisconsin, as they navigate the health care system. Care Links will allow community health navigators to educate and empower health plan members to navigate the health care system, connect with a primary care doctor and receive preventive care and appropriate screenings. Community health navigators will offer services to individuals and families who have had two ER visits within six months. A nurse navigator will work with health plan members diagnosed with asthma who have had one ER or one inpatient stay related to asthma. Both the community navigators and the nurse navigator will reinforce the availability of urgent care and CCHP's 24/7 nurse advice line. The goal of Care Links is to reduce avoidable ER visits, improve health outcomes (specific HEDIS measures) and reduce cost. Over the three year period, Children's Hospital and Health System will create nine jobs, including a program manager, community health navigators and nurse navigators.</p>
<p><b>COOPER UNIVERSITY HOSPITAL</b>            Project Title: N/A            Geographic Reach: New Jersey            Funding Amount: \$2,788,457            Estimated 3-Year Savings: \$6.2 million</p>	<p>Will train an estimated 22 health care workers, while creating an estimated 16 new jobs. These workers will include non-clinical staff, like AmeriCorps volunteers and community health workers, who will serve as part of the multidisciplinary teams to support care coordination activities.</p>
<p><b>DUKE UNIVERSITY/SOUTH EAST DIABETES INITIATIVE</b>            Project Title: From clinic to community: achieving health equity in the southern United States            Funding Amount: \$9,773,499            Estimated 3 Year Savings: \$20.8M</p>	<p>Uses risk algorithms (social and clinical) and geospatial software to target "hot spot" communities within 4 counties in NC, MS, and WV in need of intensive Type 2 Diabetes care; delivers enhanced, coordinated, patient-centered team care (including home visits) to High risk, telephonic interventions to Medium and community based programs to Low risk groups) provided by local care teams, including extensive use of CHWs.</p>
<p><b>EAU CLAIRE COOPERATIVE HEALTH CENTERS, INC.</b>            Project Title: "Healthy Columbia: recruiting, training, organizing, deploying, and supporting community health teams in low income area of Columbia, South Carolina"            Geographic Reach: South Carolina</p>	<p>Eau Claire Cooperative Health Centers, Inc., in partnership with the Select Health and BlueChoice Medicaid Managed Care Organizations, is receiving an award for a project aimed at improving health outcomes for populations in underserved, low-income areas of Columbia, South Carolina. Eau Claire will use health care teams of nurse practitioners, registered nurses, and community health workers affiliated with a Federally Qualified Health Center to provide patient education, home visits,</p>

<p>Funding Amount: \$2,330,000 Estimated 3-Year Savings: \$14,817,600</p>	<p>and care coordination, leading to reduced use of high cost health care services, including emergency room visits and hospitalizations, improved self-management for patients with chronic conditions, a decrease in low birth weight infant care, and improved health outcomes in general. Payers have agreed to reimburse a portion of cost savings. Over a three-year period, Eau Claire Cooperative Health Centers will create an estimated 22 health care-related jobs, including positions for peer health workers, registered nurses, Nurse Practitioners, and a project director.</p>
<p><b>FINITY COMMUNICATIONS, INC.</b> Project Title: "Every/BODY Get Healthy?" Geographic Reach: Pennsylvania Funding Amount: \$4,967,962 Estimated 3-Year Savings: \$8.7 million</p>	<p>The Finity Communications, Inc. model is designed to improve health care for over 120,000 high-need Medicaid beneficiaries in the Greater Philadelphia area. The innovation uses health analytics technology to track risk criteria and update integrated health profiles, and to deploy targeted alerts, outreach, wellness, and support services in a closed-loop environment that evolves with successful behavioral change. The innovation includes providing Peer Mentors to support ongoing engagement and healthy behavioral change. This integrated approach to health care is expected to reduce the gaps in care and lead to improved health care, better health, and reduced costs for individuals with diabetes, heart disease, hypertension, asthma, and high-risk pregnancy.</p>
<p><b>FIRSTVITALS HEALTH AND WELLNESS INC.</b> Project Title: Improving the health and care of low-income diabetics at reduced costs 3 Year Funding Amount: \$3,999,713 Estimated 3 Year Savings: \$4,829,955</p>	<p>Partnering with AlohaCare, a large health plan in Hawaii with 70,000 Medicaid members, FirstVitals reaches out and engaging hard to reach patients with diabetes who already have neuropathy (determined through a device known as a DPN-Check,) which indicates poor control. Uses technology, such as a wireless glucometer to monitor patients with diabetes, tablets to keep them informed and socially networked and deploys Integrated Care Coordinators (similar to CHWs) to improve diabetes management for target population.</p>
<p><b>FOUNDATION FOR CALIFORNIA COMMUNITY COLLEGES</b> Project Title: "Transitions clinic network: linking high-risk Medicaid patients from prison to community primary care" Geographic Reach: Alabama, California, Connecticut, District of Columbia, Maryland, Massachusetts, New York, Puerto Rico Funding Amount: \$6,852,153 Estimated 3-Year Savings: \$8,115,855</p>	<p>Targeting eleven community health centers (in six states, the District of Columbia, and Puerto Rico), and working with the Department of Corrections to identify patients with chronic medical conditions prior to release. Will use community health workers trained by the City College of San Francisco to help these individuals navigate the health care system, find primary care and other medical and social services, and coach them in chronic disease management. The outcomes will include reduced reliance on emergency room care, fewer hospital admissions, and lower cost, with improved patient health and better access to appropriate care.</p>
<p><b>HEALTH RESOURCES IN ACTION</b> Project Title: "New England asthma innovations collaborative" Geographic Reach: Connecticut, Massachusetts, Rhode Island, Vermont Funding Amount: \$4,040,657 Estimated 3-Year Savings: \$4.1 million</p>	<p>Rapid service delivery expansion for over 1300 high-risk children with asthma in Connecticut, Rhode Island, Massachusetts, and Vermont. NEAIC employs the following components of care: 1) Asthma self-management education 2) Home environmental assessment with the provision of minor-to-moderate environmental intervention supplies to reduce asthma triggers; and 3) Use of non-physician providers shown to be cost-effective deliverers of this level of care, particularly community health workers (CHWs) and certified asthma educators (AE-Cs).</p>
<p><b>JOHNS HOPKINS UNIVERSITY</b> Project Title: "Johns Hopkins Community Health Partnership (J-CHHP)" Geographic Reach: Maryland Funding Amount: \$19,920,338 Estimated 3-Year Savings: \$52,600,000</p>	<p>Over a three-year period, will train and hire more than 75 new health care workers, including nurse educators, nurse transition guides, case managers, community health workers, and health behavior specialists (and will retrain care coordinators, patient access line case managers, clinical pharmacy specialists, community health workers, and physicians already on staff) to increase access to services for high-risk adults in East Baltimore, MD – especially those with chronic illness, mental illness, and/or substance abuse conditions. The intervention improves care coordination across the continuum and comprises early risk screening, interdisciplinary care planning, enhanced medication management, patient/family education, provider communication, post-discharge support and home care services, including self-management coaching, and improved access to primary care.</p>
<p><b>JOSLIN DIABETES CENTER, INC.</b></p>	<p>Expands a diabetes education program, known as "On the Road" delivered by Community Health</p>

<p>Project Title: "Pathways to better health through a new health care workforce and community"</p> <p>Geographic Reach: District of Columbia, New Mexico, Pennsylvania</p> <p>Funding Amount: \$4,967,276</p> <p>Estimated 3-Year Savings: \$7.4 million</p>	<p>Advocates (similar to CHWs) and health educators, working with Cooperative Extension Services in PA, NM, and testing this approach with an urban population, through an inner city hospital in DC. They met their target goal of 5100 participants with diabetes, pre-diabetes or family members (primarily Medicare and Medicaid beneficiaries), with goal of preventing or better managing diabetes.</p>
<p><b>LE BONHEUR COMMUNITY HEALTH AND WELL BEING</b></p> <p>Project Title: "Le Bonheur's CHAMP Program: Changing High-risk Asthma in Memphis through Partnership"</p> <p>Geographic Reach: Memphis and Shelby County, Tennessee</p> <p>Funding Amount: \$2,896,416</p> <p>Estimated 3-Year Savings: \$4,003,397</p>	<p>The Community Coordination team, comprised of two Asthma Care Coordinators and 4 Community Health Workers who are supervised by a Licensed Clinical Social Worker, provides asthma education, environmental assessment, coordination with schools and child care, and provides help with barriers to asthma management.</p>
<p><b>MICHIGAN PUBLIC HEALTH INSTITUTE</b></p> <p>Project Title: "Michigan pathways to better health"</p> <p>Geographic Reach: Michigan</p> <p>Funding Amount: \$14,145,784</p> <p>Estimated 3-Year Savings: \$17,498,641</p>	<p>Implements the Pathways Innovation through the "Pathways Community Hub" and elements of the Collective Impact models (e.g., backbone organizations,) integrating community health workers (CHWs) into primary care teams in MI, (Ingham, Saginaw and Muskegon Counties) by assessing at risk adults with 2 or more chronic diseases; designing a value based payment model for CHWs. CHWs coach patients on chronic disease self-management and connect at-risk populations with care and support services that address social determinants of health, such as primary care, housing, food, and transportation, as well as their clinical and mental health needs.</p>
<p><b>THE NATIONAL HEALTH CARE FOR THE HOMELESS COUNCIL</b></p> <p>Project Title: "Community health workers and HCH: a partnership to promote primary care"</p> <p>Geographic Reach: California, Illinois, Massachusetts, Nebraska, New Hampshire, North Carolina, Ohio, Texas</p> <p>Funding Amount: \$2,681,877</p> <p>Estimated 3-Year Savings: \$1.5 million</p>	<p>Working with twelve communities across various regions in the U.S. to reduce the number of emergency department visits and lack of primary care services for over 500 homeless individuals. The intervention integrates community health workers into Federally Qualified Health Centers to conduct outreach and case coordination for transitioning this population from the emergency department to a health center, thus reducing unnecessary emergency department visits and improving quality of care for the homeless population.</p>
<p><b>NEMOURS ALFRED I. DUPONT HOSPITAL FOR CHILDREN</b></p> <p>Project Title: "Optimizing health outcomes for children with asthma in Delaware"</p> <p>Geographic Reach: Delaware</p> <p>Funding Amount: \$3,697,300</p> <p>Estimated 3-Year Savings: \$4,743,184</p>	<p>The intervention will increase coordination of services by integrating care with community support services and local government initiatives to provide healthier environments for children with asthma in schools, child care centers, and housing, and by deploying community health workers to serve as patient navigators and provide case management services to families with high needs.</p>
<p><b>RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY (THE CENTER FOR STATE HEALTH POLICY)</b></p> <p>Project Title: "Sustainable high-utilization team model"</p> <p>Geographic Reach: California, Colorado, Missouri, Pennsylvania</p> <p>Funding Amount: \$14,347,808</p> <p>Estimated 3-Year Savings: \$67,719,052</p>	<p>Will expand and test a team-based care management strategy for high-cost, high-need, low-income populations served by safety-net provider organizations in Allentown, PA, Aurora, CO, Kansas City, MO, and San Diego, CA. The project will use integrated care management teams (including nurses, social workers, and community health workers) to provide clients with patient-centered support that addresses both health care needs and the underlying determinants of health. Teams will assist patients in managing chronic illness, including filling prescriptions and coordinating appropriate specialty care, in addition to addressing social service needs such as identifying stable housing, applying for health coverage or disability benefits and facilitating transportation arrangements.</p>
<p><b>UNIVERSITY EMERGENCY MEDICAL SERVICES</b></p> <p>Project Title: "Better health through social and health care linkages beyond the emergency department"</p> <p>Geographic Reach: New York</p> <p>Funding Amount: \$2,570,749</p>	<p>Is deploying community health workers to work with Frequent emergency department (ED) utilizers and meaningfully link them to primary care, social and health services, education, and provide health coaching. The program targets 2,300 Medicare and Medicaid beneficiaries who have had two or more emergency department visits over 12 months in urban Buffalo, New York.</p>

<p>Estimated 3-Year Savings: \$6.1 million</p> <p><b>UNIVERSITY OF CHICAGO</b></p> <p>Project Title: “CommunityRx system: linking patients and community-based service”</p> <p>Geographic Reach: Illinois</p> <p>Funding Amount: \$5,862,027</p> <p>Estimated 3-Year Savings: \$6.4 million</p>	<p>The University of Chicago Urban Health Initiative in partnership with Chicago Health Information Technology Regional Extension Center (CHITREC) and the Alliance of Chicago Community Health Services received an award to develop the CommunityRx system, a continuously updated electronic database of community health resources that will be linked to the Electronic Health Records of local safety net providers. In real time, the system will process patient data and print out a “HealthRx” for the patient, including referrals to community resources relevant to the patient’s condition and status. Aggregated data on patient diagnoses and referrals will be used to generate CommunityRx reports for community-based service providers to use to inform programming. The program will serve over 200,000 patients on the South Side of Chicago most of whom are Medicare, Medicaid and CHIP beneficiaries. The CommunityRx system will train and create new jobs for a combined total of over 200 individuals from this high-poverty, diverse community. This includes high school youth who will collect data on community health resources as part of the Urban Health Initiative’s MAPSCorps program. It will also include the creation of a new type of health worker, Community Health Information Experts (CHIEs), who will assist patients in using the HealthRx and engage community-based service providers in meaningful use of the CommunityRx reports. The CommunityRx builds on infrastructure supported by ARRA funding from the National Institute on Aging. Anticipated outcomes include better population health, better use of appropriate services, increased compliance with care, and fewer avoidable visits to the emergency room with estimated savings of approximately \$6.4 million.</p>
<p><b>UNIVERSITY OF MIAMI</b></p> <p>Project Title: “Expanded activities of school health initiative”</p> <p>Geographic Reach: Florida</p> <p>Funding Amount: \$4,097,198</p> <p>Estimated 3-Year Savings: \$5,620,017</p>	<p>Goal to improve care and access to care for children in four communities in the Miami-Dade County area who have health problems that include asthma, obesity, type II diabetes, and STDs. This intervention has resulted in an expansion of services and utility of school-based health clinics, increased collaboration with other care providers, services, and school-health stakeholders, and enhanced usage and sharing of health information technology. A team-based approach is being utilized to improve care and quality of services. This approach incorporates community health workers, nursing assistants, and dental hygienists while taking advantage of telehealth opportunities. The program will lower cost through preventive and more appropriate care and increase access to care, services, and benefits.</p>
<p><b>Health Care Innovation Awards Round Two: Awarded Projects</b></p> <p>The CMS Innovation Center announced the first batch of prospective recipients for the Health Care Innovation Awards Round Two on May 22, 2014 and the second batch on July 9, 2014. The cumulative 39 awards are being implemented in 27 states and the District of Columbia spanning a wide range of patient populations, from children to the elderly, across the care continuum. The Health Care Innovation Awards Round Two are funding up to \$1 billion in awards and evaluation to applicants across the country that test new payment and service delivery models that will deliver better care and lower costs for Medicare, Medicaid, and/or CHIP enrollees.</p> <p>Source: <a href="http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/Round-2.html">http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/Round-2.html</a></p>	
<p><b>Grant recipient</b></p> <p><b>CHILDREN’S HOME SOCIETY OF FLORIDA</b></p> <p>Project Title: Improving child well-being through integrating care in a community school setting</p> <p>Geographic Reach: Florida</p> <p>Estimated Funding Amount: \$2,078,295</p>	<p><b>CHW component of project</b></p> <p>Will implement a medical home for students, families, teachers and the community at the Wellness Cottage at Evans High School, which aims to reduce Emergency Department and inpatient utilization, increase sexually transmitted disease awareness, and address food insecurities and traumatic stress. Four community partners including Children’s Home Society of Florida (child welfare/behavioral health), the University of Central Florida, Orange County Public Schools and Central Florida Family Health Center will operate the Wellness Cottage, a hub for health, social, behavioral health, parental support, and after-school activities. The Central Florida Family Health</p>

	<p>Center will provide onsite primary care. Health risk assessments will inform health promotion activities. Student health ambassadors will promote healthy lifestyles. Community health workers will help parents remove barriers to care. The University of Central Florida will provide social work, nursing, and medical interns. Primary Health Maintenance Organizations will facilitate access to the clinic and assist in evaluating health costs. Programs and services targeting wellness will be available in the school and community.</p>
<p><b>CLIFFORD W. BEERS GUIDANCE CLINIC, INC.</b>                  Project Title: New Haven WrapAround                  Geographic Reach: Connecticut                  Estimated Funding Amount: \$9,739,427</p>	<p>Will deliver evidence-based, culturally-appropriate integrated medical, behavioral health, and community-based services coordinated by a multidisciplinary Wraparound Team. Services include: 1) family engagement, recruitment, and education provided by trained community health workers in community-based settings; 2) multidisciplinary triage, screening, and assessment conducted by the Wraparound Team and including assessments of each family's physical, behavioral, and psychosocial risks, needs, and strengths; 3) family-focused care plans developed with the family, family supports, and the Wraparound Team and used to guide care and interventions; 4) care coordination provided by a Wraparound Team and focused on coordinating the provision of appropriate care across multiple care settings, managing care transitions, reconciling and managing medications, and coordinating access to crisis support and wellness and social support services; and 5) wellness and social support services provided at the hubs and at community-based organizations to address chronic and toxic stress (e.g., smoking cessation, parenting courses, diabetes prevention, meditation). The model focuses on high-need families, addresses medical and behavioral health care needs, integrates services across multiple health care institutions, and addresses the "chronic and toxic stress" experienced by the target population families.</p>
<p><b>GEORGE WASHINGTON UNIVERSITY</b>                  Project Title: PREVENTION AT HOME: A Model for Novel use of Mobile Technologies and Integrated Care Systems to Improve HIV Prevention and Care While Lowering Cost                  Geographic Reach: Washington D.C.                  Estimated Funding Amount: \$23,808,617</p>	<p>Will test a model that will utilize mobile technologies and optimize the prevention and care continuum (early detection, treatment adherence, retention in care, viral load suppression, decreased hospitalizations) for HIV+ individuals. Will bring together a consortium of stakeholders including community outreach organizations, clinical care systems, a hospital, a managed care organization, the DC Department of Health, and DC Medicaid to share integrated IT systems. Together these systems will provide Medicaid members with the ability to receive online education, the option of ordering home testing and home specimen collection for sexually transmitted infections and HIV, receive sexually transmitted infection and viral load test results, receive e-prescriptions and support linking and relinking to care. Additionally, the systems will provide community health workers (CHW) with a mobile tool to collect recruitment data, to guide counseling, testing and linkage services, and will provide CHW with a list of active patients to provide care coordination who have detectable viral load, missed clinic visits, missed medication refills, emergency room visits or hospitalizations.</p>
<p><b>THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK</b>                  Project Title: MySmileBuddy™: Demonstrating the Value of Technology-assisted Non-surgical Care Management in Young Children                  Geographic Reach: New York                  Estimated Funding Amount: \$3,870,446</p>	<p>Will test a model that uses family-level, peer-counseled, and technology-assisted behavioral risk reduction strategies, aims to divert children with early- and advanced-stage early childhood caries (ECC) from high-cost surgical dental rehabilitation (DR) to low-cost non-surgical disease management (NSDM). Together, parents and community health workers (CHWs) will use MySmileBuddy (MSB), a mobile tablet-based health technology, to plan, implement, and monitor positive oral health behaviors, including dietary control and use of fluorides, which arrest ECC's progression.</p>

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