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### Policy Evidence Assessment Report: Community Health Worker Policy Components

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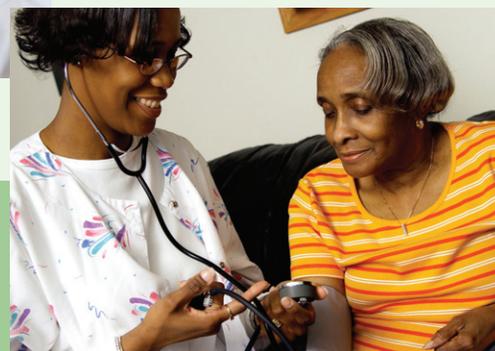
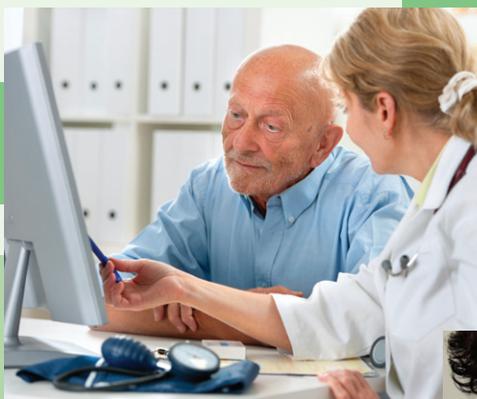
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# POLICY EVIDENCE ASSESSMENT REPORT:

## Community Health Worker Policy Components



## Introduction

### **What are Policy Evidence Assessment Reports?**

*Policy Evidence Assessment Reports* summarize the evidence bases for components of chronic disease policy. Evidence-based policy can be used to prevent, control, and improve the outcomes of chronic disease, but the strength of the evidence for many components of policy is unknown. The *Policy Evidence Assessment Reports* are intended to inform researchers, evaluators, and practitioners about the strengths and limitations of the evidence bases for individual components of chronic disease policy interventions. These reports can be used during consideration of policy options to improve chronic disease outcomes, as well as to understand how enacted state laws incorporate evidence-based policy.

### **What is a community health worker policy intervention?**

A community health worker (CHW) is a frontline public health worker who is a member of the community served and improves the quality and cultural competence of service delivery.<sup>1</sup> A CHW policy intervention, such as a state law, supports the role of the CHW.

### **What are CHW policy components?**

Policy components are discrete though sometimes related activities that could be part of a public health policy. We identified 14 CHW policy components to assess in this report (See Table 1 on pg. 2). Many of these components are elements of successful CHW programs, which have implications for policy development, and some of these components can be found in state law.

## METHODS

We used a three-step approach for these reports. First, we identified potential and existing evidence-based components of CHW policy by consulting evidence, subject matter experts, and existing state laws.<sup>2</sup> Second,

we assessed the strength of each component's evidence base using the previously developed Quality and Impact of Component (QulC) Evidence Assessment method, which uses the best available evidence base for a policy component to categorize it on a continuum of Emerging, Promising Impact, Promising Quality, and Best. "Best available evidence" includes evidence from research and practice that can provide empirical and non-empirical support. Evidence from practices, programs, and policies is used to suggest potential policy impact. The QulC method is described in a manual available by request. Third, we used the evidence reviewed to write summaries about evidence quality and evidence of public health impact. The assessments and summaries were completed during March and April 2014, using evidence available as of April 2014. All evidence reviewed for a policy component is cited in its evidence of public health impact summary. For additional information on the CHW policy intervention definition, evidence search terms, inclusion and exclusion criteria, and inter-rater reliability for the assessments, see the Appendix to this report.

## RESULTS

### **Evidence Strength Assessment**

Table 1 and Figure 1 (on next page) display the CHW policy component scores. They illustrate that most of the CHW policy components have a strong evidence basis with 8 out of 14 falling into the Best category. Additionally, 3 components fell into the Promising categories and 3 fell into the Emerging category. These components could benefit from further study.

**Table 1. CHW policy component evidence quality and evidence of public health impact assessment results**

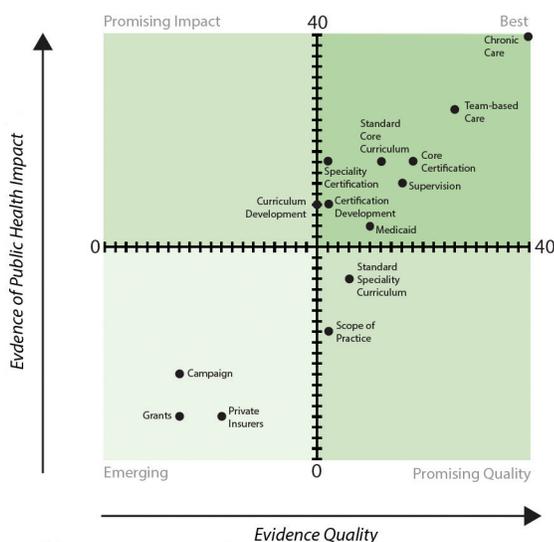
Evidence-based policy component description (short description)	Quality Score <sup>1</sup>	Impact Score <sup>2</sup>	Evidence Category <sup>3</sup>
CHWs provide chronic disease care services (Chronic Care)	40	40	Best
Inclusion of CHWs in team-based care model (Team-based Care)	33	33	Best
Core competency CHW certification (Core Certification)	29	28	Best
CHWs supervised by health care professionals (Supervision)	28	26	Best
Standardized core CHW curriculum (Standard Core Curriculum)	26	28	Best
Medicaid payment for CHW services (Medicaid)	25	22	Best
Specialty area CHW certification (Specialty Certification)	21	28	Best
Inclusion of CHWs in development of their certification requirements (Certification Development)	21	24	Best
Standardized specialty area CHW curriculum (Standard Specialty Curriculum)	23	17	Promising Quality
Defined CHW scope of practice (Scope of Practice)	21	12	Promising Quality
Inclusion of CHWs in development of their standardized curriculum (Curriculum Development)	20	24	Promising Impact
Private insurers cover and reimburse CHW services (Private Insurers)	11	4	Emerging
Educational campaign about CHWs (Campaign)	7	8	Emerging
Grants and/or incentives to support CHW workforce (Grants)	7	4	Emerging

<sup>1</sup> The Quality Score assesses the level of evidence quality for the overall evidence base based on the study types used, the sources authoring the evidence, and the amounts of evidence derived from practice, theory, and research. This score ranges from 1-40, with 40 being the highest level of quality.

<sup>2</sup> The Impact Score assesses the level of evidence of public health impact related to the use of the component, as suggested by the overall evidence base. Impact level is based on actual or suggested outcomes related to health, equity, efficiency, and transferability. This score ranges from 1-40, with 40 being the highest level of impact.

<sup>3</sup> Component evidence categories include: Best, whose components have higher levels (a score greater than 20) of both quality and impact; Promising Quality, whose components have higher levels of quality but lower levels of impact; Promising Impact, whose components have higher levels of impact but lower levels of quality; and Emerging, whose components have lower levels of both quality and impact.

**Figure 1. CHW policy component evidence strength categorizations**



**Evidence Summaries**

Summaries of the evidence quality and evidence of public health impact related to each CHW policy component are provided below.

**Chronic Care (Category: Best):**

This component authorizes CHWs to provide services, including blood pressure screening and education, to help prevent and control chronic diseases, such as hypertension and diabetes. We assessed 46 items of related evidence.

**Evidence quality (Score: 40):**

- Evidence was derived from practice, theory, and research and included rigorous study types (i.e., experimental studies and systematic review) as well as evidence authored by highly credible sources, including the Institute of Medicine (IOM).

*Evidence of public health impact (Score: 40):*

- Much evidence suggested that CHWs provide chronic disease care services, which implies the possibility to improve health-related outcomes.<sup>3-14</sup> For example, the IOM suggested that CHWs be used to prevent and control chronic diseases, including hypertension.<sup>10</sup>
- CHW interventions using this component improved health-related outcomes, including access to and use of care, disease understanding and self-management, chronic disease-related health, and social outcomes in a wide variety of urban, rural, clinical, community, emergency department, and regional settings.<sup>15-45</sup> These outcomes were documented for many groups experiencing health disparities, including low-income, uninsured, African American, Asian, Filipino, Bangladeshi, Vietnamese, and Hispanic populations.<sup>15-17,20-29,31-35,37-45</sup>
- Two studies found that interventions using this component were low cost.<sup>28,46</sup> One study found the intervention to be cost-effective (e.g., Quality Adjusted Life Years were gained when the CHW intervention was compared with usual care)<sup>47</sup> and 2 studies found Medicaid cost savings.<sup>48,49</sup>
- Evidence suggested that this component could broaden a CHW intervention's reach because adding these services could help reduce both chronic disease and health inequities.<sup>7</sup>

**Team-based Care (Category: Best):**

This component authorizes the inclusion of CHWs in multidisciplinary health care teams. We assessed 15 items of related evidence.

*Evidence quality (Score: 33):*

- The evidence was a mix of research and practice or theory evidence published in peer-reviewed journals.
- Most of the evidence was authored by highly credible sources, including the IOM and peer-reviewed journals, as well as government and nonprofit organizations.

*Evidence of public health impact (Score: 33):*

- Much evidence suggested including CHWs in the team-based care model,<sup>1,4,7-9,14,50-52</sup> with the IOM recommending this to improve care delivery.<sup>8</sup>
- CHW interventions using this component improved health-related outcomes, including disease understanding and self-management and chronic disease-related health outcomes, mainly in clinics, but also in a community-level setting

of a Hawaiian neighborhood.<sup>17,20,26,28,32-34</sup> These outcomes were documented for many groups experiencing health disparities, such as low-income, uninsured, African American, Filipino, and Hispanic populations.<sup>17,20,26,28,32-34</sup>

- An intervention using CHWs as part of a team model was also found to be low cost.<sup>28</sup>
- Evidence suggested that this component could broaden a CHW intervention's reach because it is expected to integrate CHWs into existing practice settings.<sup>7,8</sup>

**Core Certification (Category: Best):**

This component authorizes the use of CHW core competency certification to establish professional standards for the field. We assessed 15 items of related evidence.

*Evidence quality (Score: 29):*

- Evidence was mainly non-empirical from practice or theory and also included 2 experimental research studies.

*Evidence of public health impact (Score: 28):*

- Much evidence suggested core competency certification for CHWs.<sup>1,4-7,9,14,47,50,53-56</sup>
- Two studies found that interventions using state-certified CHWs in Texas improved chronic disease-related health outcomes in a clinical and in a regional setting. These outcomes were documented for groups experiencing health disparities, including uninsured or Hispanic populations, or both.<sup>28,33,34</sup>
- One CHW intervention using this component was found to be low cost and 1 was cost-effective.<sup>28,47</sup>
- Evidence suggested that this component could limit a CHW intervention's reach because too many certification requirements could limit the adaptability of the CHW model and its potential to reach diverse populations.<sup>4,57</sup>

**Supervision (Category: Best):**

This component authorizes CHWs to practice under the supervision of a health care professional, such as a nurse practitioner or a physician. We assessed 10 items of related evidence.

*Evidence quality (Score: 28):*

- The evidence was a mix of research studies published in peer-reviewed journals and practice or theory items, authored by nonprofit and government organizations as well as the IOM.

*Evidence of public health impact (Score: 26):*

- Much evidence suggested that CHWs practice under supervision,<sup>3,10,50-52,56</sup> with the IOM recommending using supervised CHWs to address hypertension.<sup>10</sup>
- CHW interventions using this component improved health-related outcomes, including disease self-management, chronic disease-related health outcomes, and social outcomes, in community settings, including Baltimore neighborhoods and Southern Arizona border communities, as well as in an emergency department setting. These outcomes were observed for groups experiencing health disparities, including low-income, uninsured, and African American populations.<sup>21,22,31</sup>
- An intervention using supervised CHWs resulted in a large cost savings.<sup>48</sup>
- Evidence suggested that this component could limit a CHW intervention's reach because it could add barriers to practicing as a CHW, for example, supervision requirements could limit payment through Medicaid.<sup>52</sup>

**Standard Core Curriculum (Category: Best):**

This component authorizes the use of a standardized CHW core competency curriculum to promote a common base of professional knowledge among CHWs. We assessed 10 items of related evidence.

*Evidence quality (Score: 26):*

- Evidence was mainly non-empirical from practice or theory, but also included several research and economic studies published in peer-reviewed literature.

*Evidence of public health impact (Score: 28):*

- Much evidence suggested using a standardized core competency curriculum to train CHWs.<sup>1,9,14,50,51,55,56</sup>
- Two studies also found improved health-related outcomes - one in an urban community and one in a county setting for groups experiencing health disparities, including uninsured or Hispanic populations, or both.<sup>28,33,34</sup>
- One intervention using this component was low cost and 1 was cost-effective.<sup>28,47</sup>
- Evidence suggested that this component could limit a CHW intervention's reach because standardization could limit the adaptability of the CHW model and its potential to reach diverse populations.<sup>4,57</sup>

**Medicaid (Category: Best):**

This component authorizes Medicaid payment for CHW services. We assessed 12 items of related evidence.

*Evidence quality (Quality Score: 25):*

- Evidence was primarily from practice or theory, although some items were published in peer-reviewed journals.
- There was 1 quasi-experimental research study.

*Evidence of public health impact (Impact Score: 22):*

- Much evidence suggested the possibility of improvements in health- and equity-related outcomes if Medicaid pays for CHW services.<sup>1,4,6,9,14,50,51,53,55,56,58</sup>
- A Medicaid managed care intervention using CHWs in a regional setting improved health care access and reduced resource utilization and cost for high consumers of health care.<sup>46</sup>
- Evidence suggested that this component could broaden a CHW intervention's reach because it is expected to help support CHW interventions.<sup>4</sup>

**Specialty Certification (Category: Best):**

This component authorizes the use of CHW certification to establish standards for providing services related to a specialty area, for example, for the treatment of specific diseases (e.g., the American Heart Association offers standards in blood pressure measurement). We assessed 5 items of related evidence.

*Evidence quality (Score: 21):*

- Evidence included 3 experimental research studies and 1 quasi-experimental study published in peer-reviewed journals as well as a report from a state health initiative.

*Evidence of public health impact (Score: 28):*

- The New York State Community Health Worker Initiative suggested using specialty area CHW certification.<sup>4</sup>
- Three studies showed that interventions using this component improved health-related outcomes, including disease self-management and chronic disease-related health outcomes, in urban, clinical, and community settings, which included Baltimore and Seattle neighborhoods. These outcomes were documented for groups experiencing health disparities, including low-income and African American populations.<sup>21,23,24</sup>
- A CHW intervention using specialty area certification resulted in a large cost savings.<sup>48</sup>

- Evidence suggested that this component could limit a CHW intervention's reach because too many certification requirements could limit the adaptability of the CHW model and its potential to reach diverse populations.<sup>4,57</sup>

### **Certification Development (Category: Best):**

This component authorizes formal inclusion of CHWs in developing their profession's certification requirements. We assessed 5 items of related evidence.

#### *Evidence quality (Score: 21):*

- Evidence included 2 research studies published in peer-reviewed journals as well as 2 reports and 1 policy brief that recommended or described how CHWs help develop their certification requirements in 3 different states (i.e., Washington, D.C.; New York; and Massachusetts).

#### *Evidence of public health impact (Score: 24):*

- Three items of evidence suggested that CHWs be included in developing the certification process, which implies the possibility for improvements to health-related outcomes.<sup>4,54,56</sup>
- One study evaluating an intervention using state-certified CHWs in Texas (where CHWs were included in developing their state certification requirements) found improved chronic disease-related health outcomes for Hispanic Americans in an urban, clinical setting, while another study found cost-effectiveness in a county setting.<sup>33,34,47</sup>
- Evidence suggested that this component could broaden a CHW intervention's reach because involving CHWs will help ensure that requirements are appropriate and feasible, given the professional standards.<sup>56</sup>

### **Standard Specialty Curriculum (Category: Promising Quality):**

This component authorizes the use of a state standardized, specialty area CHW curriculum, for example, to promote disease-specific knowledge among CHWs (e.g., the Your Heart, Your Life curriculum and its related training developed by the National Heart, Lung, and Blood Institute). We assessed 7 items of related evidence.

#### *Evidence quality (Score: 23):*

- Evidence was nearly all non-experimental research studies (with 1 experimental study).

#### *Evidence of public health impact (Score: 17):*

- Interventions where CHWs were trained using a standardized, specialty area curriculum improved health-related outcomes, including disease

understanding, self-management, and chronic disease-related health outcomes in clinical as well as community settings, which included border communities, metropolitan areas, and a Hawaiian neighborhood. These outcomes were documented for groups experiencing health disparities, including African American, American Indian, Filipino, and Hispanic populations.<sup>15,25,26,32,39-41</sup>

- Evidence suggested that this component could limit a CHW intervention's reach because too much standardization could limit the adaptability of the CHW model and its potential to reach diverse populations.<sup>4,57</sup>

### **Scope of Practice (Category: Promising Quality):**

This component authorizes the use of a defined scope of CHW practice, which could specify the boundaries that separate CHWs from other health professions. We assessed 9 items of related evidence.

#### *Evidence quality (Score: 21):*

- Evidence was primarily items from practice or theory that was authored by nonprofit and state organizations, as well as the IOM.

#### *Evidence of public health impact (Score: 12):*

- Much evidence suggested defining the CHW scope of practice, which implies the possibility for improvements to health-related outcomes.<sup>1,3,4,8,9,50,53-55</sup>
- Evidence suggested that this component could limit a CHW intervention's reach because it could limit the scope of services provided.<sup>3</sup>

### **Curriculum Development (Category: Promising Impact):**

This component authorizes formal inclusion of CHWs in the development of a standardized curriculum for the field. We assessed 4 items of related evidence.

#### *Evidence quality (Score: 20):*

- Evidence included 3 research studies published in peer-reviewed journals as well as 1 policy brief.

#### *Evidence of public health impact (Score: 24):*

- The policy brief suggested that CHWs be included in developing their standardized curriculum, which implies the possibility for improvements to health-related outcomes.<sup>56</sup>
- Two studies evaluating CHW interventions where CHWs were trained using a standardized curriculum—that CHWs had helped develop—found improved chronic disease-related health outcomes for low-income, uninsured, and Hispanic populations in clinical settings, and 1 study found cost-effectiveness in a county setting.<sup>32-34,47</sup>

- Evidence suggested that this component could broaden a CHW intervention's reach because engaging CHWs could result in more comprehensive curricula that could be effective in reaching diverse populations.<sup>56</sup>

#### **Private Insurers (Category: Emerging):**

This component authorizes private insurers to cover and reimburse for CHW services. We assessed 3 items of related evidence.

##### *Evidence quality (Score: 11):*

- Evidence included items derived from practice and theory, which were primarily authored by nonprofit and government organizations.

##### *Evidence of public health impact (Score: 4):*

- Evidence suggested that private insurers cover and reimburse CHW services, which implies the possibility for improvements to health-related outcomes.<sup>1,4,7</sup>
- Evidence suggested that the reach of this component could be broad because it is expected to help support CHW interventions.<sup>4</sup>

#### **Campaign (Category: Emerging):**

This component authorizes an educational campaign about CHWs to promote integration of CHWs into the existing health care system. We assessed 3 items of related evidence.

##### *Evidence quality (Score: 7):*

- Evidence included items derived from practice and theory, which were primarily authored by nonprofit and government organizations.

##### *Evidence of public health impact (Score: 8):*

- Evidence suggested holding an educational campaign about CHWs, which implies the possibility for improvements to health-related outcomes.<sup>1,4,54</sup>
- Evidence suggested that this component would increase the acceptance of CHWs and policies that support CHWs, which could lead to an increase in the CHW intervention's reach.<sup>54</sup>

#### **Grants (Category: Emerging):**

This component authorizes grants and other financial incentives to support the development of the CHW workforce, for example, to support ongoing professional training and the integration of CHWs into medical teams. We assessed 3 items of related evidence.

##### *Evidence quality (Score: 7):*

- Evidence included items derived from practice and theory from state organizations and county evaluators.

##### *Evidence of public health impact (Score: 4):*

- Evidence suggested grants and other financial incentives to promote the CHW workforce, which implies the possibility for improvements to health-related outcomes.<sup>4,9,51</sup>
- Evidence suggested that grants and incentives to support CHW workforce development could lead to enhancement of existing CHW interventions and broaden their reach.<sup>51</sup>

## DISCUSSION

As evidence supporting the role of CHWs has accumulated over time, a strong evidence base has emerged in support of many policy components that could comprise a CHW policy. Table 2 provides our conclusions about the status of the evidence base for each component assessed and next steps for how it can be improved. Authorizing CHWs to provide chronic disease care services is the policy component with the strongest evidence base, though more comprehensive systematic review could inform how this component should be implemented (e.g., evidence could identify effective service delivery strategies or discuss implementation barriers<sup>59</sup>). The other Best components we identified are candidates for experimental study to determine their effects independent from the effects from other CHW policy components or for preliminary systematic review. For example, there are existing state-level CHW certification and training programs that need to be tested experimentally for effectiveness.<sup>51</sup>

Finally, the Promising components are well on their way to moving into the Best category (see Figure 1). These components would benefit from further empirical examination (e.g., using randomized experiments, natural experiments, and economic evaluations that employ cost-effectiveness, cost-benefit, or cost-utility analysis). For example, a defined scope of practice is recommended by many experts and several states already use this policy component,<sup>4,53,54</sup> but it would be helpful to determine what empirical impact scope definition (and alternative scope definitions) have on patient and economic outcomes. In states where CHW policy components have been enacted, policy evaluations could help to generate new evidence that could inform future policy development.

**Table 2. Conclusions and next steps for CHW policy component evidence development**

Category	Component(s)	Conclusions about evidence basis and next steps
<b>Best</b>	<ul style="list-style-type: none"> <li>Chronic Care</li> </ul>	<ul style="list-style-type: none"> <li>This component has been systematically reviewed for its effect on diabetes- and hypertension-related outcomes.<sup>19,30</sup></li> <li>It has the strongest evidence basis among all the CHW policy components assessed, achieving the highest possible quality and impact scores, and it seems to have much support among experts.</li> <li>More comprehensive systematic reviews (e.g., by the Community Guide) will help to confirm its effects as well as to identify barriers and facilitators to its implementation.</li> </ul>
	<ul style="list-style-type: none"> <li>Team-based Care</li> <li>Core Certification</li> <li>Supervision</li> <li>Standard Core Curriculum</li> <li>Medicaid</li> <li>Specialty Certification</li> <li>Certification Development</li> </ul>	<ul style="list-style-type: none"> <li>These components have been part of CHW interventions that improved health-, equity-, and efficiency-related outcomes and there is also expert opinion to support them.</li> <li>They could next be tested independently in experimental studies or included in systematic reviews.</li> </ul>
<b>Promising Quality</b>	<ul style="list-style-type: none"> <li>Standard Specialty Curriculum</li> </ul>	<ul style="list-style-type: none"> <li>This component has been part of several CHW interventions that improved health- and equity-related outcomes, but the size of public health impact needs to be measured.</li> <li>Additionally, evidence on this component's efficiency impacts, such as relative cost and economic outcomes, is needed.</li> <li>More expert opinion could also contribute to its evidence basis.</li> </ul>
	<ul style="list-style-type: none"> <li>Scope of Practice</li> </ul>	<ul style="list-style-type: none"> <li>Conversely, this component has been widely recommended by experts but has not been part of CHW interventions studied empirically.</li> <li>It needs to be included in future empirical CHW studies in order to approximate its health, equity, and efficiency impacts.</li> </ul>
<b>Promising Impact</b>	<ul style="list-style-type: none"> <li>Curriculum Development</li> </ul>	<ul style="list-style-type: none"> <li>This component is very close to becoming a Best component and only needs a little more evidence to replicate positive health, equity, and efficiency findings and/or it needs more supporting expert opinion.</li> </ul>
<b>Emerging</b>	<ul style="list-style-type: none"> <li>Private Insurers</li> <li>Campaign</li> <li>Grants</li> </ul>	<ul style="list-style-type: none"> <li>These components are supported by several recommendations from experts, including states that are pioneering CHW policy.<sup>4,51,54</sup></li> <li>They should be included in future empirical CHW studies (e.g., policy evaluations) to measure their health, equity, and efficiency impacts.</li> <li>More supporting expert opinion is also needed.</li> </ul>

The results of this assessment are subject to the limitations of the QuIC method, with the most important limitations being that (1) much of the evidence reviewed here was not from the study of CHW policy but instead from the study of CHW programs and (2) most of the policy components' individual effects have not been studied independently from the CHW interventions of which they were a part. These limitations derive from the fact that CHW policy has fewer applications and less time available for study. Empirical health and economic studies of enacted state CHW policy components are still greatly needed. Nevertheless, our report succeeds in providing a recent snapshot of the best available evidence bases for components of CHW policy.

Evidence-based public health policy can improve population health but uptake of evidence-based policy needs to increase to realize this potential.<sup>60</sup> This report's findings can be used by researchers, evaluators, and practitioners to inform the development of evidence-based policy options that use CHWs to prevent and control chronic disease. The continued use and study of CHW policy components will result in improved evidence, policy, and outcomes.

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## APPENDIX

### Overview

This Appendix provides supplemental documentation for the CHW policy intervention and components assessed, including definitions and search terms, inclusion/exclusion criteria, and inter-rater reliability.

### Definitions & Search Terms

Evidence and conversations with subject matter experts were used to develop definitions for the policy intervention and policy components assessed. These definitions guided the collection, classification, and assessment of evidence. Search terms identified using the definitions were used to collect evidence from PubMed, Google, and subject matter experts at the Centers for Disease Control and Prevention. Evidence was first identified for the CHW policy intervention and then component-specific search terms (and variations of these search terms) were used to classify this evidence to policy components. Table 3 describes the CHW policy intervention, component definitions, and search terms.

**Table 3. CHW policy intervention, component definitions, and search terms**

Intervention/ component	Definition	Search terms
<b>CHW Policy</b>	<p>Any policy (e.g., law) that supports the role of the CHW. Specifically, a CHW is<sup>1,19</sup></p> <ul style="list-style-type: none"> <li>• A frontline public health worker who carries out functions related to healthcare delivery, including education and the provision of direct services, such as blood pressure monitoring.</li> <li>• Is a member of the community served.</li> <li>• Is trained as part of the intervention.</li> <li>• Has no previous formal paraprofessional or professional designation.</li> </ul>	<p>"community health worker," "lay health worker," "promotore," "promotora," "community health advocate," "lay health educator," "community health representative," "peer health promoter," "community health advisor," "patient navigator," "lay health advisor," "neighborhood health advisor," "community care coordinator," "community health educator," "community health promoter," "case work aide," "community connector," "community health outreach worker," "family support worker," "outreach specialist," "peer educator," "peer support worker," "public health aide," "environmental health aide," AND/OR "lead abatement education specialist."</p>
<b>Chronic Care</b>	<p>Authorizes CHWs to provide services, including blood pressure screening and education to help prevent and control chronic diseases, such as hypertension and diabetes.</p>	<p>"chronic disease," "asthma," "hypertension," "diabetes," AND/OR "cancer"</p>
<b>Team-based Care</b>	<p>Authorizes the inclusion of CHWs in multidisciplinary health care teams.</p>	<p>"team"</p>
<b>Core Certification</b>	<p>Authorizes the use of CHW core competency certification to establish professional standards for the field.</p>	<p>"core," "competency," "certification," AND/OR "credentialing"</p>
<b>Supervision</b>	<p>This policy component authorizes CHWs to practice under the supervision of a health care professional, such as a nurse practitioner or a physician.</p>	<p>"supervision"</p>
<b>Standard Core Curriculum</b>	<p>Authorizes the use of a standardized CHW core curriculum to promote a common base of professional knowledge among CHWs.</p>	<p>"core" AND/OR "curriculum"</p>
<b>Medicaid</b>	<p>Authorizes Medicaid payment for CHW services.</p>	<p>"Medicaid"</p>
<b>Specialty Certification</b>	<p>Authorizes the use of CHW certification to establish standards for providing services related to a specialty area, for example, for treatment of specific diseases.</p>	<p>"certification," "asthma," "hypertension," "diabetes," AND/OR "cancer"</p>
<b>Certification Development</b>	<p>Authorizes formal inclusion of CHWs in developing their profession's certification requirements.</p>	<p>"certification"</p>
<b>Standard Specialty Curriculum</b>	<p>Authorizes the use of a standardized, specialty area CHW curriculum, for example, to promote disease-specific knowledge among CHWs (e.g., the Your Heart, Your Life curriculum and its related training developed by the National Heart, Lung, and Blood Institute).</p>	<p>"curriculum," "asthma," "hypertension," "diabetes," AND/OR "cancer"</p>
<b>Scope of Practice</b>	<p>Authorizes the use of a defined scope of CHW practice, which could specify the boundaries that separate CHWs from other health professions.</p>	<p>"scope of practice"</p>
<b>Curriculum Development</b>	<p>Authorizes formal inclusion of CHWs in the development of a standardized curriculum for the field.</p>	<p>"curriculum"</p>
<b>Private Insurers</b>	<p>Authorizes private insurers to cover and reimburse for CHW services.</p>	<p>"private" AND/OR "insurance"</p>
<b>Campaign</b>	<p>Authorizes an educational campaign about CHWs to promote integration of CHWs into the existing health care system.</p>	<p>"education" AND/OR "campaign"</p>
<b>Grants</b>	<p>Authorizes grants and other financial incentives to support the development of the CHW workforce, for example, ongoing professional training and the integration of CHWs into medical teams.</p>	<p>"grants," "incentives," AND/OR "workforce"</p>

## Inclusion & Exclusion Criteria

Evidence inclusion and exclusion criteria were developed to ensure a sufficient level of comparability across CHW interventions in the evidence.

### Inclusion criteria:

- Evidence in English was included.
- Evidence from the developed world was included. All of the criteria defining the CHW intervention (Table 1) had to be met for an empirical study to be included.
- More general, non-empirical evidence was assumed applicable, unless otherwise stated, and included.
- Empirical evidence examining the impact of the CHW intervention independent from any broader intervention impact was included.
- Evidence about the CHW intervention's impact on chronic disease-related outcomes was included.
- Evidence about the CHW intervention's impact on healthcare access and utilization was included because these outcomes are expected to affect chronic disease-related outcomes.
- Evidence about impact or implied impact was included.

### Exclusion criteria:

- Evidence from the developing world was excluded because the CHW intervention is expected to be substantially different in these settings.
- Evidence where the impact from the CHW intervention could not be differentiated from the impact of a broader intervention was excluded.
- Evidence about the CHW intervention's impact on infectious diseases was excluded because these interventions are expected to use a different protocol (e.g., for treating tuberculosis), which could interact differently with the component(s) being assessed.
- Evidence only about implementation (e.g., that discussed the specific details of the CHW certification process) was excluded.

## Inter-Rater Reliability

We assessed inter-rater reliability (IRR) to determine how similarly the raters interpreted the evidence. We used an Intra-class Correlation Coefficient (ICC) to assess IRR of the quality and impact assessments, which are the main two parts of the QuIC method. The ICC's for the quality and impact assessments across the 14 CHW policy components were both excellent (ICC= 0.998 and ICC= 0.990, respectively). High reliability in these assessments was likely due to the fact that many of the CHW components and much of the evidence were included in multiple pilots to test different iterations of the QuIC method as it was developed, so the raters were very familiar with each item of evidence, having had multiple previous discussions.

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