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A Descriptive Study On The Impact Of Community Health Workers And Medicaid Reimbursement In The United States

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Abstract

Introduction: Community health workers (CHW) may contribute to increased Medicaid enrollment as well as increased uptake of preventative services in states that allow Medicaid reimbursement for CHW services. Reimbursement has been highlighted previously as a useful funding mechanism for CHW positions. This descriptive study aims to examine how CHWs are embedded in healthcare settings and how reimbursement may have altered how CHWs practice.

Methods: An exploratory Qualtrics survey was distributed to CHW networks, CHWs, and Medicaid officials (MOs) in the United States from March to April 2024. A total of 58 respondents (50 CHWs and 8 MOs) were sampled and 16 different states were represented in the study. Descriptive statistics and bivariate analysis were used to characterize respondents' beliefs and attitudes towards reimbursement, resources needed for CHW, and CHWs' role in increasing Medicaid enrollment, preventing disenrollment, and increasing preventative service utilization.

Results: We found that CHW were generally aware of whether their state currently reimbursed for CHW services and that CHW most commonly help patients navigate needed care (both healthcare and social programs). The need for consistent funding was echoed by survey respondents repeatedly and sustainable funding and reimbursement were cited by approximately half of respondents as the most needed resources for CHW in their state. CHWs in respondents' states increase Medicaid enrollment, decrease Medicaid un-enrollment, and increase preventative services uptake.

Conclusion: Reimbursement could help stabilize CHW funding and increase uptake of preventative services by Medicaid enrollees, increase Medicaid enrollment, and decrease Medicaid unenrollment. Further research should explore and quantify the impact of reimbursement on these outcomes.

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Introduction

Community Health Workers (CHWs) are an increasingly important and recognized facet of the United States healthcare system. A CHW is, as defined by the American Public Health Association, "a frontline public health worker who is a trusted member of… the community served." From the 1960s, CHWs have served as an important link between individual community members and healthcare providers as well as the healthcare system and communities at large. CHWs have a diverse number of titles, from promotores to peer navigators, and work in numerous capacities reflecting the needs of the communities they serve. CHWs help healthcare organizations recognize the non-clinical needs and resources in their communities, allowing providers to deliver more culturally competent care. [1] As a workforce, CHWs are uniquely positioned to work with underserved communities to alleviate health disparities and improve health equity.

CHWs fill specific gaps in the healthcare system and ensure continuity of care, especially with complex patient cases. A systematic review showed that CHWs were broadly able to increase access to care in rural settings across the United States, improve health outcomes, and were broadly cost-effective [2]. In a CHW intervention addressing unmet social needs, a study found that every dollar invested in the intervention returns $2.47 to the average Medicaid payer in a year.[3] Another study found that a CHW initiative increased multiple forms of outpatient care utilization in Detroit while a Baltimore based study found that diabetic Medicaid enrollees who were participated in a CHW intervention had decreased emergency services use and decreased Medicaid expenditure.[4,5] In a cohort study, a CHW intervention was able to successfully increase several forms of outpatient utilization in a high-risk population of relatively

disadvantaged individuals.[6] From these studies, it is clear CHW can be an effective intervention to increase engagement in continuous care and decrease expenditure on healthcare emergencies.

For underserved communities, CHWs can help get eligible people enrolled in health insurance, specifically Medicaid, who otherwise would not be enrolled due to structural and other barriers. Health insurance is an essential mediator of health care access and is associated with decreased mortality.[7] Previous research has shown that increased Medicaid access leads to increased healthcare access as well as improvement in some health outcomes.[8,9] Increased Medicaid access could also help rectify racial health disparities, which have increased since the COVID-19 pandemic.[8]

Community health work is traditionally an informal profession grounded in grassroots community efforts- consequently, it is difficult to establish uniform guidelines for CHWs across the United States.[10] Currently, CHWs are employed by a variety of organizations (including governments, hospitals, non-profits, etc.) in several different capacities and as such, are funded by equally disparate sources. Numerous surveys of CHWs have found the lack of sustainable funding a barrier to continued work in the field as well as the development of the CHW workforce.[10] A significant number of CHWs are currently funded by temporary, project-centered grants, limiting the longitudinal impact of essential advocacy and patient care they perform. The temporary nature of CHW funding also leads to greater workforce turnover. [11]

Innovative Medicaid funding mechanisms can change how healthcare providers and medical organizations operate. CHW reimbursement has been cited as a strategy to accelerate the adoption of U.S. CHW programs.[12] As of January 31st 2024, 24 states allow Medicaid payment for services provided by CHWs with three states officially working on implementing Medicaid

coverage of CHW services after legislative authorization. Other states are beginning to explore implementation of official CHW licensure and Medicaid reimbursement of CHW services. Coverage approaches also vary drastically between states, with eight states using a fee-for-service payment model, six states only using managed care, five states using a combination of the two, and one state providing a monthly payment rate for CHW services. Medicaid reimbursement of CHW services is also authorized through a variety of legislative mechanisms, including a state plan amendment or a section 1115 demonstration waiver, which have different approval timelines and policy durations. Variation in reimbursement legislative policy and in payment impacts what services CHWs are paid for as well as how CHW work is supervised.[13]

Given the wide range of reimbursement approaches across states, it is difficult to understand how CHWs themselves understand reimbursement and how it may impact their practice. It is also essential to understand how reimbursement is then translated to community benefit to promote reimbursement as a sustainable funding mechanism for CHWs. We hypothesize that state-wide Medicaid reimbursement of CHW services leads to increased stabilization of CHW funding, allowing CHWs to focus on assisting their communities. This could in turn lead to increased Medicaid enrollment as well as an increase in preventative services utilization, as CHWs help those they are working with enroll in insurance as well as access healthcare. Ultimately, the increase in insurance enrollment and healthcare access could improve overall community health as well.

Methods

Survey

The survey was administered electronically through Qualtrics from March 16, 2024 to April 11, 2024. Participants were recruited from across the United States for the study. Ranking state Medicaid Directors were e-mailed individually to complete the survey as "Medicaid Officials" (MOs). In some cases, the survey was completed by those working more closely with Medicaid policy or reimbursement of CHW services within a state's respective Medicaid department. Statewide CHW networks as well as local CHW programs were contacted, and networks then distributed the survey internally. Only participants who identified as either a "Medicaid Official" or "Community Health Worker" and worked in that professional capacity in the United States were allowed to complete the survey. Participants completed the surveys electronically on personal devices. Participants provided informed consent before completing the survey, and no compensation was provided for survey completion or dissemination.

The survey was developed based on recommended questions from stakeholders currently working with Medicaid reimbursement implementation as well as current literature on CHW work and funding mechanisms. The IRB at Yale University exempted the survey from full IRB review. The survey was designed to examine how both MOs and CHWs understood reimbursement of CHW services as well as how it could impact services provided by CHW, Medicaid enrollment and un-enrollment of patients, and uptake of preventative services. Participants were also asked about beliefs surrounding reimbursement and responded to these questions on a scale with five options, with "Strongly Agree" to "Strongly Disagree" representing the most extreme options. The survey included questions on common employers of CHWs in their state, day-to-day work of CHWs in their state, the resources required for CHWs in their state, and how CHWs were integrated into clinical practice in their state, where respondents were asked to select from list of pre-determined options. If CHWs in their state

enrolled residents in Medicaid, CHWs were asked to estimate (as a percent of total clients) how many of their clients were enrolled in Medicaid. Further, CHWs were asked to estimate how many of the clients they worked with who were enrolled in Medicaid were enrolled in or navigated managed care. Respondents were provided an opportunity to add any other thoughts about Medicaid reimbursement or CHWs work in a free-form text box. No demographic information about respondents beyond broad professional category ("Medicaid Official" or "Community Health Worker") and the state they worked in was collected. The final survey was built and distributed in Qualtrics and the final survey (including question display logic) is provided in the appendix as Figure 3.

Data

Responses were collected on Qualtrics. Responses were scored via reCAPTCHA and Qualtrics RelevantID to prevent bot and duplicate responses respectively. In some cases, RelevantID incorrectly flagged responses as duplicates when respondents had previously started a survey and did not complete it. All complete responses that passed this quality check were included for data analysis. Data compiled in "Environmental Scan on Community Health Workers" by forHealth Consulting on 1/31/2024 was also used as a reference for state-level CHW licensure requirements, CHW reimbursement approaches, legislative mechanisms for authorization of CHW reimbursement, and what CHW services were covered in each state as shown in table 1.[13]

Analysis

All data was downloaded from Qualtrics as an Excel spreadsheet and analyzed in using R 4.3.3. Numeric data was compared using Kruskal-Wallis test and categorical variables were compared using Person's chi-square test.

Results

The final data set included 58 complete responses from 16 different states, including 50 CHWs and 8 MOs, as shown in Figure 1. Of the states surveyed, 8 offered reimbursement for CHW services through Medicaid, 4 states were planning on implementing Medicaid reimbursement for CHW services (according to Mos surveyed), and 4 states did not offer reimbursement for CHW services. 36 respondents (62.1%) were from either Connecticut or Nevada. For a full description of reimbursement in each state surveyed, including authorization mechanisms, whether the state allows for direct payment, managed care organization (MCO) payment, fee-for-service payment (FFS), or APM payment, a full list of CHW services covered, as well as populations targeted by reimbursement programs, see table 2 in the appendix.

Reimbursement Knowledge

Respondents were asked if their states offered reimbursement of CHW services through Medicaid (Question 4 in Figure 3). Medicaid officials from Alaska, Colorado, Connecticut, and Illinois identified their states as planning to implement Medicaid reimbursement of CHW services in the future. CHWs in Connecticut, Georgia, New Hampshire, and Utah also identified their states as planning on implementing reimbursement of CHW services through Medicaid. As shown in table 2, approximately 20 out of 27 (77.8%) of respondents who lived in states that currently offered reimbursement knew that their state offered reimbursement while four (14.8%) respondents either incorrectly identified their states as not offering reimbursement or did not know if their state offered reimbursement. 13 CHWs (26% of CHWs who responded to the survey) did not know whether their state reimbursed CHWs for services through Medicaid. Other comparisons of knowledge across profession were not significant.

Implementation of Reimbursement

Table 5 includes responses from MOs who indicated that their states were planning on implementing reimbursement and were asked what services their state was planning on reimbursing CHWs for. All four MOs indicated that CHWs would be reimbursed for helping clients navigate primary care, and three MOs indicated that CHWs would be reimbursed for health education as well as coordinating transportation for clients. Three out of four MOs also indicated that they did not know when exactly reimbursement would be implemented in their state while one MO gave a target implementation date of July 2024. All four MOs indicated that CHWs in their states helped enroll residents in Medicaid.

Top employers of CHW by state

Out of a list of eight common CHW employers, respondents were asked to select and rank the top three employers for CHWs in their state. Responses were weighted by rank once selected (a rank of one was multiplied by nine, a rank of two was multiplied by three, and a rank of three was multiplied by one). Weighted with total points of 1044, CHWs in surveyed states most commonly worked in a clinic or hospital setting (with 315 points), followed by non-profit groups (with 267 points), and outpatient care centers (with 153 points) as shown in figure 2.

Medicaid Enrollment by CHW

Respondents were asked if CHWs in their state helped enroll residents in Medicaid. As shown in table 3, 46 respondents (approximately 79% of total respondents) answered yes while 12 respondents (20.7% of total respondents) answered no. Those who said CHWs did not enroll residents in Medicaid were both MOs and CHWs and came from states that allowed and did not allow for reimbursement.

When asked what encompasses day-to-day work of a CHW, as shown in table 4, 26 respondents indicated that determining eligibility for healthcare plans was part of day-to-day

work for a CHW (56.5% of those who indicated that CHWs help enroll residents in Medicaid). Those who selected “coordinating transportation” as a daily CHW activity were also more likely to say that CHWs enrolled state residents in Medicaid.

CHW Practice in Their State

Respondents were asked to select all activities that represented the daily work of a CHW in their state. Navigating primary care, navigating social services, and health education were cited as the top three daily tasks of a CHW, as shown in table 4. Determining insurance eligibility was the least selected daily activity and was only selected by 29 respondents (50%). Daily work of a CHW did not vary significantly between states that did and did not offer reimbursement for CHW services. As stated above, “coordinating transportation” was the only daily activity selected by significantly more of those who indicated CHWs helped residents enroll in Medicaid. There were no other significant differences in daily activity based on whether respondents believed CHWs enrolled residents in Medicaid.

CHWs who indicated that CHWs in their state helped enroll residents in Medicaid indicated that on average 43.6% of their clients were enrolled in Medicaid and of those clients, 32.8% were navigating managed care as shown in table 7. There was no significant difference between the percent of clients on Medicaid as well as those enrolled in managed care between states that did and did not reimburse CHWs through Medicaid.

All respondents were also asked how CHW work was incorporated into clinical practice in their state. All options provided were endorsed by most respondents for their respective states as shown in table 6 and there was overall no significant difference in CHW integration between states that did and did not reimburse for CHW services. However, significantly more respondents

said CHWs provided health screenings or referrals in their state if their state reimbursed CHWs through Medicaid.

Respondents were asked to identify what resources CHWs in their state needed most as described in Table 8. Of 363 total selected resources by respondents, 243 (67.0%) of responses were marked either "Most needed" or "Needs improvement." Medicaid reimbursement of CHW services and sustainable funding of CHW positions were the top two concerns listed as "Most Needed" and were cited by 36 and 29 respondents respectively (62.1% and 50.0% of the total sample). Networking opportunities, additional physical and monetary resources for CHWs, and core skills training were cited most frequently as needing improvement. State and national licensure was most often labeled as satisfactory.

Mechanistic Questions

Respondents were asked a series of questions graded on a Likert scale to understand attitudes and beliefs surrounding reimbursement as described in Table 9. Of those in states with reimbursement or who were planning to implement reimbursement, the median response when asked if reimbursement was viewed as a "money saver" by the government was "Somewhat agree" with no significant difference between those states who had not implemented reimbursement yet as well as profession. When asked if CHWs were adequately supported by their state government, 75% of MOs agreed with the statement while only 46% of CHW agreed. When asked about Medicaid enrollment, significantly more CHW (58%) agreed that CHW were able to increase Medicaid enrollment than MO (12.5%). Although most respondents (84%) agreed that CHW were able to increase preventative services utilization in their state, significantly more respondents in states without reimbursement (93.5%) agreed than states without reimbursement. CHW in states with reimbursement were also asked if current Medicaid

billing codes sufficiently covered CHW services- the median response among all respondents was “Somewhat agree” with no significant difference between respondents in states with reimbursement and states without reimbursement. All other comparisons of responses across respondent profession and whether their state offered reimbursement were not significant.

Miscellaneous

Respondents were also offered the opportunity to offer any other thoughts about reimbursement and CHW work in a free-form textbox as shown in figure 3. Some respondents highlighted difficulties in understanding reimbursement in general- one respondent stated that “CHWs are currently unable to enroll with other MCOs in [state with reimbursement] as the process appears to either not exist or [is misunderstood].” Another respondent stated that CHW with no immigration status should be reimbursed for services. Several respondents highlighted the fact that reimbursement is sometimes implemented only after CHW licensure is established with one CHW writing that “CHW licensure is not helpful until we can be reimbursed…” Another CHW said that “[CHW] are not involved in the inception of Medicaid issues until after the damage is done. We would like to be more proactive but we are not included enough in the conversation.”

Discussion

We were able to capture 58 CHWs’ and MOs’ understanding of reimbursement and CHW work. Using this sample from 16 different states in the United States of America, we attempted to describe whether CHW helped state residents get enrolled in Medicaid and other factors that might impact CHW work. While many studies have examined the cost-effectiveness of CHW and the ability to increase preventative services utilization on a local level, no studies have previously examined the impact of reimbursement on CHW work.

We found that CHW were generally aware of whether their state currently reimbursed for CHW services, although a significant portion (25%) of all CHWs surveyed did not know if their state reimbursed through Medicaid. This indicates a knowledge gap- CHWs may be in a state that offers reimbursement but do not know it and do not alter their behavior based on this knowledge. We found that most respondents worked in states where CHW helped enroll residents in Medicaid and was not significantly impacted by whether the respondent came from a state that did not allow reimbursement. This finding, however, does not provide us information about how frequently CHW help residents in Medicaid, nor does it include the work of financial counselors who might also be helping enroll residents in Medicaid.

Our survey indicated that CHW most commonly help patients navigate needed care (both healthcare and social programs) and are highly embedded into primary care settings, allowing them to be involved in multiple aspects of their patients care. This finding is supported by other work surveying CHW integrated into MCOs, which found that CHWs primarily focus on supporting clinical work and providing referrals for social issues.[14] This study also found that approximately half of CHWs surveyed directly assist with care planning. The high degree of CHW clinical integration allows CHWs to refer their patients more easily for important primary services like chronic condition management, needed prescriptions, and general health screenings.

Numerous CHW organizations and studies have highlighted the importance of sustainable CHW funding in helping grow as well as maintain the CHW workforce.[10] The need for consistent funding was echoed by survey respondents repeatedly and sustainable funding and reimbursement were cited by at least half of respondents as the most needed resources for CHW in their state. However, several respondents indicated in the free-form response that reimbursement itself was not sufficient and that states should incorporate CHW as stakeholders

when implementing reimbursement. Notably, licensure itself was not seen as needing improvement by respondents and one responded that licensure (usually a prerequisite to implementation of reimbursement) was not useful without reimbursement.

Some states focus on reimbursing CHW as well as enacting broader healthcare transformation through MCOs, who are not incentivized or required to report information on CHW utilization. The impact of Medicaid reimbursement would be more difficult to quantify in these states and as such, we were able to hear from states incorporating direct reimbursement and MCO approaches. We found that of respondents in states where CHW enrolled residents in Medicaid, approximately 33% of their patients were utilizing managed care. This indicates that future analysis of CHW work should carefully consider how to measure the impact of reimbursement on Medicaid enrollment and service utilization in.

We also identified a significant amount of support for our proposed mechanism connecting CHW reimbursement to Medicaid enrollment and preventative services utilization. As shown by respondents, CHWs in their states increase Medicaid enrollment, decrease Medicaid un-enrollment, and increase preventative services uptake. We can use this information going forward to estimate the effect of Medicaid reimbursement on these factors in the United States.

The study is limited by low participation across states- the responses of 58 respondents do not represent the perspectives of the entire CHW and MO workforce in the United States. However, the CHWs and MOs surveyed represent a diverse group of states who do and do not reimburse for CHW services through different mechanisms and can serve as a representation of some CHWs experiences. There could also be significant within state variation of CHW services and reimbursement that may not be adequately captured by our sample. In addition, the wording

of the option “determining eligibility for healthcare plans (including Medicare, etc)” for questions 6, 7, and 10 is potentially misleading- CHW may help clients complete necessary forms but do not provide any final determination on a client’s eligibility for these services. This limitation is somewhat mitigated by question 12, which directly asks if CHWs help enroll residents in Medicaid.

Conclusion

In our exploratory study, we were able to describe how CHWs and MOs understand reimbursement and gaps in reimbursement in 18 different states. Reimbursement of CHW services was highlighted as a needed resource for CHW and descriptive work showed that CHW in a subset of diverse US states enroll residents in Medicaid, prevent residents from being disenrolled, and increase preventative services utilization. Additional studies could examine and quantify the relationship between reimbursement of CHW services and Medicaid enrollment, Medicaid disenrollment, and uptake of preventative services.

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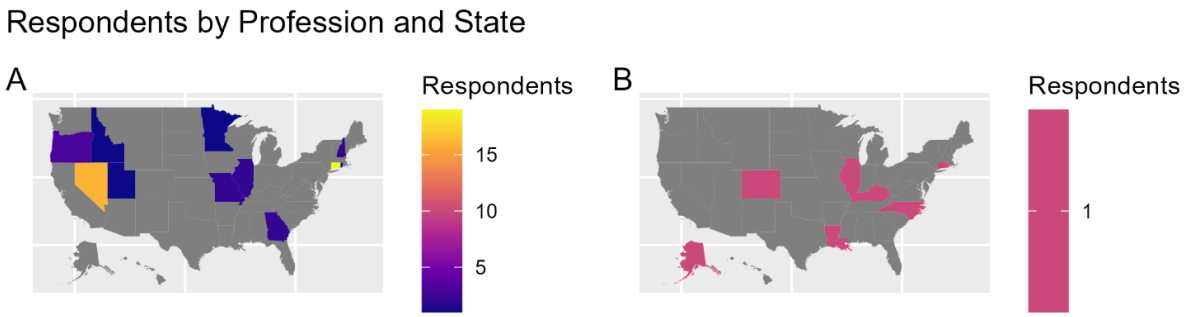
Appendix

Figure 1: Survey respondents by state, profession, and whether their state reimburses CHW services through Medicaid. Maps shown include A. Map of CHW respondents and B. map of MO respondents by state. Table C. shows the number of respondents by state and profession.



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State	Reimbursement	Total (N=58)	CHW (N = 50)	Medicaid Official (N = 8)	P-value
					< 0.001
Alaska	N	1 (1.7%)	0 (0.0%)	1 (12.5%)	
Colorado	N	1 (1.7%)	0 (0.0%)	1 (12.5%)	
Connecticut	N	20 (34.5%)	19 (38.0%)	1 (12.5%)	
Georgia	Y	2 (3.4%)	2 (4.0%)	0 (0.0%)	
Idaho	Y	1 (1.7%)	1 (2.0%)	0 (0.0%)	
Illinois	N	3 (5.2%)	2 (4.0%)	1 (12.5%)	
Kentucky	Y	1 (1.7%)	0 (0.0%)	1 (12.5%)	
Louisiana	Y	1 (1.7%)	0 (0.0%)	1 (12.5%)	
Minnesota	Y	1 (1.7%)	1 (2.0%)	0 (0.0%)	
Missouri	N	2 (3.4%)	2 (4.0%)	0 (0.0%)	
Nevada	Y	16 (27.6%)	16 (32.0%)	0 (0.0%)	
New Hampshire	N	2 (3.4%)	2 (4.0%)	0 (0.0%)	
North Carolina	N	1 (1.7%)	0 (0.0%)	1 (12.5%)	
Oregon	Y	3 (5.2%)	3 (6.0%)	0 (0.0%)	
Rhode Island	Y	2 (3.4%)	1 (2.0%)	1 (12.5%)	
Utah	N	1 (1.7%)	1 (2.0%)	0 (0.0%)	

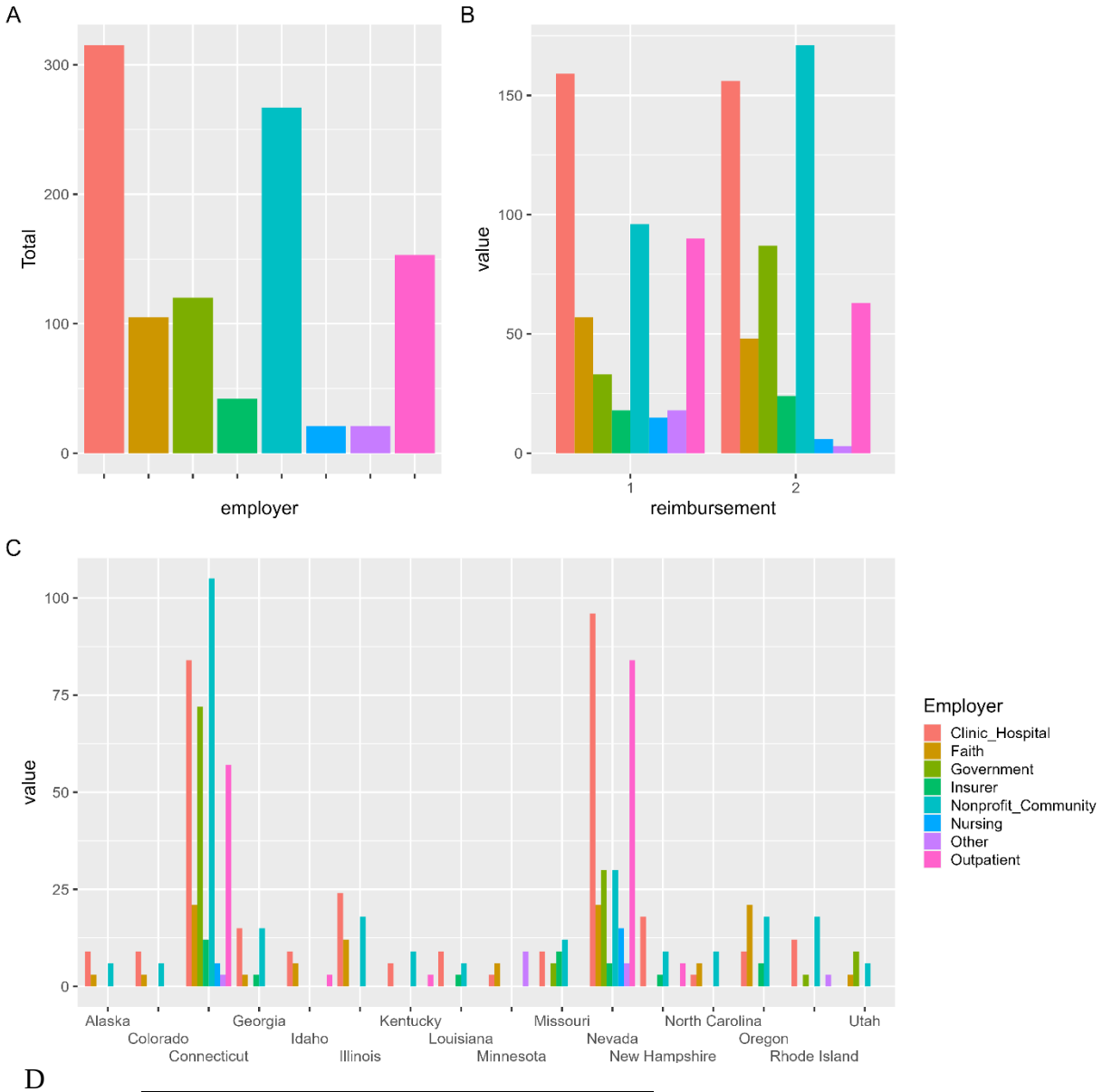
Table 1: States with any respondents to the survey, reimbursement status, payment mechanisms, services offered, authorization mechanisms, and target population. Information sourced from previous research and Medicaid Officials' survey responses. "Typical range of services" as mentioned below includes care coordination, systems navigation, health coaching, patient advocacy, clinical support, and community outreach.

State	Reimbursement	Payment Mechanisms				Services	Authorization	Target Population
		APM	Direct	MCO	FFS			
Alaska	N	N	N	N	N	Currently authorizing		
Colorado	N	N	N	N	N	Currently authorizing.		
Connecticut	N	N	N	N	N	Currently authorizing		
Georgia	Y	N	N	N	N	Limited Scope: Georgia reimburses CHW services for post-partum people for up to 60 days, through a section 1115 demonstration, implemented through Medicaid MCOs.	1115 Demonstration Waiver	Postpartum individuals with very low birthweight babies.
Idaho	Y	Y	Y	N	N	Primary care is incentivized to use CHWs in their practice through an enhanced capitation rate.	No information available	No information available
Illinois	N	N	N	N	N	Currently authorizing		
Kentucky	Y	N	Y	Y	Y	Typical range of services. Notably, certified CHWs services can be utilized in dental clinics and schools.	State Plan Amendment	No information available
Louisiana	Y	Y	Y	Y	Y	Typical range of services.	State Plan Amendment	No information available
Minnesota	Y	N	Y	Y	Y	Typical range of services.	State Plan Amendment	Most members.
Missouri	N	N	N	N	N	None.		
Nevada	Y	N	Y	N	Y	Typical range of services.	State Plan Amendment	Most members.
New Hampshire	N	N	N	N	N	None		
North Carolina	N	N	N	N	N	Currently authorizing. Notably, the state created the first statewide referral platform for CHWs. called NCCARES 360 using COVID-era grants.	See Word document for details	Members in underserved communities.
Oregon	Y	N	Y	Y	Y	Traditional Health Workers (THWs) is the Oregon umbrella term for five categories and subcategories of workers that includes Community Health Workers (CHWs) among others.	1115 Demonstration Waiver and State Plan Amendment	Most members.
Rhode Island	Y	N	Y	N	Y	Typical Range of services	State Plan Amendment	No information available
Utah	N	N	N	N	N	None		

Table 2: Responses to whether respondents' state allows any Medicaid payment for services (Q4 in figure 3) provided by a CHW, stratified by current reimbursement status and respondents profession.

		State currently offers reimbursement for CHW services			Profession		
	Total (n = 58)	Yes (n = 27)	No (n = 31)	P-value	CHW (n = 50)	MO (n = 8)	P-value
Q4				< 0.001			0.108
Yes	23 (39.7%)	21 (77.8%)	2 (6.5%)		20 (40.0%)	3 (37.5%)	
No	10 (17.2%)	3 (11.1%)	7 (22.6%)		9 (18.0%)	1 (12.5%)	
No, but we are planning on implementing it in the future	12 (20.7%)	2 (7.4%)	10 (32.3%)		8 (16.0%)	4 (50.0%)	
I don't know	13 (22.4%)	1 (3.7%)	12 (38.7%)		13 (26.0%)	0 (0.0%)	

Figure 2: Top three employers of CHW weighted by ranking (with higher weight given by higher rank). A. Overall largest employers of CHW weighted by rank. B. Largest employers of CHW stratified by whether their state offers reimbursement (1) or not (2). C. Largest CHW employers stratified by states represented in survey responses. D. Overall points awarded to each employer as a function of rank and selections.



D

Government	120
Clinic/ Hospital	315
Outpatient Care center	153
Insurance Company	42
Nursing Care Facility	21
Nonprofit Group	267
Faith/Community Based Group	105
Other	21

Table 3: Responses to whether CHWs help enroll residents in Medicaid in their state, stratified by profession, state, and whether their state has implemented reimbursement.

		Do CHWs help enroll residents in Medicaid in your state?		
	Total (N=58)	Yes (N=46)	No (N=12)	P-value
Profession				0.206
Community Health Worker (CHW)	50 (86.2%)	41 (89.1%)	9 (75.0%)	
Medicaid Official	8 (13.8%)	5 (10.9%)	3 (25.0%)	
State Implemented Reimbursement				0.117
Yes	27 (46.6%)	19 (41.3%)	8 (66.7%)	
No	31 (53.4%)	27 (58.7%)	4 (33.3%)	

Table 4: Responses provided by respondents when asked about daily duties of CHW, with frequencies stratified by whether CHW help enroll residents in Medicaid in their states and whether their state reimburses CHW through Medicaid.

		Do CHWs help enroll residents in Medicaid?			State Reimburses CHW		
	Total (n=58)`	Yes (n=46)	No (n=12)	P-value	Yes (n=27)	No (n=31)	P-value
Navigate primary care	51	41 (80.4%)	10 (19.6%)	0.583	26 (51.0%)	25 (49.0%)	0.068
Provide health education	50	40 (80.0%)	10 (20.0%)	0.746	23 (46.0%)	27 (54.0%)	0.833
Provide social support	44	35 (79.5%)	9 (20.5%)	0.938	20 (45.5%)	24 (54.5%)	0.766
Advocate for communities	39	31 (79.5%)	8 (20.5%)	0.962	19 (48.7%)	20 (51.3%)	0.636
Determine eligibility for plans	29	26 (89.7%)	3 (10.3%)	0.052	14 (48.3%)	15 (51.7%)	0.792
Coordinate transportation	46	40 (87.0%)	6 (13.0%)	0.005	22 (47.8%)	24 (52.2%)	0.703
Navigate social services	52	42 (80.8%)	10 (19.2%)	0.419	24 (46.2%)	28 (53.8%)	0.858
Other	4	2 (50.0%)	2 (50.0%)	0.134	2 (50.0%)	2 (50.0%)	0.886

Table 5: Responses provided by respondents when asked about what duties states that plan to reimburse CHW services for Medicaid intend on reimbursing for.

		CHWs enroll residents in Medicaid		
	Total (n=4)	Yes (n=4)	No (n=0)	P-value
Navigate primary care				0.290
	4	4 (100.0%)	0 (0.0%)	
Provide health education				0.364
	3	3 (100.0%)	0 (0.0%)	
Provide social support				0.606
	1	1 (100.0%)	0 (0.0%)	
Advocate for communities				0.606
	1	1 (100.0%)	0 (0.0%)	
Determine eligibility for plans				0.606
	1	1 (100.0%)	0 (0.0%)	
Coordinate transportation				0.364
	3	3 (100.0%)	0 (0.0%)	
Navigate social services				0.462
	2	2 (100.0%)	0 (0.0%)	
Other				0.462
	2	2 (100.0%)	0 (0.0%)	

Table 6: Responses provided by respondents when asked about how CHW are integrated into clinical practice, stratified by whether CHW in respondents' states enroll residents in Medicaid.

		CHW enroll residents in Medicaid		
	Total (n=58)	Yes (n=46)	No (n=12)	P-value
Communicate information to patient	38	31 (81.6%)	7 (18.4%)	0.557
Communicate information to physicians	41	33 (80.5%)	8 (19.5%)	0.731
Provide health screenings/referrals	36	32 (88.9%)	4 (11.1%)	0.021
Long term coaching/heath monitoring	43	33 (76.7%)	10 (23.3%)	0.414
Member of primary care team	41	33 (80.5%)	8 (19.5%)	0.731
Other	0	0	0	

Table 7: Of CHW whose states enroll clients in Medicaid, respondents were asked to estimate what percent of their clients were enrolled in Medicaid and what percent of those clients enrolled in Medicaid were enrolled in managed care.

		State reimburses CHW		
	Total (N=58)	Yes (N=27)	No (N=31)	P-value
% of clients enrolled in Medicaid				0.353
Count	58	27	31	
Mean	43.6	35.0	51.1	
Interquartile range (Q1,Q3)	0.0, 90.0	0.0, 66.0	0.0, 90.0	
% of clients enrolled in Medicaid who are enrolled in managed care				0.415
Count	58	27	31	
Mean	32.8	26.9	38.0	
Interquartile range (Q1,Q3)	0.0, 64.8	0.0, 41.0	0.0, 72.0	

Table 8: Respondents were asked to identify resources needed for CHW in their state by category and rank each resource within each category.

		Categories				
Resources	Total (n =363)	Most Needed (n = 132)	Needs Improvement (n = 111)	Satisfactory (n = 75)	Not Needed (n = 38)	N/A (n = 7)
Core skills training	50	8 (6.06%)	19 (17.1%)	14 (18.7%)	7 (18.4%)	2 (28.6%)
Continuing education opportunities	52	14 (10.6%)	16 (14.4%)	15 (20.0%)	6 (15.8%)	1(14.3%)
Networking opportunities	52	16 (12.1%)	21 (18.9%)	10 (13.3%)	5 (13.2%)	0 (0%)
Reimbursement by employer/government	49	36 (27.2%)	9 (8.1%)	3 (4.0%)	0 (0%)	1 (14.3%)
Physical/monetary Resources	49	20 (15.2%)	20 (18.0%)	8 (10.7%)	0 (0%)	1 (14.3%)
State/National Licensure	49	6 (4.5%)	10 (9.0%)	21 (28.0%)	10 (26.3%)	2 (28.6%)
Sustainable Funding for CHW Positions	49	29 (22.0%)	16 (14.4%)	4 (5.3%)	10 (26.3%)	0 (0%)
Other	3	3 (2.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Table 9: Respondents were asked a series of questions on beliefs surrounding reimbursement as well as CHW utilization of preventative services, CHW enrollment of those in Medicaid, prevention of disenrollment, coverage of billing codes, and government support of CHW. Questions are delineated in Figure 3.

		Reimbursement			**``Profession**		
	Total (N=58)	Yes (N=27)	No (N=31)	P-value	CHW (N=50)	MO (N=8)	P-value
Q15	N=35			0.580			0.784
1	9	7 (30.4%)	2 (16.7%)		7 (25.0%)	2 (28.6%)	
2	12	7 (30.4%)	5 (41.7%)		10 (35.7%)	2 (28.6%)	
3	10	7 (30.4%)	3 (25.0%)		7 (25.0%)	3 (42.9%)	
4	3	2 (8.7%)	1 (8.3%)		3 (10.7%)	0 (0.0%)	
5	1	0 (0.0%)	1 (8.3%)		1 (3.6%)	0 (0.0%)	
Q16	N=58			0.467			0.097
1	7	4 (14.8%)	3 (9.7%)		7 (14.0%)	0 (0.0%)	
2	22	13 (48.1%)	9 (29.0%)		16 (32.0%)	6 (75.0%)	
3	10	3 (11.1%)	7 (22.6%)		8 (16.0%)	2 (25.0%)	
4	13	5 (18.5%)	8 (25.8%)		13 (26.0%)	0 (0.0%)	
5	6	2 (7.4%)	4 (12.9%)		6 (12.0%)	0 (0.0%)	
Q17	N=58			0.271			0.007
1	21	10 (37.0%)	11 (35.5%)		20 (40.0%)	1 (12.5%)	
2	9	4 (14.8%)	5 (16.1%)		9 (18.0%)	0 (0.0%)	
3	20	7 (25.9%)	13 (41.9%)		16 (32.0%)	4 (50.0%)	
4	7	5 (18.5%)	2 (6.4%)		5 (10.0%)	2 (25.0%)	
5	1	1 (3.7%)	0 (0.0%)		0 (0.0%)	1 (12.5%)	
Q18	N=58			0.008			0.180
1	35	18 (66.7%)	17 (54.8%)		32 (64.0%)	3 (37.5%)	
2	14	2 (7.4%)	12 (38.7%)		10 (20.0%)	4 (50.0%)	
3	9	7 (25.9%)	2 (6.5%)		8 (16.0%)	1 (12.5%)	
4	0	0	0		0	0	
5	0	0	0		0	0	
Q19	N=58			0.487			0.476
1	17	8 (29.6%)	9 (29.0%)		16 (32.0%)	1 (12.5%)	
2	15	6 (22.2%)	9 (29.0%)		13 (26.0%)	2 (25.0%)	
3	23	11 (40.7%)	12 (38.7%)		19 (38.0%)	4 (50.0%)	
4	1	0 (0.0%)	1 (3.2%)		1 (2.0%)	0 (0.0%)	
5	2	2 (7.4%)	0 (0.0%)		1 (2.0%)	1 (12.5%)	
Q20	N=20			0.296			
1	3	3 (16.7%)	0 (0.0%)		3 (15.0%)	0	
2	7	6 (33.3%)	1 (50.0%)		7 (35.0%)	0	
3	5	5 (27.8%)	0 (0.0%)		5 (25.0%)	0	
4	3	3 (16.7%)	0 (0.0%)		3 (15.0%)	0	
5	2	1 (5.6%)	1 (50.0%)		2 (10.0%)	0	

Figure 3: Survey questions as displayed in the Qualtrics survey with display logic.

Q: Informed consent form

☐ Yes, I consent (1)

Q1 Please select your profession.

☐ Community Health Worker (CHW) (1)

☐ Medicaid Official (2)

☐ Other (3) _____

Q2 In which state do you currently work in the professional capacity described in Q1?

▼ Alabama (1) ... I do not reside in the United States (53)

Q3 Rank the top three employers for CHW in your state, with 1 indicating they are the largest employer of CHW in your state. Drag selections to the box on the right and re-arrange to re-rank.

Three largest employers
_____ State or local government (1)
_____ Clinics or hospital (2)
_____ Outpatient care center (3)
_____ Insurance company (4)
_____ Nursing care facilities (5)
_____ Nonprofit groups (6)
_____ Faith/community based groups (7)
_____ Other (8)

Q4 Does your state allow any Medicaid payment for any services provided by a CHW?

- ○ Yes (1)
- ○ No (6)
- ○ No, but we are planning on implementing it in the future (3)
- ○ I don't know (4)

Display This Question:

If Does your state allow any Medicaid payment for any services provided by a CHW? = No, but we are planning on implementing it in the future

And Please select your profession. = Medicaid Official

Q5 When is your state planning to allow Medicaid payment for CHW services?

- ○ Month/Year (mm/yyyy) (1) _____
- ○ I don't know (2)

Display This Question:

If Does your state allow any Medicaid payment for any services provided by a CHW? = No, but we are planning on implementing it in the future

And Please select your profession. = Medicaid Official

Q6 What CHW services is your state planning on allowing Medicaid reimbursement for? Select all that apply.

- ☐ Help clients navigate primary health care (1)
- ☐ Provide health education to clients and broader community (2)
- ☐ Provide social support and informal counseling. (3)
- ☐ Advocating for their communities' needs at a broader level via policy changes. (4)
- ☐ Determining eligibility for healthcare plans (including Medicare, etc.) (5)
- ☐ Coordination of transporation for clients to/from appointments (6)
- ☐ Help clients navigate social services (including SNAP, etc.) (7)
- ☐ Other: (8) _____

Display This Question:

If Does your state allow any Medicaid payment for any services provided by a CHW? = Yes

Q7 What services are CHWs reimbursed for by Medicaid in your state? Select all that apply.

- ☐ Help clients navigate primary health care (1)
- ☐ Provide health education to clients and broader community (2)
- ☐ Provide social support and informal counseling. (3)
- ☐ Advocating for their communities' needs at a broader level via policy changes. (4)
- ☐ Determining eligibility for healthcare plans (including Medicare, etc.) (5)
- ☐ Coordination of transporation for clients to/from appointments (6)
- ☐ Help clients navigate social services (including SNAP, etc.) (7)
- ☐ Other: (8) _____

Display This Question:

If Does your state allow any Medicaid payment for any services provided by a CHW? = Yes

*

Q8 To the best of your knowledge, please rank the most common methods through which CHW services are reimbursed in your state within the context of Medicaid, with 1 being the most common.

_____ Covered under the state plan (1)
_____ ACA Health Home option (2)
_____ Provided through a manged care organization (3)
_____ Section 1115 waiver (4)
_____ Other: (5)

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*

Q9 What additional resources do CHW need in your state? Please sort each item listed into the groups listed on the left and rank within each group.

Most needed	Needs some improvement	Satisfactory	Not needed	N/A
_____ Core skills	_____ Core skills	_____ Core skills	_____ Core skills	_____ Core skills

training (1)	training (1)	training (1)	training (1)	training (1)
______ Continuing education opportunities (2)	______ Continuing education opportunities (2)	______ Continuing education opportunities (2)	______ Continuing education opportunities (2)	______ Continuing education opportunities (2)
______ Greater networking opportunities with CHW (3)	______ Greater networking opportunities with CHW (3)	______ Greater networking opportunities with CHW (3)	______ Greater networking opportunities with CHW (3)	______ Greater networking opportunities with CHW (3)
______ Greater reimbursement of CHW services by employer/government (4)	______ Greater reimbursement of CHW services by employer/government (4)	______ Greater reimbursement of CHW services by employer/government (4)	______ Greater reimbursement of CHW services by employer/government (4)	______ Greater reimbursement of CHW services by employer/government (4)
______ Additional physical/monetary resources to assist clients (5)	______ Additional physical/monetary resources to assist clients (5)	______ Additional physical/monetary resources to assist clients (5)	______ Additional physical/monetary resources to assist clients (5)	______ Additional physical/monetary resources to assist clients (5)
______ Official CHW licensure administered at the state or national level (6)	______ Official CHW licensure administered at the state or national level (6)	______ Official CHW licensure administered at the state or national level (6)	______ Official CHW licensure administered at the state or national level (6)	______ Official CHW licensure administered at the state or national level (6)
______ Sustainable funding for CHW positions (7)	______ Sustainable funding for CHW positions (7)	______ Sustainable funding for CHW positions (7)	______ Sustainable funding for CHW positions (7)	______ Sustainable funding for CHW positions (7)
______ Other: (8)	______ Other: (8)	______ Other: (8)	______ Other: (8)	______ Other: (8)

Q10 Please select all activities that are part of day-to-day work of a CHW in your state.

- [ ] Help clients navigate primary health care (1)
- [ ] Provide health education to clients and broader community (2)
- [ ] Provide social support and informal counseling. (3)
- [ ] Advocating for their communities' needs at a broader level via policy changes. (4)
- [ ] Determining eligibility for healthcare plans (including Medicare, etc.) (5)
- [ ] Coordination of transporation for clients to/from appointments (6)
- [ ] Help clients navigate social services (including SNAP, etc.) (7)
- [ ] Other: (8) _____

Q11 How is CHW work integrated into clincial practice in your state? Select all that apply.

- [ ] CHW communicate information to patients, including prescriptions, medical procedures, diagnoses. (1)
- [ ] CHW provide relevant patient data to physicians, including beliefs, attitudes, behaviors, and physical/socioeconomic environments. (2)
- [ ] CHW provide patients with health screenings and referrals to care. (3)
- [ ] CHW provide patients with longer term coaching and health monitoring. (4)
- [ ] CHW act as a member of the primary care team (5)
- [ ] Other: (6) _____

Q12 Do CHWs help enroll residents in Medicaid in your state?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Please select your profession. = Community Health Worker (CHW)

And Do CHWs help enroll residents in Medicaid in your state? = Yes

Q13 How many of those you work with are enrolled in Medicaid?

	0 10 20 30 40 50 60 70 80 90 100
% of clients enrolled in Medicaid ()	

Display This Question:

If Please select your profession. = Community Health Worker (CHW)

And Do CHWs help enroll residents in Medicaid in your state? = Yes

Q14 For those patients who you are helping enroll in Medicaid, how many are you helping enroll in and navigate managed care?

	0 10 20 30 40 50 60 70 80 90 100
% of clients enrolled in Medicaid who are enrolled in managed care ()	

Display This Question:

If Does your state allow any Medicaid payment for any services provided by a CHW? = Yes

Or Does your state allow any Medicaid payment for any services provided by a CHW? = No, but we are planning on implementing it in the future

Q15 My state government thinks of Medicaid reimbursement of CHW services as a money saver.

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

Q16 CHWs are adequately supported by my state government.

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

Q17 As far as I know, CHWs in my state were able to enroll more people in Medicaid than would have otherwise been enrolled.

- Strongly agree (11)
- Somewhat agree (12)
- Neither agree nor disagree (13)
- Somewhat disagree (14)
- Strongly disagree (15)

Q18 As far as I know, CHWs were able to increase use of preventative services, such as diabetes screenings, cancer screenings, PrEP use, etc., by patients.

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

Q19 As far as I know, CHWs in my state were able to prevent Medicaid enrollees from being un-enrolled in Medicaid.

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

Display This Question:

If Please select your profession. = Community Health Worker (CHW)

And Does your state allow any Medicaid payment for any services provided by a CHW? = Yes

Q20 CHW services are adequately covered by current Medicaid billing codes.

- ○ Strongly agree (1)
- ○ Somewhat agree (2)
- ○ Neither agree nor disagree (3)
- ○ Somewhat disagree (4)
- ○ Strongly disagree (5)

Q21 Any other thoughts on Medicaid reimbursement and CHW that you would like to share?

_____

End of Block: Start