

Hourly Wages and Turnover of Community Health Workers According to US State Certification Policy and Medicaid Reimbursement, 2010–2021

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 See also Covert, p. 1368.

Objectives. To evaluate the effects of state community health worker (CHW) certification programs and Medicaid reimbursement for CHW services on wages and turnover.

Methods. A staggered difference-in-differences design was used to compare CHWs in states with and without CHW certification or CHW Medicaid reimbursement policies. Data were derived from the 2010 to 2021 Current Population Survey in the United States.

Results. CHW wages increased by \$2.42 more per hour in states with certification programs than in states without programs ($P = .04$). Also, hourly wages increased more among White workers, men, and part-time workers ($P = .04$). Wages increased by \$14.46 in the state with the earliest CHW certification program adoption ($P < .01$). Neither of the policies assessed had an effect on occupational turnover.

Conclusions. CHW wages are higher in states with certification programs. However, wage gaps exist between Whites and non-Whites and between men and women.

Public Health Implications. Federal, state, and employer-based strategies are needed to establish and sustain effective CHW programs to meet the needs of communities experiencing health and access disparities. (*Am J Public Health.* 2022;112(10):1480–1488. <https://doi.org/10.2105/AJPH.2022.306965>)

Community health workers (CHWs) are recognized as part of the multidisciplinary health and social services workforce in the United States. As trusted members of the community with local knowledge and shared life experiences, CHWs are generally recognized as uniquely able to identify problems contributing to health disparities, improve access to health services, and connect people to needed social services.^{1,2} Public health departments and community-based organizations have traditionally been the largest employers

of CHWs. In recent years, health systems and insurers have increased employment of CHWs, in part to enhance their ability to address social determinants of health, support access to primary and preventive health programs, and reduce unnecessary use of services for conditions that can be managed by primary care among difficult-to-serve populations.^{3–5}

Increased job growth and employment reflects the increasing demand for services delivered by CHWs. In 2020, an estimated 64 100 CHWs were employed in the United States.⁶ The majority of CHWs

are Hispanic (35%), non-Hispanic White (39%), Black (15.5%), and female (82%).⁷ The US Bureau of Labor Statistics has projected a 21% increase in CHW jobs (approximately 13 500) by 2030, a rate of growth much faster than the average for all US occupations (7.7%).⁸ However, current employment estimates and projections may be substantially underestimated because of recent calls to rapidly scale the CHW workforce in response to the COVID-19 pandemic and because employment estimates are not consistent with results from a national survey

that estimated the workforce at approximately 86 000.^{2,7}

High employment turnover is also relevant in this occupation as it is evolving in terms of its recognition and credentialing as well as education of CHWs. This, coupled with an increased demand for CHWs in health systems, has left employers from health and social assistance sectors (e.g., public health, health care, social services) with significant challenges in recruiting, hiring, and retaining experienced CHWs.^{9,10} Employment turnover occurs when either employers lay off workers or employees voluntarily resign. According to a 2021 estimate, 2470 workers left CHW jobs and another 5073 transferred from one job to another, accounting for almost 12% of the estimated employed CHWs in that year.¹¹ This was considerably higher than the approximately 9.3% turnover reported for all other occupations in the United States.¹²

Turnover in the CHW workforce has been attributed to short-term funding for CHW programs, low wages, and lack of professional and organizational recognition for work contributions. Initiatives targeting the development of CHW programs and employment of CHWs have historically been funded through short-term grants. As grant funding has decreased, CHW programs and employment of CHWs have not been sustained.

In addition, the median annual wage for CHWs is estimated at \$42 000 (approximately \$20.19 per hour), almost \$10 000 less than the median wage for all other occupations.¹³ Low wages are the leading predictor of premature employee resignations among front-line health workers.^{14,15} Evidence suggests that even moderately higher wages improve satisfaction and retention, whereas dissatisfaction with low pay leads to higher turnover.¹⁶⁻¹⁸ The

short-term nature of grant funding arrangements for CHW programs, coupled with relatively low wages and wage disparities linked to race, ethnicity, and sex, makes it difficult to build CHW programs that have a high level of continuity in providing services to populations with health disparities and a disproportionate share of barriers to accessing health and community services.¹⁹⁻²¹

CHW advocates, researchers, and policymakers have suggested efforts to recognize the role of CHWs through occupational certification. Voluntary occupational certification of knowledge and skill is expected to standardize the practice of CHWs without creating unnecessary barriers to employment and career entry. This form of external recognition may promote respect for CHWs, reinforce the value of the services they provide, and motivate employment practices that retain CHWs.^{3,22-24} Increased retention of CHWs is expected to contribute to service delivery improvements and signal a long-term commitment to these workers as part of the labor force. Stable employment opportunities for CHWs will lead to a steadier supply of workers to meet the growing demand for their services.²⁰

As of 2021, fewer than half of US states had CHW certifications.²⁵ CHW certification is voluntary in most states, although some health insurers (e.g., state Medicaid programs) require certification as a condition of reimbursement for services provided by CHWs. States with CHW certification programs may expect to see an increase in wages and a reduction in occupational turnover if the response to certification is similar to that of other low-wage and direct care workers.^{14,15,22}

Medicaid reimbursement is a more sustainable source of funding for CHW services than short-term grant funding.

States have several funding mechanisms by which CHW services can be covered through Medicaid programs: fee-for-service reimbursement of covered benefits, Section 1115 Demonstration Waivers, value-added services provided through managed care contracts, shared savings via accountable care organizations contracting with providers, dual eligibility programs, and negotiated reimbursement for services (e.g., reimbursement provided by Federally Qualified Health Centers).^{26,27} In recent years, anecdotal literature identified innovation grants and other temporary funding sources as instrumental in motivating CHW employment growth and changes implemented by health care and community organizations to improve care and services for underserved populations.

Employers are key in developing and maintaining a stable CHW workforce and in generating job growth that attracts new entrants to the CHW role.^{25,28} Currently, there is a paucity of evidence related to changes in CHW wages, labor turnover, and funding policies (e.g., personnel or otherwise) that might influence wages or turnover. The current CHW workforce literature is focused on CHWs' impact on addressing chronic and preventable health conditions, understanding the competencies and skills needed by CHWs, and advancing integration of CHWs into health care organizations. In response to the need for understanding how policies affect CHW employment, we investigated state policies related to certification of CHWs and funding models that pay for services provided by CHWs. Specifically, we studied the effects of state CHW certification policies and Medicaid reimbursement policies for CHW services adopted between 2010 and 2021 on changes

in CHW hourly wages and occupation turnover.

METHODS

We used a staggered difference-in-differences design to compare CHWs in states with and without CHW certification (model 1) or CHW Medicaid reimbursement policies (model 2).²⁹ Because policies started in different states at different times, this afforded the opportunity to use the following difference-in-differences model estimate:

$$y_{ist} = \alpha + \gamma_s + \delta_t + \phi D_s \times T_t + \rho X_{ist} + \varepsilon_{ist} \quad (1)$$

where i indexes individual, s indexes state, and t indexes time; y_{ist} is an outcome variable, γ_s are state-fixed effects that control for time invariant state-specific heterogeneity; δ_t are year-month fixed effects that control for contemporaneous shock across states (e.g., the COVID-19 pandemic after the first quarter of 2020); D_s is an indicator variable for states with a specific policy (i.e., CHW certification or Medicaid reimbursement for CHW services); T_t is an indicator variable for the postimplementation phase of a specific policy in a state; ϕ captures the effects of policies (certification programs or Medicaid reimbursement) on outcomes; X_{ist} is a vector of control variables; and ε_{ist} are standard errors clustered at the state level. We used Stata version 14.2 in conducting all of our analyses.³⁰

The empirical model for this study relied on the assumption that, in the absence of treatment, states with and without a specific policy (CHW certification or Medicaid reimbursement for CHW services) would exhibit common trends in the outcomes. We examined differences in outcomes between treatment and control states across years

relative to the base year to validate the common trend assumption. The common trend assumption held for our analysis. The Appendix (available as a supplement to the online version of this article at <http://www.ajph.org>) provides a detailed discussion of the common trend assumption, robustness checks, and placebo tests we conducted to confirm the validity of the models tested and their results.

Study Sample and Data

The primary source of our data was the Current Population Survey (CPS). The CPS is a monthly labor force survey conducted by the US Census Bureau; the survey involves a nationally representative civilian, noninstitutionalized adult sample and provides the most widely used data for labor force studies in the United States. We retrieved January 2010 through April 2021 data from the Integrated Public Use Microdata Series-CPS, which provides identically coded variables over multiple years to facilitate longitudinal analyses.³¹ We restricted our sample to survey participants aged 16 years or older who were employed as CHWs. CHWs are defined by census occupation code 2020 or 2025; these codes are equivalent to the Bureau of Labor Statistics Standard Occupational Classification code for CHWs (21-1094).³² Also, we included only observations including responses to the survey question on wages and observations for which we were able to calculate turnover. The final sample for model 1 included 844 wage observations and 5694 turnover observations. The final sample for model 2 included 766 wage observations and 5289 turnover observations.

Model 1: CHW certification programs. The first model evaluated the effects of state

CHW certification programs on hourly wages and turnover. The treatment group comprised 18 states that launched CHW certification programs between 2010 and 2021; these states (with year of CHW certification program implementation in parentheses) are as follows: South Carolina (2012); Indiana, New Mexico, and Oregon (2014); Florida and Hawaii (2015); Illinois, Kentucky, and Rhode Island (2016); Massachusetts and Michigan (2017); Arizona and Virginia (2018); Maryland, Missouri, Nevada, and Pennsylvania (2019); and Connecticut (2020). Alaska, Texas, and Ohio have certification programs but were not included in the treatment group because their programs commenced before the study period.

The control group, which did not have CHW certification programs at the time of the study, comprised 30 states and jurisdictions: Alabama, Arkansas, California, Colorado, Delaware, District of Columbia, Georgia, Idaho, Iowa, Kansas, Louisiana, Maine, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Oklahoma, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming.

Model 2: Medicaid reimbursement for CHW services. In the second model, we evaluated the effects of state CHW service Medicaid payment policies on hourly wages and turnover. The treatment group comprised 20 states and jurisdictions that implemented Medicaid reimbursement for CHW services between 2010 and 2021; these states (with year of policy implementation in parentheses) are as follows: Texas (2011); North Dakota and Oregon (2012); South Carolina (2013); Connecticut and West Virginia (2014); Colorado,

Missouri, and New Hampshire (2015); Maine, Michigan, Montana, and New York (2016); Alaska, District of Columbia, and Wisconsin (2017); California and Indiana (2018); South Dakota (2019); and Washington (2020). Arkansas, New Mexico, Massachusetts, Minnesota, Pennsylvania, Vermont, and Rhode Island allow Medicaid reimbursement for CHW services but were not included in the study because their Medicaid reimbursement policies commenced before the study period.

The control group comprised the 24 states that did not permit Medicaid reimbursement during the study period: Alabama, Arizona, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Nebraska, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Tennessee, Utah, Virginia, and Wyoming.

Dependent Variables

The dependent variables in both models were hourly wage and occupational turnover. Hourly wages were self-reported and pretax. To adjust for inflation over the study period, we converted wages to 2015 dollars using the Consumer Price Index.³³ We evaluated occupational turnover by tracing respondents' reported occupation codes over the 16-month CPS interview period (the CPS methodology entails contacting participant panels for 8 interviews over a 16-month period). We grouped participants into the turnover category if they reported their occupation as a CHW at the beginning of the interview period and later reported another occupation.

Treatment Variables

Treatment variables were state CHW certification program in model 1 and

Medicaid reimbursement policy in model 2. In both models, treatment was a binary indicator variable identified as 0 (in years) when the certification program did not exist and 1 after the policy was implemented.

Control Variables

Control variables included age in years (16–24, 25–44, 45–64, or ≥ 65), sex (male or female), marital status (currently married or not currently married), race/ethnicity (Hispanic, White, Black, Asian, other), level of education (less than high school, high school, some college, college, more than college), area of residence (metropolitan or nonmetropolitan), and working status (full time or part time).

RESULTS

Table 1 presents sample characteristics of CHWs in states with CHW certification policies (model 1) and Medicaid reimbursement policies (model 2). Approximately 36% of CHWs were employed in states with a CHW certification policy, and 55.8% were employed in states where Medicaid programs reimburse services provided by CHWs. The demographic characteristics of the treatment and control groups were not significantly different. However, the percentage of Hispanic CHWs was higher in states without CHW certification policies, and Hispanic workers were almost 3 times more likely to be employed in states where Medicaid covers services provided by CHWs.

Community Health Worker Certification

Estimates of the effects of CHW certification on hourly wages and occupational turnover are shown in Table 2. States that adopted CHW certification

policies between 2010 and 2021 had significantly higher hourly wages after policy implementation than states without certification policies. Hourly wages were \$2.42 higher in these states ($P = .04$), which translates to a 13.2% increase relative to the baseline hourly wage of \$18.30 (i.e., the hourly wage in treated states before the implementation of certification programs). We did not find a statistically significant effect on occupational turnover. We further examined heterogeneous effects on hourly wages among states that adopted CHW certification policies. In 6 states (South Carolina, Missouri, Michigan, Indiana, Illinois, and New Mexico), there were statistically significant changes in hourly wages after adoption of CHW certification policies. South Carolina, Missouri, Michigan, Indiana, and Illinois had significant increases in hourly wages. New Mexico had a decrease. South Carolina had the highest increase in hourly wages (\$14.46; $P < .01$). Figure 1 shows the results of the state-level analysis.

We also conducted subgroup analyses based on differences according to employee race/ethnicity, sex, and work status (i.e., full time vs part time). We found that hourly wages were significantly higher among Whites (\$2.72; $P = .04$) in treated states; however, there was no significant difference in wages among non-Whites (\$1.74; $P = .35$). Also, hourly wages were significantly higher among men (\$5.16; $P = .03$) but not women (\$1.32; $P = .33$). We further examined possible effects based on race/ethnicity and sex. Non-White male CHWs had a slightly higher increase in wages (\$5.10; $P = .05$) than their White counterparts. We found a significantly higher increase in hourly wages among part-time CHWs (\$4.02; $P = .04$) but no significant difference among full-time CHWs (\$1.56; $P = .23$).

TABLE 1— Sample Characteristics: Current Population Survey Respondents, United States, January 2010–April 2021

| | Model 1 ^a : State Certification Policy, % or Mean (No. of Observations) | | | Model 2 ^b : Medicaid CHW Reimbursement, % or Mean (No. of Observations) | | |
|------------------------------|--|-----------------|-----------------|--|-----------------|-----------------|
| | Full (6958) | Treated (2426) | Control (4532) | Full (6471) | Treated (3610) | Control (2861) |
| Female | 72.3 | 71.7 | 72.7 | 72.1 | 70.1 | 74.2 |
| Married | 47.4 | 46.2 | 48.3 | 48.7 | 46.7 | 50.8 |
| Age, y | | | | | | |
| < 25 | 9.7 | 8.8 | 10.5 | 9.5 | 10.8 | 8.2 |
| 25–44 | 44.4 | 43.3 | 45.2 | 44.6 | 46.2 | 43.0 |
| 45–64 | 40.9 | 42.2 | 39.9 | 40.6 | 39.2 | 42.0 |
| ≥ 65 | 5.0 | 5.7 | 4.4 | 5.3 | 3.8 | 6.8 |
| Race/ethnicity | | | | | | |
| Hispanic | 13.5 | 10.5 | 15.9 | 15.3 | 22.0 | 8.3 |
| White | 60.1 | 62.2 | 58.5 | 57.4 | 55.5 | 59.3 |
| Black | 20.1 | 21.5 | 19.1 | 21.1 | 16.2 | 26.2 |
| Asian | 2.4 | 2.3 | 2.6 | 2.5 | 3.2 | 1.7 |
| Other | 3.8 | 3.6 | 4.0 | 3.8 | 3.1 | 4.5 |
| Level of education | | | | | | |
| < high school | 2.9 | 2.7 | 3.1 | 2.9 | 3.1 | 2.8 |
| High school | 14.9 | 15.9 | 14.1 | 15.1 | 15.9 | 14.2 |
| Some college | 29.9 | 28.8 | 30.7 | 29.0 | 28.9 | 29.1 |
| College | 32.1 | 29.1 | 34.4 | 33.3 | 33.8 | 32.8 |
| > college | 20.3 | 23.6 | 17.7 | 19.6 | 18.2 | 21.1 |
| Working full time | 66.3 | 68.0 | 64.9 | 66.1 | 64.6 | 67.6 |
| Outcome | | | | | | |
| Hourly wage, \$ ^c | 19.3 (n = 844) | 18.3 (n = 304) | 19.3 (n = 540) | 19.3 (n = 766) | 19.2 (n = 433) | 19.3 (n = 333) |
| Turnover | 24.7 (n = 5694) | 24.3 (n = 1975) | 25.0 (n = 3719) | 24.4 (n = 5289) | 24.9 (n = 2950) | 24.0 (n = 2339) |

Note. The sample was restricted to workers whose occupation code was 2020 or 2025 (equivalent to 21-1094 in the Standard Occupational Classification Code System). All estimates were weighted via Current Population Survey weights.

^aThe treatment group includes SC, IN, NM, OR, FL, HI, IL, KY, RI, MA, MI, AZ, VA, MD, MO, NY, PA, and CT. Control states and jurisdictions are AL, AR, CA, CO, DC, DE, GA, IA, ID, KS, LA, ME, MN, MS, MT, NC, ND, NE, NH, NJ, NY, OK, SD, TN, UT, VT, WA, WI, WV, and WY.

^bThe treatment group includes TX, ND, OR, SC, CT, WV, CO, MO, NH, ME, MI, MT, NY, AK, DC, WI, CA, IN, SD, and WA. Control states are AL, AZ, DE, FL, GA, HI, ID, IL, IA, KS, KY, LA, MD, MS, NE, NV, NJ, NC, OH, OK, TN, UT, VA, and WY.

^cIn 2015 dollars.

State CHW certification was not found to have a significant effect on occupational turnover in the full sample. However, it did account for a 14.1% decrease in employment turnover among non-White male CHWs in states with certification programs ($P < .01$).

Medicaid Reimbursement

The results of the analyses of the effects of Medicaid reimbursement on

hourly wages and occupation turnover are presented in Table 2. Medicaid reimbursement was not found to have a significant effect on changes in either wages or occupational turnover among CHWs during the study period.

DISCUSSION

In this study, we explored the effects of state CHW certification policies and

Medicaid reimbursement for CHW services on hourly wages and occupational turnover. We found significant causal effects of state CHW certification on hourly wages in the full sample of CHWs. However, Medicaid reimbursement was not found to have a significant effect on wages over the period of the study. State certification was found to reduce turnover among non-White male CHWs. Otherwise, neither CHW certification nor state Medicaid

TABLE 2— Average Treatment Effects of Policies on Wages and Turnover: Current Population Survey, United States, January 2010–April 2021

| Model | Hourly Wage, <i>b</i> (95% CI) or No. | Turnover, <i>b</i> (95% CI) or No. |
|---|---------------------------------------|------------------------------------|
| Model 1: effects of state certification policies | | |
| $D_s \times T_t$ | 2.42 (0.16, 4.68) | -0.02 (-0.07, 0.03) |
| Model 1-1: heterogeneous effects by race (White vs non-White) | | |
| $D_s \times T_t \times \text{White}$ | 2.72 (0.12, 5.33) | -0.02 (-0.08, 0.04) |
| $D_s \times T_t \times \text{non-White}$ | 1.74 (-1.96, 5.43) | -0.01 (-0.08, 0.05) |
| Model 1-2: heterogeneous effects by sex (male vs female) | | |
| $D_s \times T_t \times \text{male}$ | 5.16 (0.52, 9.80) | -0.02 (-0.12, 0.08) |
| $D_s \times T_t \times \text{female}$ | 1.32 (-1.38, 4.02) | -0.02 (-0.07, 0.03) |
| Model 1-3: heterogeneous effects by race among male CHWs | | |
| $D_s \times T_t \times \text{male} \times \text{White}$ | 5.06 (-2.41, 12.53) | 0.03 (-0.11, 0.17) |
| $D_s \times T_t \times \text{male} \times \text{non-White}$ | 5.09 (0.04, 10.14) | -0.14 (-0.21, -0.07) |
| Model 1-4: Heterogeneous effects by working status (full vs part time) | | |
| $D_s \times T_t \times \text{full time}$ | 1.55 (-1.04, 4.14) | -0.02 (-0.07, 0.04) |
| $D_s \times T_t \times \text{part time}$ | 4.02 (0.12, 7.91) | -0.02 (-0.09, 0.05) |
| Observations | 834 | 5694 |
| Model 2: effects of Medicaid CHW reimbursement | | |
| $D_s \times T_t$ | -1.11 (-3.81, 1.60) | 0.02 (-0.03, 0.06) |
| Observations | 754 | 5289 |

Note. CHW = community health worker; CI = confidence interval. The sample was restricted to workers whose occupation code was 2020 or 2025 (equivalent to 21-1094 in the Standard Occupational Classification Code System). All models were weighted via Current Population Survey weights. Hourly wages were reported in 2015 dollars. Individual controls included age, sex, race/ethnicity, level of education, area of residence (metropolitan or nonmetropolitan), and working status (full time or part time). Standard errors were clustered at the state level. Models included individual controls, state fixed effects, and year-month fixed effects.

reimbursement for CHW services was associated with reductions in CHW turnover.

It is widely believed that the greatest value of CHWs is that they are representative of the underserved populations they are hired to work with. This assumption about the demographics of the CHW workforce led us to consider whether state certification and Medicaid reimbursement policies had equitable effects on subgroups in our sample. In the subgroup analyses, we found that White, male, and part-time CHWs had higher wage increases than CHWs who were non-White, were female, and worked full time. The finding related to men having significantly higher wage increases than women is a concern given the predominance of women in

the CHW workforce.⁷ Our results are consistent with findings from other studies estimating gender pay gaps of 26% in high-income countries, with the health care and social sectors having the widest gaps among low-income occupations.³⁴ The wage gap in this occupation may contribute to a persistent shortage of workers and may hinder employers attempting to hire and recruit CHWs.

Only 66% of CHWs in the sample reported working full time. This finding led us to question whether there is higher turnover among CHWs because a high proportion of these workers are employed part time. This may lead employers to offer higher wages to recruit and retain part-time workers.

Our findings are relevant to inform several recommendations for future

research on CHWs. First, we recommend that researchers consider the relationship between payment policies and the number of CHWs employed. Second, previous literature indicates that wages are the leading indicator of workers' intent to leave their current employment. We recommend that future research evaluate the effects of wages on intent to leave and turnover among CHWs.

Third, our results suggest that voluntary state certification of CHWs may have different effects on employment practices, wages, and turnover than required certification. Finally, in our previous research on CHW certification, we found variations in adoption of nationally defined occupational roles, skills, and qualities by type of employer

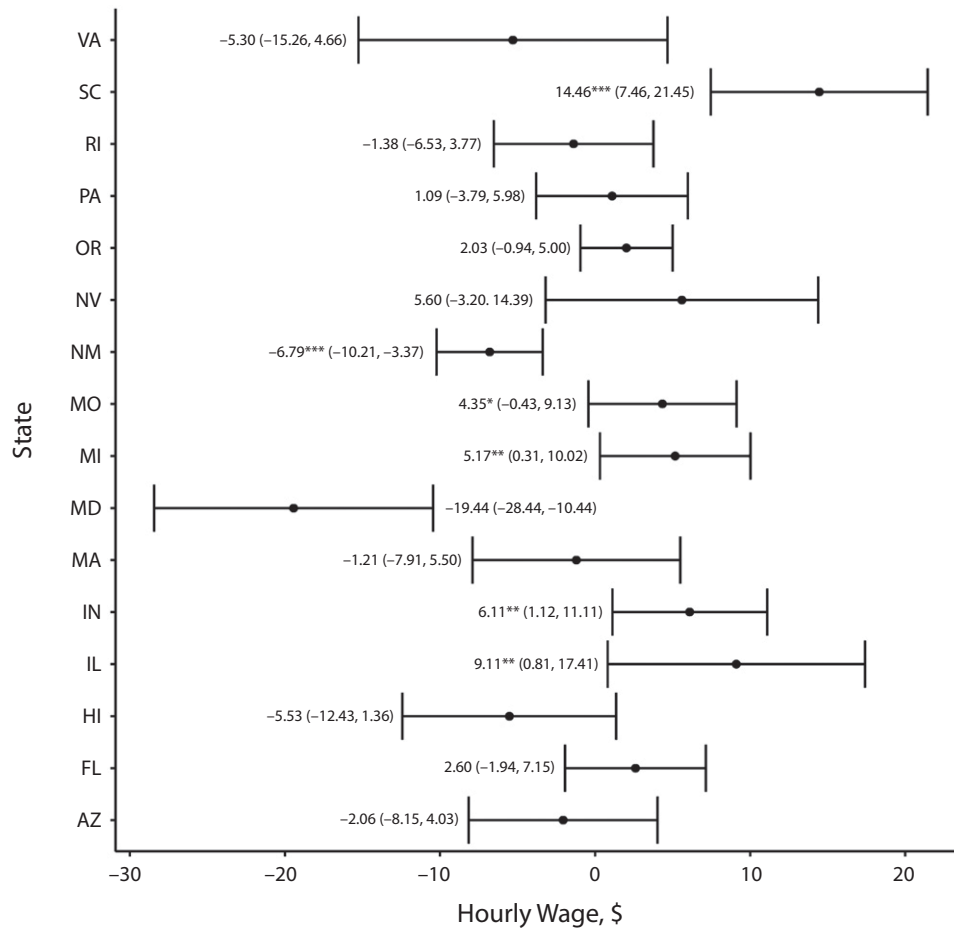


FIGURE 1— Effects of Certification Policies on Hourly Wages Within Treated States: Current Population Survey, United States, January 2010–April 2021

Note. The sample was restricted to workers whose occupation code was 2020 or 2025. Each point shows mean differences in hourly wages relative to control states. Error bars show 95% confidence intervals.

(e.g., insurers, health systems, community-based organizations).²⁴

There was less evidence of standardization in roles, skills, and qualities in job ads posted by organizations that employed CHWs in a greater variety of roles. That finding, coupled with those of this study, led us to consider what effects role standardization (i.e., unambiguous responsibilities and expectations) and employer type may have on reducing role confusion, improving employee satisfaction, increasing intent to remain in one's current position, and decreasing turnover (i.e., resignations).

Limitations

We acknowledge several limitations of this study. First, the number of CHWs directly affected by state certification policies may be limited because most states do not require CHWs to be certified to practice. States that require certification may have higher uptake of certification.²⁵ Second, the number of CHW programs and CHWs affected by state Medicaid payment policies may also be limited given that reimbursement or shared savings realized through the benefits of CHW services are limited to a discrete population.

Third, this study included an analysis of the direct effects of state policies on turnover. There is possibly an indirect effect of wages on turnover that was not explored in our study. Finally, the sample of CHWs that participated in the CPS may not be nationally representative of CHWs. Estimates from the Bureau of Labor Statistics are likely understated, and the most current national survey of CHWs is 15 years old.

Public Health Implications

Payment policies have historically influenced the behavior of health system

employers. However, in this study, Medicaid reimbursement was not found to have an effect on wages or turnover (i.e., measures of employer behavior). The current level of reimbursement from Medicaid for CHW services may not be sufficient to change employer practices related to employment and retention of CHWs.

We considered all types of Medicaid payment policies in this study. As an example, specific payment models such as the alternative payment methodologies available to states under Medicare, Medicaid, and the State Child Health Insurance Program Benefits Improvement and Protection Act of 2000 may provide sustainable and more favorable funding for organizations to offer CHW programs and increase their employment of CHWs. The services reimbursed under such funding strategies (e.g., patient and family support, referral to community and social support services) are well aligned with services typically provided by CHWs and may be more effective in influencing employer behavior (e.g., creating CHW jobs and setting wages sufficient to retain workers).

States that adopted CHW certification programs saw an increase in wages for CHWs. This is an important finding considering that increases in wages in response to certification have been found to reduce turnover among low-wage workers in previous studies. In addition to federal and state policies related to CHW payment and occupational certification, employer behavior regarding job creation and human resource management practices are known to influence occupational turnover and employee retention. Federal, state, and employer-based strategies employed collectively could have an immediate and lasting effect on

developing and maintaining a CHW workforce that is able to meet the needs of populations with health disparities and disproportionate barriers to accessing care and services. *AJPH*

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CONTRIBUTORS

T.M. Jones co-developed the concept and design for the research, conducted the literature review, and was the lead author. C. Jeung co-developed the concept and design for the research, conducted the econometric analysis, and was a major contributor in writing the article. A. Schulte conducted background research and was a major contributor in writing the article. C.M. Lewis provided public health expertise and was a major contributor in writing the article. P.J. Maddox supervised the research project team, provided health workforce data and policy expertise that contributed to the development and design of the research, and was a contributor in writing the article.

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CONFLICTS OF INTEREST

The authors have no potential or actual conflicts of interest from funding or affiliation-related activities to disclose.

HUMAN PARTICIPANT PROTECTION

No protocol approval was needed for this study because no human participants were involved.

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