



Identifying Medication Management Confidence and Gaps in Training Among Community Health Workers in the United States

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Abstract

Community Health Workers (CHWs) are a group of trained health professionals who advocate for members within their communities on social and health care issues. CHWs are increasingly utilized due to their affordability, accessibility, and ability to relate to patients. Evaluating CHW medication management practices, confidence, and training gaps may provide a better understanding of medication management training needs. The purpose of this cross-sectional survey was to assess CHW confidence in medication management, describe medication management services, and identify areas of focus to improve CHW medication management training. A 32-item survey was administered to CHWs in Idaho, Indiana, Nevada, and Oregon through their state's CHW email listservs. The survey content covered four domains: (1) demographic information, (2) work history, (3) experience with medication management and (4) CHW training including specific questions regarding medication management training. Two free-response questions assessed whether medication management training was beneficial and gathered suggestions for medication management-specific training. A total of 77 CHWs completed the survey of which, 90.9% were female, 38.9% worked as CHWs between 1 and 3 years, and 89.6% received instate CHW training. Over three-fourths of respondents (79.2%) provide medication management-related services and 57.1% rate their confidence in medication management as 'poor' or 'fair.' CHWs reported a need for additional medication management training within CHW certificate and continuing education programs. CHWs provide medication management services but have low confidence in their ability to provide such services. A greater emphasis on medication management training should be included in CHW certificate and continuing education programs.

Keywords Community health worker · Medication management · Health care workforce · Training and education

Background

Community Health Workers (CHWs) are a group of trained front-line health workers who advocate for members within their communities on social and health care issues [1, 2]. CHWs are highly utilized due to their affordability, accessibility, and ability to communicate and relate to patients in vulnerable populations [2]. CHWs are able to spend more time with patients compared to other health professionals, making them an essential resource in the community. They

educate clients on health practices, disease prevention, and navigating the health care system. Over the past few years, the number of trained CHWs serving individuals across the United States has increased [3].

CHW training in most states focuses on communication, navigation of health resources, and health problems such as mental health, substance abuse, and chronic diseases [4]. Most often, the treatment for chronic diseases is medication related. Therefore, CHW knowledge of basic medication management is essential for supporting patient self-management of chronic diseases. Depending on training and experience, CHWs may have little to no exposure to medication management. Multiple CHW studies show that one of the biggest barriers within many populations is medication adherence or medication management assistance, highlighting the need for CHW training curriculum to include medication education and adherence [5–8].

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Currently there are no standardized requirements for the training of CHWs in medication management. Additionally, medication management training requirements for licensure and certification vary by state. Medication management is a broad term that describes the ability of an individual or group to handle prescription or over-the-counter medications in a safe and effective manner, allowing the patient to obtain optimal therapeutic care [9]. Lacking skills in medication management can lead to medication errors that may cause harm to a patient or lead to death [8]. Effective medication management, however, can improve patient medication adherence, quality of life, and overall patient care [10].

Evaluating overall confidence and identifying current medication management practice and possible training gaps among CHWs may provide a better understanding of areas for improvement in CHW training programs. The purpose of this cross-sectional survey was to assess CHW confidence in medication management, describe medication management services, and identify areas of focus with regard to medication management in CHW training.

Methods

Study Design and Population

To identify and disseminate an online survey to CHWs, we utilized the National Academy for State Health Policy to find states with CHW associations or coalitions [11]. We then reviewed each states' CHW association/coalition website for information regarding access to CHW email lists. We ultimately identified four states with accessible CHW email lists: Idaho, Indiana, Nevada, Oregon. We contacted each state CHW association to determine their willingness to facilitate survey distribution. Each of the four states selected agreed to distribute the survey to their CHW members.

Survey Instrument

A 32-item survey (Appendix A) was developed to assess CHWs confidence in medication management, describe medication management services performed by CHWs and identify gaps in CHW medication management training. Because there are no validated CHW surveys solely focused on medication knowledge, many questions within the survey were developed by modifying and adopting surveys previously administered to CHWs from Massachusetts, Washington State, and Minnesota [12–14].

The survey was divided into four domains: (1) demographic information, (2) work history, (3) experience with medication management and (4) CHW training including specific questions regarding medication management training. The first domain of the survey captured general

demographic information including gender identity, age, race, level of education, current status as a CHW, and clinical licenses and certificates. The second domain evaluated the overall work history of each respondent. Specific questions in this section assessed duration of employment or volunteering as a CHW, average time spent each week serving as a CHW, whether the position was paid or unpaid, geographic settings for work, average number of clients served in each month, race or ethnicity of clients, disease states most encountered, and average age group of clients served.

The next two domains gathered specific information regarding CHWs medication experience and training. Questions in domain three included an assessment of the frequency that respondents assisted with resolving medication-related issues, confidence in medication management, current CHW activities, activities related to medication management, number of clients receiving education on medication use, and number of clients assisted with medication adherence. The fourth domain assessed training of CHWs, including the location of CHW training, topics covered during training, specific medication-related topics included in the training, and overall rating of the medication management-related training. Additionally, two open-ended questions were included to understand how medication management training was beneficial or could be improved.

Data Collection

The survey was generated using Qualtrics® software (Provo, UT). The survey link was shared via email to the CHW state advisors for Idaho, Indiana, Nevada, and Oregon. State advisors were then responsible for disseminating the survey link to potential CHWs participants using their state CHW listservs. The survey link was active for 6 weeks from September 24, 2018, to November 12, 2018. After opening the survey, participants had a 2-week period to complete the survey before the program automatically recording their responses. During the active 6-week period of the survey, reminder emails were sent to head CHW state advisors (each state received three reminders) to encourage participation prior to the survey closing. Prior to starting the survey, participants provided informed consent and remained anonymous throughout the survey.

Statistical Analysis

Survey data was exported to Microsoft® Excel (Redmond, WA). Descriptive statistics were used for demographic variables, attitudes, knowledge, and self-efficacy of the respondents. Responses to open-ended questions were analyzed using grounded-theory to identify common themes of medication management training benefits and needed improvements to medication management training.

Results

During the 6-week study period, 91 CHWs initiated the survey. Of the initiated surveys, 77 completed the demographic, work history and experience with medication management domains, whereas 70 completed the survey in its entirety. For data analysis, we included the 77 respondents who completed up to the experience with medication management domain. There were 25, 18, and 34 respondents from Idaho, Nevada, and Oregon, respectively. There were no responses from CHWs practicing in Indiana. Respondents were between the ages of 18–65 with 23 (29.8%) being within the age of 56–65 years old and 70 (90.9%) being female. Over half of the CHW respondents (53.2%) were Caucasian, and one third (36.3%) of respondents had a bachelor's degree. A total of 23 (29.8%) respondents had some form of a clinical license or certificate (Table 1).

Work/Professional Position and History

Most respondents currently hold a paid position as a CHW (76.6%), work in urban or city locations (44.2%), and have worked as a CHW for 1–3 years (40%). About half (46.7%) work 30–40 h every week and most (49.3%) serve between 30 and 100 clients every month. Respondents reported working primarily with Hispanic/Latino (61, 7%), Non-Hispanic White (57, 7%), and Black/African American (29, 37.7%) clients. Overall, the five categories of clients/services delivered most were: aiding clients with accessing health care services, diabetes, behavioral health/mental health/chronic disease prevention, alcohol and substance abuse, and older adults with health problems. Most respondents reported serving clients over 60 years of age the majority of the time.

Training in Medication Management

Almost all respondents (89.6%) received CHW training in the state where they currently work. Few respondents reported receiving training in medication management (19.5%) or medication adherence (18.2%). Over three-fourths of respondents (79.2%) provide medication-related services and 57.1% rate their confidence in medication management as 'poor' or 'fair' (Fig. 1). The top three medication-related activities that respondents engage in were: obtaining medications for clients, medication adherence counseling and medication education. Overall, 22.1% and 14.3% of respondents reported educating more than half of their clients on safe medication use or medication adherence, respectively.

Table 1 Demographic information

Demographic variable	N = 77
Gender, female	70 (90.9%)
Age range (years)	
18–25	10 (12.9%)
26–35	14 (18.1%)
36–45	16 (20.7%)
46–55	14 (18.1%)
56–65	23 (29.8%)
Race	
American Indian or Alaskan Native	3 (3.8%)
Asian	5 (6.4%)
African	3 (3.8%)
Black or African American	2 (2.5%)
Native Hawaiian or Pacific Islander	0 (0.0%)
Caucasian	41 (53.2%)
Hispanic/Latino	7 (9.1%)
Mixed race	8 (10.3%)
Prefer not to answer	8 (10.3%)
Education	
Some high school	0 (0.0%)
High school degree/graduate	7 (9.1%)
Some College/University	19 (24.7%)
Vocational school	1 (1.3%)
Associate degree	11 (14.3%)
Bachelor's degree	28 (36.4%)
Master's degree	9 (11.7%)
Professional degree	2 (2.6%)
Doctorate degree	0 (0.0%)
Licensure, yes	23 (29.8%)
Paid position	59 (76.6%)
Work and volunteer duration (years)	
< 1	20 (25.9%)
1–3	30 (38.9%)
4–7	13 (16.8%)
8–10	6 (7.7%)
> 10	8 (10.3%)
Hours served per week	
< 5	12 (15.6%)
5–10	7 (9.1%)
10–20	6 (7.8%)
20–30	8 (10.4%)
30–40	36 (46.7%)
> 40	8 (10.4%)
Work setting	
Rural/country	29 (37.6%)
Suburban/town	14 (18.1)
Urban/city	34 (44.1%)
In state CHW training	69 (89.6%)

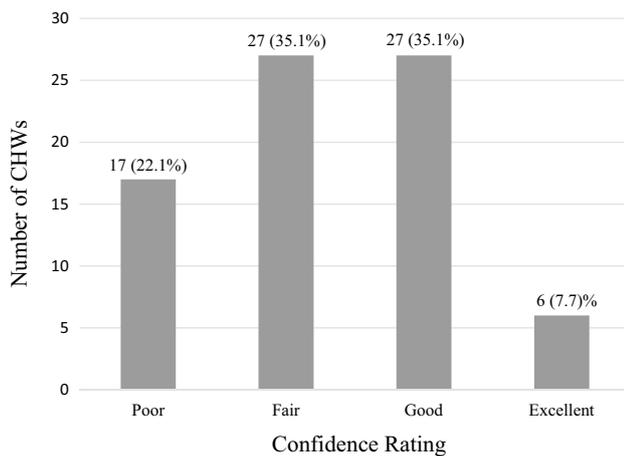


Fig. 1 CHW confidence in medication management

CHW Perceptions and Recommendations for Medication Management Training

There were 62 open-text responses describing the benefits of medication management training. Of open-text responses, 27.4% reported training being beneficial and 24.2% reported not receiving medication management training. Most respondents recommended more training with regard to general medication education, medication management, and continuing education in medication management training as a means of improve overall CHW training programs. Free-text examples highlighting these needs include:

Respondent 1: “Further training regarding medications is greatly needed in [geographic location] or available online. Most trainings of this type are located 5 + hours away from my current location and I am unable to travel greater than 60 miles for trainings.”

Respondent 2: “More time and more information in detail will be helpful if a CHW is going to work with a patient who will need help with medication management. Or provide an additional training (requirement) for CHWs working around patient/medications.”

Respondent 3: “In my opinion, I feel the training should have been much more elaborate. With that being said, when I was attending my training I truly did not realize how often I would be dealing with medication concerns.”

Respondent 4: “Training should include strategies to assist clients to understand medication literacy.”

Discussion

To our knowledge, this is the first cross-sectional survey describing CHW confidence in providing medication management services and identifying strategies to improve CHW medication management training. Although many CHWs report engaging in medication-related issues, few are confident in their abilities to provide medication-related services. Many CHWs reported a need for additional medication management training within CHW certificate and continuing education programs.

Most CHW training programs are provided by individual states and tailored to local needs. Since medication management is a defined subject area, it would be reasonable to develop a nationally standardized curriculum with individual states providing tailored continuing education programs to meet local needs. This curriculum would allow for CHWs in every state to obtain optimal knowledge and confidence in managing medication-related issues.

Based on open-text comments, medication management training could include the following topics: medication terminology, dosage forms, weights and mathematics, safety, administration, monitoring, adherence, medication education for patients and reporting medication errors. The fundamental elements that should be covered in all CHW certificate programs are medication education and adherence for patients. Each state or organization may need to adapt training to their patient population which will require partnerships between organizations with expertise in medication management training.

Limitations

There are several limitations of this study. First, the sample size was small and limited to three states with CHW organizations or coalitions and may not be generalizable to CHWs in other states. In addition, of the 91 respondents that initiated the survey, 21 respondents did not complete the entire survey, further reducing the sample size. Second, due to the cross-sectional design of the survey, limited information may be gained regarding the effects of medication management training on knowledge or confidence to provide medication management services. Third, we were unable to assess the survey response rate as the survey link was distributed by individual state organizations to an unknown number of CHWs. Finally, there is a possibility of response bias with this convenience sample evidenced by lack of responses from CHWs in Indiana despite distribution of the survey link through a state-wide newsletter.

Conclusion

CHWs provide medication management services, including medication adherence and education counseling. CHW confidence to provide medication management services is low and many have identified a need for greater emphasis on medication management in CHW certificate and continuing education programs. Implementing and standardizing medication management training within the CHW training curriculum may improve knowledge and confidence in medication management during CHW practice.

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Compliance with Ethical Standards

Conflict of interest The authors declare no relevant conflicts of interest or financial relationships.

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