

APHA Incentive Grant Final Report

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Title

An Assessment of Pharmacist and Community Health Worker Collaboration in the Midwest Region

Introduction

Despite making up only 13.4% and 18.5% of the United States population¹, the prevalence of chronic diseases is consistently higher among Black/African American and Hispanic/Latino communities. In patients who participated in the National Health and Nutrition Examination Surveys (NHANES), the prevalence of hypertension², obesity³, and diabetes⁴ was found to be highest among non-Hispanic Black adults, followed by Hispanic, and then non-Hispanic White adults in each of the three conditions. These disparities have existed for centuries⁵ and the United States must be open to new solutions for how to address and overcome these inequalities.

The addition of a community health worker (CHW) has shown to help reduce these disparities. The American Public Health Association⁶ has defined a CHW as “a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served.” Additionally, “this trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.”

CHWs have exhibited benefit when added to the healthcare team, particularly in chronic disease state outcomes and adherence to preventive care recommendations. Collingsworth et al⁷ showed that patients who participated in a CHW-led diabetes self-management education program experienced statistically significant reductions in mean A1c and systolic blood pressures. Another research team⁸ found that visits by community health workers to the homes of low-income adults with uncontrolled asthma led to statistically significantly increased symptom-free days and quality of life improvements. Furthermore, Pati and team⁹ also studied the effects of home visits by community health workers. In their study, CHWs provided support to families in the form of encouragement to adhere to childhood preventive care recommendations. As a result, newborns, infants, and toddlers in the CHW intervention group saw an improved adherence to immunization schedules. Not only do CHWs improve outcomes, but Kangovi et al¹⁰ found that patients who received CHW support reported receiving higher quality of care. There is a robust pool of literature describing the benefits of community health workers, however their place within the healthcare team has still not been widely accepted.

Community health workers have shown their worth, but still their work is commonly only supported by temporary grant-funded programs. Due to the varying degrees of implementation and state funding models across the United States, this study will take a regional approach. Per the federal government’s definition¹¹, the Midwest includes the following 12 states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Among these states, some state Medicaid programs allow for reimbursement of CHW services to some degree¹².

Currently, Illinois, Indiana, Minnesota, and South Dakota's Medicaid programs reimburse CHWs for select services. In fact, Minnesota, one of the most progressive states in terms of community health worker support, has allowed CHWs to receive payment for certain services under Medicaid since 2009. In Wisconsin, Governor Evers' 2021-2023 Executive Budget proposes expanded Medicaid coverage of services provided by CHWs. On the other hand, Iowa, Kansas, Nebraska, and North Dakota's Medicaid programs do not reimburse for CHW-provided services. Additionally, each state has varying degrees of state-approved trainings and/or certification requirements of CHWs.

In order to provide long-term benefits to the healthcare system, they must be welcomed by other healthcare team members, supported by governmental leaders and employers, and their funding must be secured. With the increase of community health worker utilization and governmental support comes the inevitable question of how to incorporate them into the healthcare team. Both community health workers and pharmacists have shown that they are well-equipped to produce strong positive outcomes in chronic disease management, but pharmacists' perceptions of community health workers appears to be a relatively novel area of research within a rapidly growing field.

Project Objective

The objective of this study is to assess pharmacist perceptions and experiences with community health workers, including perceived benefits and barriers.

Methods

Study Population and Respondent Recruitment:

The study population consists of licensed pharmacists over the age of 18 years old and able to read English. Respondents were recruited via an email distributed to pharmacists via state pharmacy organizations in the following Midwestern states: Illinois, Indiana, Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin. The total pharmacist membership of these nine organizations is 10,350. As an incentive for participation, 1,000 respondents will be chosen at random to win a \$15 Amazon gift card.

Survey Development and Study Design

The "Core Principles and Values of Effective Team-Based Health Care" was utilized to develop the survey tool. Mitchell et al¹³ defines the following five core principles underlying the most effective health care teams: shared goals, clear roles, mutual trust, effective communication, and measurable processes and outcomes.

A 41-item, anonymous, electronic survey was developed utilizing branch, display, and skip logic. Question types included a mixture of 5-point Likert-scale, multiple choice, select-all-that-apply, dichotomous, and free text responses. The survey was pilot-tested for content and length. The web-based survey was inputted into Qualtrics™ Survey Software and was distributed to pharmacists via state pharmacy organizations throughout the Midwest. It will be open for six weeks, with reminder emails being sent out during weeks 3 and 5.

The survey will assess previous or current experiences with a community health worker. Utilizing branch logic, if the pharmacist has had experience working with a community health worker, questions will follow assessing their level of interest in continuing to work with a community health worker as well as assessing their perceptions of their experience. If respondents have not had direct experience with a community health worker, they will be directed to questions assessing their level of interest in working with a community health worker as well as their perceptions of a community health worker. To avoid

the risk of participants completing only the demographics section, these questions were asked last. The demographics section includes questions asking about the state or states the participant is licensed and actively practicing, racial and ethnic background, years in practice, and patient populations served.

Data Analysis:

The objective of this study is to assess pharmacist perceptions and experiences with community health workers. Data will be analyzed using IBM SPSS Statistics version 26 (IBM, Aemonk, NY). Chi Squared and Mantel-Haenszel Chi Squared tests as well as Spearman and Pearson correlations will be used to evaluate relationships between experiences with community health workers and states, practice settings, patient populations served, and perceptions. Descriptive statistics will be used to assess demographics and results within the “Five Core Principles” framework. A biostatistician from Indiana University will be utilized to analyze results of the survey.

Preliminary Results (Data Collection Still Ongoing)

The survey was distributed to pharmacists via state pharmacy organizations in the following Midwestern states: Illinois, Indiana, Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota, and Wisconsin. The total pharmacist membership of these nine organizations is 10,350. Due to the survey being distributed via email, it is unknown how many emails were returned to the sender or failed to send. The survey received 147 responses and 118 met eligibility criteria. Of the 118 eligible respondents, the survey was completed in its entirety by 92 respondents.

Out of the twelve midwestern states, no responses have been received to date from pharmacists licensed and actively practicing in Kansas, North Dakota, or South Dakota. The majority of respondents are licensed and actively practicing in Illinois, Wisconsin, and Nebraska (51, 19, and 10 responses, respectively). The mean average age was 43, and most respondents were female (76%), identified with the European/non-Hispanic white race (75%), and held a PharmD degree (73%). Full demographic results can be found in **Table 1**.

Of the 92 eligible respondents who completed the survey in full, 29 respondents reported working collaboratively with a CHW and 63 reported a lack of experience. The majority of reported CHW collaboration occurs in the following settings: community setting – retail/grocery chain/mass merchandizer pharmacy and hospital or health system – outpatient setting (both received 6 responses). This is following closely by the following practice settings: Federally Qualified Health Center and/or Community Health Center (CHC) and hospital or health system – inpatient setting (both received 5 responses).

Respondents with experience working with a CHW reported working with a mean number of 4.16 CHWs, ranging from 1 CHW to 15. Twelve respondents reported having less than one year’s experience with a CHW and of the remaining respondents, the mean number of years worked with a CHW was 3 years. When respondents *with* experience working with a CHW were asked for their level of interest in *continuing* to work with a CHW, 12 were strongly interested, 14 were interested and 3 were neither interested nor disinterested. No respondents with experience with a CHW reported a lack of interest or a strong lack of interest in continuing to work with a CHW. Conversely, when respondents *without* experience working with a CHW were asked for their level of interest in working with a CHW, 7 were strongly interested, 28 were interested, 24 were neither interested nor disinterested, 2 were disinterested, and 2 were strongly disinterested.

Discussion and Conclusions:

Results will be further analyzed, and conclusions will be extrapolated at the conclusion of data collection.

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Table 1. Respondent Demographics and Characteristics (N=92)

Characteristic	Results ^A
State(s) of Practice^B, n (%)	
Illinois	51 (55%)
Indiana	7 (7%)
Iowa	6 (7%)
Michigan	2 (2%)
Minnesota	3 (3%)
Missouri	3 (3%)
Nebraska	10 (11%)
Ohio	1 (1%)
Wisconsin	19 (21%)
Other	4 (4%)
Practice Setting(s) with Collaborative Community Health Worker Experience^B, n	
Academia	3
Community setting – independent pharmacy	3
Community setting – retail/grocery chain/mass merchandizer pharmacy	6
Federally Qualified Health Center (FQHC) and/or Community Health Center (CHC)	5
Hospital or health system – inpatient setting	5
Hospital or health system – outpatient setting	6
Veterans Affairs	1
Clinic-based setting (NOT a VA, CHC, or FQHC)	3
Other	3
Age in years, mean (range)	43 (24-82)
Race, n (%)^B	
Asian	14 (15%)
Black or African American	3 (<1%)
European/non-Hispanic White	69 (75%)
Gender, n (%)	
Female	70 (76%)
Male	21 (23%)
Professional Pharmacy Degree Held^C, n (%)	
Bachelor's Degree (BSP Pharm)	23 (25%)
PharmD	67 (73%)
Years in practice as a licensed pharmacist ^D , mean (range)	18 (1-61)

^A Results may not add precisely to 100% due to rounding

^B Results not mutually exclusive

^C Respondents with both degrees counted as PharmD

^D Excluded those with less than one year's experience