

Yale University

## EliScholar – A Digital Platform for Scholarly Publishing at Yale

---

Public Health Theses

School of Public Health

---

1-1-2021

### Uniting The Front: A Qualitative Exploration Of The Community Health Worker Covid-19 Pandemic Response In Connecticut

Serena Ly  
ly.serena.h@gmail.com

Follow this and additional works at: <https://elischolar.library.yale.edu/ysphtdl>



Part of the [Public Health Commons](#)

---

#### Recommended Citation

Ly, Serena, "Uniting The Front: A Qualitative Exploration Of The Community Health Worker Covid-19 Pandemic Response In Connecticut" (2021). *Public Health Theses*. 2074.  
<https://elischolar.library.yale.edu/ysphtdl/2074>

This Open Access Thesis is brought to you for free and open access by the School of Public Health at EliScholar – A Digital Platform for Scholarly Publishing at Yale. It has been accepted for inclusion in Public Health Theses by an authorized administrator of EliScholar – A Digital Platform for Scholarly Publishing at Yale. For more information, please contact [elischolar@yale.edu](mailto:elischolar@yale.edu).

**Uniting the Front: A Qualitative Exploration of the Community Health Worker COVID-19  
Pandemic Response in Connecticut**

Serena Ly

Primary Advisor: Dr. Rafael Pérez-Escamilla

Secondary Advisor: Dr. Kathleen O'Connor-Duffany

A Thesis Submitted in Partial Fulfillment for the Degree of Master of Public Health in the

Department of Social and Behavioral Sciences

Yale University

Year Completed: April 2021

Year of Graduation: May 2021

## Abstract

### Background

Community health workers (CHWs) are becoming increasingly recognized for their contributions to community health. As the COVID-19 pandemic continues to devastate poor and underserved communities, leveraging CHWs' experiences with vulnerable community members is key to developing an equity-centered pandemic response. This qualitative research study aimed to explore how CHWs have addressed emerging community needs and whether health and emergency management systems have fully integrated CHWs in the COVID-19 pandemic response. This study further aimed to assess, through CHWs perceptions, how well health systems have safeguarded CHWs' health and wellbeing as they support impacted communities.

### Methods

CHWs and their managers who reside in the state of Connecticut were invited to participate in this qualitative study. Semi-structured, in-depth qualitative interviews of eight CHWs and three CHW managers were performed through Zoom. CHWs and CHW managers interviewed in this study ranged from 25 to 68 years of age and represented 6 distinct Connecticut-based organizations serving demographically diverse patient populations.

### Results

CHWs in this study reported undertaking new responsibilities in addition to former ones to respond to emerging community needs over the course of the COVID-19 pandemic, including (i) meeting patients' housing, food, and mental health needs, (ii) providing COVID-19 and flu health education, (iii) connecting patients to COVID-19 and health services, and (iv) helping patients cope with experiences of racism. CHWs expressed having experienced pandemic-related

strain on both their personal and professional lives and a desire but perceived inability to provide necessary resources to patients.

## Conclusions

This study documented specific ways by which CHWs addressed patients' social and health needs prior to and during the COVID-19 pandemic. Given CHWs' ability to bridge gaps between underserved patient populations and medical and public health communities, greater investment in CHWs would likely lead to improved community health outcomes. Additionally, increased integration of CHWs into health systems and activation of CHWs in policymaking would advance health equity.

**Acknowledgements:** The author wishes to thank all CHWs and CHW managers, who provided invaluable contributions to this project. Additionally, the author wishes to thank Dr. Rafael Pérez-Escamilla and Dr. Kathleen O'Connor-Duffany for their support and contributions to the development of this thesis.

## Table of Contents

Abstract.....	2
Background.....	2
Methods.....	2
Results.....	2
Conclusions.....	3
Background.....	6
Methods.....	8
Study Design.....	8
Data Analysis.....	10
Results.....	11
Non COVID-19 General Findings.....	11
Complex care navigation.....	11
Removing patient barriers.....	13
Bridge between communities and health care providers.....	15
CHW challenges and policy activation.....	19
COVID-19 Findings.....	25
Impact of COVID-19.....	25
Reducing health inequities during COVID-19 pandemic.....	32
COVID-19 and flu health education.....	34
Confronting racism.....	39
Discussion.....	40
Limitations.....	42
Conclusions.....	43
References.....	43

## Background

Despite the growth of health care initiatives targeting underserved, low-income communities, health professional shortage areas and barriers to care access continue to persist throughout the United States.<sup>1</sup> Over 57 million individuals live in 5,864 designated primary care shortage areas.<sup>2</sup> Poor quality of care, increasing proportions of chronic disease, and widening health inequities continue to drive up healthcare costs in the US.<sup>3</sup> Solutions to address poor population health outcomes center coordination of care for low-income populations that bear the brunt of health inequity.<sup>4</sup> Recently, health systems and decisionmakers have recognized the potential for community health workers (CHWs) to help eliminate health inequities.

CHWs are public health workers who come from or identify with the communities that they serve. As a result of their cultural and linguistic ties to the communities in which they work, CHWs intersectional skills serve integral roles in connecting medically underserved populations to health and social service systems.<sup>5</sup> Around the world, CHWs are known by many titles, an indication of the lack of consensus around CHWs' responsibilities, which is not surprising given the diverse roles that CHWs play in different communities. These titles include *promotores*, natural helpers, doulas, lay health advisers, frontline workers, peer supporters, community health advocates, and community health liaisons, among many others.<sup>6,7</sup> While CHWs take on broad responsibilities that span the spectrum of community members' needs, they primarily provide culturally appropriate health education, assistance in accessing medical and social services and programs, translation, patient navigation services, counseling, mentoring, transportation, and/or direct primary care services to vulnerable community members.<sup>8</sup>

Despite the key roles they play in connecting community members to necessary health and social services, CHWs struggle to gain acceptance by health systems and policymakers.

Healthcare providers and health systems have not fully integrated CHWs into their programs because the services that CHWs provide fall outside the realm of traditional care delivery and reimbursement models.<sup>9</sup> Indeed, the services that CHWs offer have traditionally not been reimbursed by Medicare, Medicaid, or private health coverage, presenting challenges regarding program sustainability, adequate compensation, and professional advancement.<sup>10</sup> Currently, CHWs are primarily funded through grants and limited public health funding available locally.

As marginalized communities of color bear the disproportionate burden of mortality and morbidity due to COVID-19, the pandemic has laid bare the impact of systemic inequality on quality of and access to healthcare.<sup>11</sup> Throughout the course of the COVID-19 pandemic, vulnerable community members have experienced severe and sudden emerging social service and health needs that current health systems and local governments have been unable to meet. The natural outreach and service abilities offered by CHWs have been under-appreciated during the local-level pandemic response. Leveraging connections with community members and adaptive resilience acquired through experience, CHWs have indeed undertaken multiple responsibilities to support vulnerable communities during the COVID-19 pandemic.<sup>12</sup> These include, and are not limited to, engagement in contact tracing and other local and state-level containment efforts, health education and promotion, and resource navigation.<sup>13</sup>

The pandemic has left little doubt that CHWs should be essential healthcare workers. However, little is known about whether health and emergency management systems have fully integrated CHWs in the COVID-19 response or adequately safeguarded their health and wellbeing compared to other health care providers.

## Methods

This study focused on CHWs and their program managers or supervisors employed at organizations or hospitals in the state of Connecticut at the time of interview. “CHW” was used as an inclusive title encompassing various roles, including patient navigator, care coordinator, and community health organizer in accordance with the Connecticut Department of Public Health’s 2019 Connecticut Community Health Worker Survey. CHW participants were selected according to a broad definition proposed by the American Public Health Association, which describes the CHW as “a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served.” Lead CHWs navigators were categorized as CHWs. Individuals who manage CHW programs or supervise CHWs were defined as individuals who provide managerial support to CHWs within the organizations or hospitals they are employed at.

### Study Design

Semi-structured qualitative interviews were conducted over Yale Zoom with CHWs and CHW program managers or supervisors, resulting in a total of 11 interviews (8 CHWs, 3 CHW program managers or supervisors). The study sample consisted of all CHWs and CHW program managers or supervisors who were available during the study period. In this study, CHW and CHW program managers or supervisors were purposively sampled to ensure racial and ethnic diversity of patient populations served by CHWs. A larger number of CHWs compared to CHW program managers or supervisors were sampled due to their greater proximity to patients in terms of patient engagement. After initial participant outreach and recruitment of X participants, the rest of the study participants were identified and enrolled in the study through snowball sampling. Overall, CHWs and their program managers or supervisors interviewed in the study

represented 6 Connecticut organizations or hospitals serving racially, linguistically, and age-diverse patient populations in Connecticut. One CHW reported also serving patients in Massachusetts. The interview format was selected over focus group discussions to best ensure that participants felt more able to express their views, which may not have been similarly achieved using focus groups.

No compensation for study participation was provided. Participation in the study consisted of an informed consent procedure and a semi-structured qualitative interview, which was 45 minutes to one hour in length, on average. Participants provided consent through i) email upon receiving an overview of the study and consent form and ii) verbal consent at the beginning of the interview. This study was approved by the Institutional Review Board (IRB) of Yale University. Protocols used in this study were approved by Yale's Human Subjects Committee.

#### Data Collection

Interviews were conducted between December 9, 2020 and March 3, 2021 by the author, who was a Master of Public Health graduate student enrolled at Yale School of Public Health. The interviewer was trained in qualitative data collection. Two separate interview guides were developed and used in interviews of CHWs and CHW managers. Interview questions for CHWs and CHW managers differed with regard to references to their positions and responsibilities associated with their positions. Questions focused on CHW responses to community needs during the COVID-19 pandemic, CHW management and supervision, integration of CHWs into health and social service systems, CHW perception of safety while working in the community or other work setting, and patient demographics. Safety was addressed in the context of CHWs personal health and wellbeing while conducting their duties, with the interview specifically inquiring about CHWs' access to personal protective equipment (PPE) and other necessary

resources to protect their health and well-being. Interviews were conducted in English, recorded, and transcribed using Trint, a paid voice transcription service. In accordance with the semi-structured format of the interviews, the interviewer personalized questions and followed up with additional questions building off of the participant's responses.

## Data Analysis

A grounded theory approach was employed during the qualitative analysis.<sup>14</sup> Specifically, constant comparative analysis, an analytical process used in grounded theory for coding development, was used to construct codes. In accordance with a grounded theory approach, the analysis consisted of an iterative process that occurred concurrently with data collection. Themes were identified in the data and coded through continuous engagement with interview transcripts. Comparisons of initial codes derived from the first three interview transcripts with CHWs and CHW managers resulted in grouping of codes into broader categories capturing CHWs' responsibilities during the COVID-19 pandemic, operational and job task changes due to COVID-19, and CHWs' perceived protection from COVID-19 during the pandemic. Two overarching conceptual frameworks were applied to distinguish between COVID-19 and non-COVID-19-related categories. Codes were further refined upon consultation with the project's faculty advisors, resulting in the development of a codebook, which was applied to the remainder of the interviews and continuously updated with additional codes during the course of analysis. Saturation was attained for the majority of codes, with the exception being two codes that were introduced during analysis of the final two interview transcripts.

Data analysis was conducted in Dedoose.<sup>15</sup> For the purposes of this study, community needs were defined as social and health needs and encompasses broader means of support such as health education and contact tracing. Four non-COVID-19 categories, which reflected

individual and organizational factors that contributed to CHWs' success in communities, were identified from the data: (i) complex care navigation, (ii) removing patient barriers, (iii) bridge between communities and health care providers, and (iv) CHW policy activation. Additionally, four COVID-19 categories, which included CHW perceptions of the pandemic's impact and efforts to meet community needs, were: (i) impact of COVID-19, (ii) reducing health disparities during COVID-19 pandemic, (iii) COVID-19 and flu health education, and (iv) confronting racism. Quotes representing these categories were selected from interview transcripts.

## Results

### Non COVID-19 General Findings

This section explores CHW perceptions of roles, barriers to care, and work challenges that are not directly related to the COVID-19 pandemic. Included in this section are four thematic categories identified through analysis of interview transcripts: complex care navigation, removing patient barriers, bridge between patients and health care providers, and CHW challenges and policy activation.

#### Complex care navigation

CHWs expressed practicing holistic approaches to care for patients with complex health and social needs. One CHW explained:

*“Yes, because we have diabetes. We have this. We have suicide. We have all kinds [of] welfare people, and I mean name it. Children and family, they don't get along, and they separate and then abuse and all kind [sic]. I mean, name it. But then there's community people [CHWs] [who]*

*love to do it, but then be referred for issue to mental health program and then not even that [sic]. They, some people can't even read the medication. How many times a day they take [it]. We have to call remind them: make sure you take once a day, twice a day. Don't take overdose and if you don't understand, call us..." (Participant 1009)*

Patient populations experiencing higher burdens of complex trauma and chronic diseases both required and received personalized attention from CHWs. The continuous care provided by CHWs and familiarity with the cultural and social determinants of health needs of their patients with complex needs enabled them to help patients navigate serious mental health issues. In alignment with the holistic and community-based frameworks with which they approach patient care, CHWs treated patients with an understanding of the contexts and social networks that impact patients' health. For some of these patients, intergenerational differences and trauma fractured family dynamics, which CHWs could uniquely identify and target through the care that they help provide.

Despite their successes, CHWs cited challenges to providing patient care, which included difficulties in contacting patients. While reasons for patients being hard-to-reach vary, CHWs noted that one major barrier was patients' inability to afford extra minutes and/or mobile data, thus rendering it challenging for CHWs to provide continuous care. As one CHW expressed:

*"Their phone pays like monthly, but \$30 at the end of the month, you call them? The phone's not working. If you call on the first again, they have to understand that. Even the state provides them the phone? State provides them smartphones too. They give like 200 minutes. They finish that? Phone starts to shut down." (Participant 1010)*

Additionally, some CHWs voiced achieving a sense of fulfillment in their roles but lamented the scarcity of resources that were available to them and their patient populations, and the lack of a critical mass of CHWs to serve more communities. One CHW stated:

*“Day or night, some people go to the hospital, they're pregnant, or they emergency [sic], something like that. I'm always be there for them and I enjoy that. I love it because I try to live helping my own kind, my people. So, plus it's very a few. In Connecticut, it's very small amount of people. There's no, not in Connecticut, especially in a community health program, they don't have for Asians that time, and then we just volunteer like I do now.” (Participant 1009)*

#### Removing patient barriers

Study participants engaged in actions that focused on removing the barriers that patients encountered in the health care setting and their communities. CHWs reported creative and patient-centered approaches to helping patients overcome challenges in accessing health care. Furthermore, CHWs' knowledge of community assets enabled them to efficiently connect their patients with resources that were critical for meeting patients' health and underlying social needs. CHWs employed at or contracted by hospitals built and fostered communication channels between healthcare providers and patients due to their institutionalized relationships with providers.

*“Can I connect you to the New Haven Farms or any of that so you can make better food choices in terms of medication? Is there anything that I can do? Can I check with your doctor to see if they applied for the [403(b)?] plan? Is, can I call the pharmacy to see if there is a coupon for*

*you? It's really what the navigators try to do on a daily basis is to really [sic] if there are any hurdles in terms of that is really talking as a team right and left, because once they talk to me, sometimes I'm just like, I don't know. Let's bring it upon the team and let's brainstorm together. Let's see what's the best way to tackle this and really trying to come together..." (Participant 1001)*

In addition to utilizing resource networks to support their patients, CHWs provided compassionate and thorough care on an emotional level. Such care took on small, yet meaningful, forms as described by one CHW:

*"I've sat with patients a lot where they just want to sit down and like, I just want you to pray with me. I just want you to listen to me. So, making sure our navigation is touching on another personal level where sometimes it's just making that connection with the patient and just listening to them in the sense of like right now, I just need you to hear me and just be there." (Participant 1001)*

CHWs' ability to form personal connections with patients often emanated from proximity to communities in a cultural, residential, and/or experiential sense. Some CHWs viewed the care they offered community members as akin to the care that they would provide to their own family members. Some CHWs perceived the potential for their work to elevate patients and, in doing so, empower themselves. As one CHW expressed below:

*“This is how it is, and we just continue to fight for improvement and continue to guide people, continue to make others aware to where we didn't have. My mom didn't have a person to tell her or go here or there or do this or that. So having that ability to guide others... That's empowering.” (Participant 1002)*

Bridge between communities and health care providers

In addition to helping more vulnerable patients navigate complex issues and reducing barriers to care, CHWs connected patients to health care providers and critical health services. Variations in the relationship between CHWs and health care providers were observed with respect to the type of organization that the CHW was employed at. For example, one CHW who was employed at an organization that provided social service navigation in conjunction with an in-house community health center, stated:

*“If one of my providers says, ‘Look, I think this patient meets criteria for DMHAS [Department of Mental Health and Addiction Services],’ I say, ‘OK, here. You have the application. Complete your part, and I'm going to complete the other piece. I'm going to make sure that the release information are signed with, backed [with] all the clinical information we referred.’”*

*(Participant 1008)*

CHWs who were employed at hospitals harbored similar relationships with patients, as they received patients who health care providers had perceived as having high vulnerability and/or unresolved social needs. Within this type of organizational structure, CHWs relied on provider referrals and were largely responsible for closing loops of care. Such structures provided expedient channels for coordinating patient care, but simultaneously placed CHWs in

positions of dependence because CHWs were limited to patients who were referred to them by physicians.

CHWs who were either employed at hospitals or contracted by hospitals valued relationships with physicians in which physicians viewed CHWs as partners in patient care. In these relationships, physicians acknowledged limitations in capacity and perceived CHWs' natural connections with patients' communities as a means to close gaps in care for at-risk patients. As one CHW expressed:

*“And I know there's one provider. I'm not sure how he got in touch with us, but he's looking to expand telehealth communications and see if we can kind of assess readiness levels of certain patients, particularly sickle cell patients, because that's really a needed population where a follow up is so important.” (Participant 1008)*

Some CHW participants voiced the inability of health systems to provide culturally respectful and linguistically competent care for some patients, even after utilization of translation services. These deficiencies contributed to gaps in care for non-English-speaking patients and could heighten stress for patients during major health care episodes.

*“One time, I have one issue. Two families already. One family, they have surgery. I think they had a minor stroke. They have surgery. And then they called from because they don't have translation yet and then they call the hospital. They call the people that translate it. And then they of course, when you translate it before they do surgery, they had a heart problem. So they tell them, they said you need to sign the paper for... You know, but the way they... Of course you*

*have to sign that you're responsible if something happens, this and that. Now because of the translator, they say, 'Oh, when you die...' Because they don't know, maybe you die or something like different and then make her worse. They think that she's going to die, though by miscommunication...' (Participant 1009)*

CHWs' familiarity with the languages and cultures of non-English-speaking and non-white patients equipped them with an acuity for discerning potential areas of concern that may lead to larger care issues. When linguistic and cultural barriers exist, CHWs can serve as liaisons between patients and health care providers. Proximity to patients' identities and lived experiences enable them to identify issues that patients may experience but not perceive as problematic. Through serving as cultural and linguistic interpreters, CHWs can help providers gain a more comprehensive understanding of issues that either directly or indirectly impact patients' health. The trusted relationships CHWs hold with patients allow them to more intimately support patients' during their course of treatment, leading to greater adherence to medication, active engagement in health care, and improved uptake of health-promoting behaviors.

CHWs' broader roles as health care interpreters also allows them to clarify the information that physicians provide patients so that they are not only received by patients, but also fully understood. Speaking on communication gaps between health care providers and patients that stem partially from poor health literacy, one CHW articulated:

*"They [providers] constantly battle with the patients that are illiterate or they [patients] don't know their medications. So you ask them, 'Why are you taking this medication?' And they're like,*

*'Oh, I don't know. The doctor prescribed it.' And how that affects their health and how they're not up-to-date with their medications, their diagnoses, and how unfair, I would say, the system is with our population.'* (Participant 1007)

This CHW's insights shed light on the downstream ramifications of inadequate engagement of patients in care pathways and poor health literacy that have long gone unaddressed. Dismissal of health illiterate patients has become institutionally ingrained in health systems but are not unique to the health care domain. Rather, they manifest as a symptom of the failures of social and political structures to address long-standing community needs, the dearth of resources invested in vulnerable communities, and health systems' inflexible frameworks for treating diverse populations with complex care needs. CHWs' descriptions of supplementary trainings or education that they sought out to provide more informed care to patients reveal the unrealized potential for CHWs to bridge patients and health care providers. To familiarize themselves with the medical context, one CHW described:

*"Really becoming aware of just the terminology itself, of oncology. And it's kind of when you're reading those doctor notes, when you're talking to the nurse and having a little bit of that knowledge."* (Participant 1001)

CHWs' accounts revealed their capacity and desire to expand their scope of practice to respond to community members' health needs. While some time-intensive approaches to care, such as individually monitoring patients, may not be feasible for physicians, they are viewed by

CHWs as mundane aspects of their roles. Another CHW described the additional efforts she undertook to provide well-informed care, explaining:

*“I learned how to explain what that word, I had to go look in the book, what Khmer mean, and English. I learned from everything. And I know the word, but I have a question. I will go check Khmer-English thing. I'm not born here. I don't know much, a long time 40 years. I don't know Khmer much either [laughs]. So I learn from there, and learn to work people. First time, they said I'm awful. And then I changed it. I learned how to do a better job. Yeah, know how to do blood pressure and learn how to weight people, write down all stuff like that. And learn how to contact, how to find people.” (Participant 1010)*

#### CHW challenges and policy activation

CHWs expressed challenges stemming from incomplete acceptance of their potential roles from health systems, decision-makers, and funders. Lack of resource allocation to CHW care teams resulted in high caseloads that forced some CHWs, some of whom received no remuneration, to turn down patients. As one CHW explained:

*“We cannot do everything. Sometimes I say, ‘I'm sorry, I cannot help you.’ And it is hard to say no. We have to find a way, but I cannot do seven days a week and for more ten thousand people and whatever more than that in Connecticut. And so.. but it's.. and then we feel sad...”*  
*(Participant 1009)*

Some CHWs voiced feeling overwhelmed with large amounts of case work as well as feeling disempowered while navigating their clients' needs, whom they had to refer to programs

with insufficient resources to actually help them with those pressing needs. Indeed, frustration was common for CHWs who perceived the limited extent to which their assistance could actually remove barriers for patients. As CHWs noted:

*“So I feel like the navigators are wearing a lot of different hats at this point. The navigators are also helping patients right now with open enrollment, with Access Health. So on top of juggling just the medical piece of it or and the social piece of it, we're also - the navigators are also helping patients or people in the community to apply for insurance as well. So we're wearing a lot of different hats and we're trying to juggle all the different things right now.” (Participant 1001)*

*“I think that's a bit for the CHW team. I think that's our biggest complaint: our large caseload and not just large caseload, but having... We are here to provide resources that help with social needs. And there might not be that resource available for to address that socially. For example, housing. Housing, there's only so much that we can do. We can guide you to applying for housing, low-income housing. But that doesn't guarantee that you're going to get into that low - income housing. We can guide you to contact 2-1-1 to complete the assessment to see if you can get a shelter bed. But that doesn't necessarily mean that you're going to get a shelter bed. So that need is going to be there for a while. So, yeah, not having enough resources for the needs and a large caseload.” (Participant 1002)*

*And I think that that's the most difficult part of it, is that if somebody is homeless, there's really nothing you can do here in Connecticut for somebody who's homeless other than, say call*

*2-1-1, which everybody tells them to do the same thing. So here in Connecticut, there's only... it's not like New York where you can call around and get a shelter for somebody here. Everyone who needs a shelter space has to go through one system, which is 2-1-1.” (Participant 1005)*

Furthermore, one CHW articulated concern for lack of transparency in social service funding allocation that prevented resources from reaching community members. This CHW noted the discrepancy between funding and/or policy decisions and actual implementation of these policies in communities they served, stating:

*“Yeah, for the only thing that comes up right now in my head is the housing need, and it is frustrating because when you hear, for example, in the paper that said that all these billions of dollars is going to cover the housing need that people are having and when you have a few patients that tell you I'm sleeping on the streets... That's where the frustration comes to. Where is the money? Why isn't there enough beds in our shelters to cover for the need? Policies with housing needs. I really don't know how to answer that question, because I really don't know where the money is going. I see that the claim is that a lot of money is going to address these housing needs. But I just don't see it in my section where I am. This is the politics, politicians saying that this money is here, and it's going for this need. This is me as a middle man seeing everybody else with the housing need that's not getting to that level of where the money is and I'm here and I can't get there. Where is that money?” (Participant 1002)*

In addition to recognizing how factors such as structural inequality and poor policy implementation prevent patients from accessing care and achieving good health outcomes,

CHWs and their program managers or supervisors demonstrated an understanding of legislative mechanisms to enact health policy change. Some CHWs perceived disconnects between current legislation and the unabated issues they experienced in providing services to patients on the frontline before and throughout the COVID-19 pandemic. Levels of desired policy engagement varied across CHWs who expressed interest in enacting change through policy. CHWs expressed the need for funding streams and policies to recognize the value that they provided to communities and health systems, such as one who pointed out:

*“We are the one out there like we are really the frontline helping clients. And I think most of us are underpaid, not valued. So some policies, I think they should implement our work.”*

*(Participant 1000)*

Other CHWs voiced interest in greater engagement with legislative processes and policy generation to eliminate challenges that patients experienced in their communities and CHWs experienced in their line of work. Some of these CHWs demonstrated a nuanced understanding of the interconnected relationships between social, environmental, and political determinants of health, citing past research and/or health and social service initiatives in their interviews. One CHW discussed:

*I've done a lot of reading on different initiatives across the country, and I know Vermont has done a great job of addressing that population and really taking matters into their own hands as the health systems out there have really gained access to money and had to do their own housing first model, and it's like we had this conversation in my last job, who is responsible for the*

*housing crisis... And so I've seen different housing first models where health systems have gone in and I know how to do it. But that would be an interesting conversation to connect with these people and see how do you gain access to this money outside of just grant funding to be able to put together something where you get people off the streets and into housing environments... Because that is one of the number one stressors for mental health-related concerns, which exacerbates chronic illnesses, and if you can't access a home, it's going to be difficult to really stay on top of your meds and on top of your diet and on top of all these other things..."*

*(Participant 1006)*

While they believed that their knowledge would provide meaningful context for new policies, most CHWs were unclear about concrete ways to access policy-making processes and/or felt unable to dedicate time to these efforts due to personal and professional circumstances. One CHW opined:

*"There are state representatives in positions of authority for a reason. And so do we have to start looking at it from an angle of okay, how do we affect policy change that is greater than our health system, that is greater than the case manager who's stuck to abiding by these regulations. And so it gets my mind thinking, but then it's like, how do we make enough time for that with all the other stuff going on with our day-to-day lives?... And I know it only takes one person and so that conviction's there, but the investment is so taxing and laboring that it's like, how do we do this and how do you have the long-term outlook? And to understand that if you get the ball rolling better, maybe you change one or two people's outlook. It can take years before it actually spreads... It's just a matter of finding a way of doing it." (Participant 1006)*

One CHW program manager had voiced an attempt to run for office to redress the disconnect they perceived between legislators and community issues, stating:

*“And I ran for mayor last year because I believe that [former mayor] was disconnected from the community, had no understanding of what was going on the ground, and all of the candidates were people who moved to [City] for opportunity, not necessarily to really connect with the community and understand and create real pathways to fixing so many of the ills facing the city.” (Participant 1003)*

Outside of the policy-making domain, CHW and CHW program managers or supervisors discussed ways in which CHWs had facilitated organizational improvements. CHW program managers generally instituted horizontal management structures that promoted open feedback channels between managers and CHWs. Recognizing the diverse backgrounds of CHWs and their greater involvement directly with community members, some managers enacted measures to elevate their experiences. One CHW program manager involved the CHW in training curriculum development, especially as it related to improving health equity, explaining:

*“We always value her [CHW] input. That's why she's part of the training. That's why there - she's working with staff that's a little bit of a training. Part of the training, part of the curriculum because her voice is so valuable. We're not out in the field. [CHW] is.” (Participant 1004)*

Other CHWs reported similarly supporting curriculum development or revision efforts within their organizations. These CHWs expressed appreciation for opportunities to offer suggestions for improving their teams and overall employer organizations, which may serve as a model for CHW engagement in other organizations and hospital systems.

## COVID-19 Findings

This section explores the organizational and community impact of COVID-19 as perceived by CHWs as well as ways in which CHWs have helped respond to the COVID-19 pandemic. Included in this section are four thematic categories identified through analysis of interview transcripts: population and work setting changes, reducing health inequities during the COVID-19 pandemic, COVID-19 and flu health education, and confronting racism.

### Impact of COVID-19

#### *Population and Work Setting Changes*

CHWs discussed the impact of COVID-19 on the populations they served, which some noted had shifted slightly to include community members who had not previously sought assistance prior to the pandemic. CHWs reported that the COVID-19 pandemic had an especially severe impact on undocumented immigrants and homeless patient populations. CHWs experienced challenges to finding creative solutions to support the needs of homeless patients who could no longer access public spaces for basic functions like keeping warm during the beginning stages of the pandemic.

In addition to observing changes in their patient populations as a result of the COVID-19 pandemic, CHWs discussed workplace changes and concomitant challenges as a result of the pandemic. During the initial stages of the pandemic, CHWs noted difficulties adapting their

person-centric approaches to comply with stringent COVID-19 precautionary measures, which had led to office closures. Appointments that had regularly been conducted in-person were carried out by phone or technological platforms such as Skype and Zoom. CHWs expressed challenges navigating care coordination for patients with poor technological literacy and lack of access to technology and/or phone minutes. These challenges have continued, although mitigated due to transitioning of workplaces to hybrid configurations and rapid adaptation of CHWs to remote forms of work. CHWs perceived widening of health inequities as at-risk patients with less technological literacy and/or access to technology became harder to reach for care coordination and health education. Casework became increasingly time intensive for patients who were more difficult to reach, as one CHW noted:

*“OK, so in reference to patients, the only time it becomes difficult is when a patient is, a lot of our stuff is coming through emails when they have to provide certain documents and stuff is coming through emails or sometimes a text... some patients are challenged when it comes to technology, right? They don't know how to send text messages. They don't know how to - they have old phones. They can't receive anything. They can't receive the flier that we sent them over about the flu or about COVID... That sometimes becomes difficult, but we can set up times for patients to come to the office if they want to drop something off or if they want some type of document from us.” (Participant 1001)*

For some CHWs, connecting through phone or videoconferencing compromised their ability to build and maintain meaningful connections with patients. With the implementation of a hybrid work setting, CHWs perceived a regaining of some sense of normalcy in their ability to

interact with patients but noted residual challenges associated with social distancing and sanitary precautions. One CHW explained:

*“We used to say, ‘Hey, how are you?’ ... I think that's enough of a challenge for us now. Even when patients come in, it's not the way that we greet our patients and now it's like, ‘OK, can you stand here? Let me take your temperature, OK? What do you need? There goes your [writing] pen. Don't leave it there.’ ... As much as we try to connect, you kind of sense a little bit of disconnect. But we're trying our best...” (Participant 1001)*

The inability to meet with people in-person impacted CHWs’ ability to collaborate with members of their teams. CHWs reported difficulties of receiving input from and exchanging thoughts with teammates on patient cases as a result of no longer being located within the same physical space as their co-workers.

*“We all have computers, hospital computers, everything. We're able to log in using VPN and, and... We used to be just like I'll go next door like, do you know if, blah, blah, blah is still open, or my client has this issue now becomes a Zoom call, now becomes a phone call. You used to be like, I just go to the office next to me. I just turned around. ‘Do you know if there's any openings for housing now?’ It becomes a Zoom meeting and coordinating everyone's schedules has been difficult... I definitely miss the social aspect of like interaction and office and that back-and-forth with my coworkers.” (Participant 1000)*

In contrast, some CHWs expressed benefits of the fully remote and hybrid workplace format. The flexibility of working from home brought relief to CHWs who had families and feared contracting COVID-19 and infecting their families. Risk of infection was substantially heightened due to higher rates of virus circulation in the communities they served and greater patient susceptibility to COVID-19 infection. Although all CHWs reported having access to, at minimum, basic PPE, some reported logistical challenges of obtaining sufficient PPE in the earlier stages of the pandemic. CHWs who were employed at or contracted by hospitals had greater access to more protective PPE. One CHW who had a child just prior to the start of the COVID-19 pandemic expressed:

*“I had a newborn. So, I mean, this child wouldn't have any shots, anything. I was just recently - I have been home since December. So when this whole thing... I was really scared. And again, I was out there in the community at the food pantry, and for no fault of them all, most of them would not have access to masks or so... It was very scary.” (Participant 1000)*

Moreover, having flexibility in work shift scheduling allowed CHWs with young children and working partners to manage child care, especially as it became increasingly inaccessible during the pandemic. Some CHWs with these circumstances appreciated increased work schedule flexibility, with one elaborating:

*“So having that added flexibility was really good, especially for me at a time where I have a young one in daycare and the daycare didn't shut down. So I absolutely needed that flexibility. And my wife at the time, through all that was also pregnant with our second child. And so just*

*being able to have what felt like a luxury at times [laughs], a much-needed one was good for just my own well-being and realized that we could still do this work without losing sight of everything just because we're in the middle of a difficult situation.” (Participant 1006)*

However, not all CHWs’ organizations had infrastructure in place to support CHWs as they adapted to a remote workplace setting. One CHW, who was an unpaid volunteer, reported having to pay an additional \$55 per month for a higher speed internet plan in order to continue providing service to patients and conduct meetings over Zoom. Some CHW organizations were not equipped to support CHWs’ mental health needs, with one CHW with pre-existing conditions explaining:

*“When I heard COVID, I've been sick for three months for anxiety. I have no idea. I don't know why. I had appointment for my gynecologist that day and I get up in the morning was fine. But the night before I go to the doctors, I could not sleep because I could, I worried the contagious [sic]. And my God, what I'm gonna do to the doctors, what happens I contagion [sic]. What is, but I just freak out like panic freak out. I was shaking when I drive the car.” (Participant 1009)*

Despite risks associated with working with patients in-person, some CHWs continued to provide services in the office and out in the community. These CHWs continued practicing their philosophy of meeting patients where they were to ensure patients’ social and health needs were best met. Some CHW organizations or hospitals developed workflows to support COVID-positive community members and community members at heightened risk for COVID-19 infection. One CHW supervisor shared:

*“The CHWs are at our asymptomatic community testing sites. So we have two CHWs there that are supporting the site. And then the navigators are in the office calling those patients that have tested positive at the site. We're calling them and then just asking them how they can, do they have the things that they need to safely quarantine?” (Participant 1005)*

### *Community Collaboration*

Throughout the course of the COVID-19 pandemics, relationships between CHW organizations or hospitals and other organizations or agencies in the community shifted and grew to meet emerging community needs. For organizations that had established institutional relationships with health care providers, CHWs' abilities to characterize predominant social and health issues have enabled providers to treat patients with greater precision. Conversely, providers' interactions with patients in the clinic have informed CHWs' understanding of the most pressing health issues that community members experience. One CHW program manager explained:

*“So we're sharing a lot of feedback from our clinicians that are also cofacilitating moms groups. High levels of substance abuse being reported during this pandemic. A lot of anxiety, a lot of stress. We're offering stress management too now. We're changing the way we deliver services.” (Participant 1004)*

However, care coordination between providers and CHWs employed at or contracted by providers was not always seamless. As the COVID-19 pandemic overwhelmed physicians, these CHWs reported a concerning decrease in the number of patient referrals to them and perceived that patient needs were going unreported and unmet. Their concerns at the initial stages of the

pandemic proved unmitigable as providers lacked capacity to focus on patients' holistic care needs and make referrals to CHW teams. As one CHW shared:

*“We quickly found out that as this case is closed one-by-one, it's like, OK, where do we go from here because we're reaching out to these providers, but they're so inundated with so many other things now that have shifted their world, but they really are thinking about the angle of keeping us in the loop of new referrals. And so we saw referrals dip down.” (Participant 1006)*

Throughout the COVID-19 pandemic, CHWs encountered heightened food, housing, and financial insecurity among their patients. Agency and organization closures and/or compromised workflows resulting from COVID-19, though, made it challenging for CHWs to successfully connect patients with resources. Some CHWs reported frustration with unresponsiveness of organizations to whom they made patient referrals, which at times placed greater stress on them. Unsatisfied with making a referral that went unrealized, some CHWs took it upon themselves to do the work of these community organizations or agencies to meet patients' resource needs. One CHW recalled:

*“I had a patient and I referred her to a community agency just for.. It was for.. Energy assistance, Operation Fuel. And it was months. And I was calling the patient. ‘What's going on? Have they contacted you?’ And she said, ‘Somebody called me, but nothing happened.’ And it was to the point where I was like, you know what. Let's book an appointment, you and myself. I never had done the application myself, but I'm just going to go ahead and we're going to try it together. And it was one of those calls that I called the patient actually like four times in a day*

*asking for different stuff. And we completed the application without the agency.” (Participant 1007)*

#### Reducing health inequities during COVID-19 pandemic

CHWs noted lack of access to PPE and intensified social needs as major barriers to care for low-income communities during the beginning of the COVID-19 pandemic. By supporting communities that were hardest hit by the pandemic, CHWs played an active role in reducing health inequities the pandemic both acted upon and exacerbated. CHWs discussed creative ways they navigated resource deficits within communities, such as one CHW who recounted:

*“And when there was a shortness of masks, that was also a big one that we try to help navigate to, with. Just because they didn't know where to go. They didn't know what to buy. They didn't know how to make them. They didn't really feel, so it was the whole thing of how can we become creative to help you? Because right now, there is a mass shortage. So, guiding patients with that and showing them how to use YouTube to figure out how to use things from what they have at home, so it's a great mask.” (Participant 1001)*

CHWs who were employed at or contracted by hospitals reported active engagement with community members at COVID-19 testing sites. These CHWs utilized testing sites as a tool to meet community members and screen them for unmet social needs that could lead to worse health outcomes. CHWs' leveraged their familiarity with communities and ability to discern underlying issues that impact community members' health to identify at-risk community members. This enabled them to rapidly perceive patients' barriers to health and health care and

provide services to eliminate those barriers. Discussing an example of this approach in action, one CHW supervisor recalled:

*“And one thing we did is that he [community member] was sitting on his porch in the summer. So every week we would just kind of go over, have a conversation with him. He didn't want any help, but we were making sure that we continue to connect with him. And so we use the testing site as a meeting place to meet people and follow up on their needs.” (Participant 1005)*

CHWs' continuous mode of care, combined with their view of patients as fellow community members, enabled them to efficiently meet community needs as they arose. However, their proximity to these communities amplified the pain they experienced as the COVID-19 pandemic laid bare truths about health inequities in underserved communities. Their own connection to communities along lines of identity and physical residence brought them closer to the economic and human devastation wrought by the COVID-19 pandemic. For some, the emotional and mental toll was clear. One CHW expressed:

*“I really don't spend a lot of time thinking about it because it can get really depressing if you're really thinking like this woman, this person is here and they have kids and they're not harming anybody and they're just trying to do - so I really don't really spend a lot of time thinking because I feel like it's just going to give the sense like this is not fair, and it's not fair to anyone.” (Participant 1000)*

## COVID-19 and flu health education

CHWs reported providing COVID-19 and flu vaccine health education to patients on a regular basis. CHWs leveraged their dual positions as trusted members of communities and members of care teams to communicate clear health information to community members. Sources such as the CDC, institutional COVID-19 informational town halls, and peer-reviewed literature were cited as being critical resources for CHWs to become educated on COVID-19. CHWs with access to COVID-19 town halls greatly valued this resource, reporting that they were able to disseminate information to community members and individuals within their personal social networks. They noted, however, that CHWs from other organizations with fewer resources and staff members may not have had similar access to high-quality information.

Upon perceiving gaps in COVID-19 health education and susceptibility of communities to misinformation, CHWs undertook additional responsibilities to ensure community members practiced COVID-19 safety precautions, could access care whether or not they were COVID-positive, and received clear facts about the COVID-19 vaccines. CHWs reported navigating difficult conversations with patients who were experiencing pandemic fatigue as well as dedicating time to parsing out sophisticated concepts with patients on an individual basis. For example, one CHW articulated:

*“There have been times when people are just, maybe they're just fatigued over the pandemic and don't really understand why do I have to keep doing things this way? Well, if I'm positive and my spouse is in the same home, and I'm keeping my distance, why do I have to keep wearing masks. So there's been opportunities to educate them about, while we're not clinical, we do know a little bit about viral load and how that plays into the factors of spreading communicable diseases and*

*all that. So I've been able to discuss that a little bit on a case-by-case basis, but a lot of times dropping it down to layman's terms and doing it over the phone.” (Participant 1006)*

CHWs added personal dimensions to health education, understanding the social and environmental contexts which made it difficult for some community members to practice COVID-19 precautions. For patients managing families and experiencing unprecedented stress emanating from multiple sources, the support they received from CHWs could partially alleviate the heavy weight of these burdens. Discussing an example of how they would approach resource navigation, one CHW explained:

*“What we have done is call folks, like I said, and just to make sure that if they are quarantining, that they have the ability to do so safely so that they don't have to leave the home and get medication or food or diapers for their kids. And then the other thing is we've put a lot of emphasis on if you have symptoms, do you have someone to call? Like, what would you do if you have symptoms or are they... If they get worse, do you have a primary care doctor to call? So that's what we've really focused on.” (Participant 1005)*

Although all CHWs served as health educators prior to the COVID-19 pandemic, their responsibilities expanded during the pandemic. As misinformation and pandemic fatigue trickled into communities, CHWs were steadfast in their urging of community members to practice preventative measures. The relationships they held with community members and treatment of patients as family or community members prevented patients from feeling patronized, leading to improved uptake of COVID-19 preventing behaviors. CHWs experienced the added pressure of

constantly engaging in proper health behaviors, as they understood that their actions influenced community members' behaviors and perceptions of COVID-19. On CHWs' roles as community health educators, one CHW supervisor explained:

*“They're used to providing this health education. I think where you kind of see it a little bit more is in they're having to take on the role of modeling that behavior. Right, so it's kind of hard to educate other folks and say, ‘you should get vaccinated. You should have a COVID test.’ And then you don't want to have a COVID test or you don't want to get vaccinated or you don't want to stop congregating with your family. So I think that in that specific way, it has forced them to say, ‘OK, well, I have to model this behavior.’” (Participant 1005)*

COVID-19 misinformation has spread quickly, largely facilitated by broad coverage by social media and news outlets. As COVID-19 vaccine misinformation has become more prominent in certain communities, some CHWs reported dedicating significant amounts of time to help individual patients understand the risks and benefits of COVID-19 vaccines. As trusted members of their communities, CHWs could more easily navigate these conversations with patients who fell prey to COVID-19 misinformation. In addition, CHWs had a unique ability to explore and rectify sources of misinformation, by way of their shared identity and familiarity with the communities they served. One CHW recounted their experience rectifying misinformation that had been disseminated by a local non-English news outlet:

*“So one of the news was that the facts and myths of the vaccine and which vaccine is better or which vaccine treats the new strain that's from Europe. And one of the anchors, they*

*were saying that the vaccine, like the Pfizer vaccine, can fight all the other variants of COVID versus the Moderna because the Pfizer vaccine has been out more or has been more studies and it's like, so they were actually, let's say and in quotes are actually promoting or advertising people to get the Pfizer vaccine versus the Moderna when there's not enough studies and where... I was at the vaccine site. You really don't even know which one you're getting until you're there.”*  
(Participant 1007)

CHWs combined their roles as health educators and navigators, assisting patients in signing up to receive the COVID-19 vaccine. Confusing procedures and vaccine scarcity presented numerous challenges to patient populations that lacked technological literacy and/or access. One CHW discussed their efforts to aid patients who lacked social support, explaining:

*“The green light [needed from] them [consent from patients] and call and get more information about the insurance and whatever medication they take... But it's difficult to fill it out. They can't do it because they don't read, so people give up, take a long time to sign in. You have to sit there. You have to wait until... They just stuck right there as they wait.”* (Participant 1010)

Prior to COVID-19 vaccine distribution, CHWs reported efforts to promote flu vaccination among the patients they served. Some CHWs understood the crisis that would result from the emergence of a flu epidemic and perceived the need to assist health systems in preventing widespread circulation of the influenza virus. One CHW expressed:

*“Now we're making sure our patients are getting the flu vaccines. And if you are hesitant about the flu vaccine, why? Do you want more information? Is it just you don't know where to go? So can we help you with that? Can I provide you... Can I text you? Do you need a ride there? Can - so it's a little bit more like extra steps to do it if you're really hesitant about that.” (Participant 1001)*

Some CHWs reported receiving training to participate in COVID-19 contact tracing. Although most CHWs believed that they were well-equipped to get involved in local- and state-level contact tracing efforts, none reported current engagement. Some CHWs played a role in encouraging patients to acquiesce with requests for information from state contact tracers, noting that patients initially fostered distrust or poor understanding of contact tracing. On their role in promoting contact tracing among patients, one CHW explained:

*“I myself actually had COVID back in September. And so I was well aware at that point of what the contact tracing protocols looked like. In fact, I had conversations with those health department members and participated in optional surveys and things like that to really get a feel for what it was they were doing, so that way, when I got to call my patients to follow-up, I could actually educate them on the importance of what that process looks like from the angle of somebody who had been through it. So that's kind of where we're at with that. It's very limited. We're not tasked with it, but if the opportunity presents itself, to encourage patients, to start thinking about who you may have seen and come in close contact with and what the definition of close contact looks like in that timeline to make sure that those people are also getting tested for the sake of their family and others.” (Participant 1006)*

## Confronting racism

The COVID-19 pandemic's destructive effects on low-income and minority communities have brought to light long-standing social, racial, and health inequities. Racialization of the coronavirus, perpetuated by use of terms like "China virus" and "Kung Flu virus" have resulted in an upsurge in anti-Asian racism.<sup>16, 17, 18, 19</sup> Increases in discriminatory incidents have rattled Asian-Americans in communities across the country.

Some CHWs reported supporting patients after experiencing blatant displays of racism as well as helping patients cope with the toll of racial inequality in their communities. One CHW recounted how they assisted and empowered a patient after the patient experienced anti-Asian racism:

*"And also people get harassment, because we are Asian, and I have an example for one family, they went to Walmart... And they [perpetrator] shouting. They say, 'Oh, COVID, COVID stay away. Get out COVID. Stay away.' Like yell, scream. And she so embarrassing [sic]. She had her mother older than that. She say, 'Look at, because you're all COVID. You got to get out away from them. Get away, get away.' They were scared. They were just so loud like she just fell apart and she never goes to the mall, to the Walmart again. She's freaked out at home and she come tell me all this kind, so that's why I do a broadcast one. I told them if you have any issue, harassment, please contact us. We can help you. And don't be afraid, fear that you couldn't even go to the store and everything like that. If you just afraid by yourself, you go more than one person. Don't walk alone. One or two. So if something happen, somebody know and notify and stuff like that..." (Participant 1009)*

This CHW's actions reflected their ability to not only provide culturally respectful crisis support, but also to turn crises into opportunities for community empowerment. In response to the incident, the CHW produced an educational video to equip community members with the tools to protect themselves and report acts of discrimination. These tools empower community members to combat racism, while reminding them that they are supported by the CHW organization and fellow community members in solidarity with one another.

## Discussion

Data analysis of the eight CHW and three CHW program manager or supervisor interview transcripts produced four non-COVID-19 categories and four COVID-19 categories. Among the non-COVID-19 categories were i) removing barriers to care, (ii) uplifting marginalized populations, (iii) bridge between communities and health care providers, and (iv) CHW policy activation. COVID-19 categories included: (i) population and work setting changes, (ii) reducing health inequities during COVID-19 pandemic, (iii) COVID-19 and flu health education, and (iv) confronting racism.

CHWs' abilities to quickly adjust and navigate complex issues throughout the COVID-19 pandemic stemmed from their experiences in complex care coordination prior to the pandemic. Experiences providing wrap-around services to patients with complex social and health care needs gave CHWs a framework for navigating difficult social and health care landscapes during the COVID-19 pandemic. The versatility of their roles allowed them to serve multiple functions simultaneously. As resource navigators, health educators, peer coaches, and patient advocates, CHWs view patient health outside of the confines of traditional medicine. It is perhaps largely

because of this reason that policy-makers and health systems have not fully realized the value that CHWs provide.

All CHWs who were interviewed reported large caseloads and significant time and energy investments in their patients. Not all were remunerated for their services. One of the most common grievances expressed by CHWs was inadequate – and at times, nonexistent – compensation despite their successes in improving patient care utilization and overall wellbeing. This study’s findings revealed ways in which CHWs have removed patients’ barriers to health, improved communication channels between health care providers and patients, and empowered patients to be actively engaged in their health and communities. Health systems and policy bodies may benefit from greater integration of CHWs into health care teams. As this study’s findings show, CHWs are capable of mitigating gaps in patient education, consulting patients on treatment courses, and interpreting patients’ stated and unstated health needs for providers to develop comprehensive care plans. Challenges that providers experience in educating patients to engage in health-promoting behaviors may be addressed by investing in the CHW workforce. Given their positions and reputations within communities, CHWs can more effectively disseminate health information to populations that are either hard-to-reach or at-risk for misinformation.

Policy-making bodies could significantly benefit from CHWs’ knowledge and familiarity with their communities. CHWs’ on-the-ground experiences and ability to interpret high-level research may offer opportunities to further engage CHWs in transformative community-based research and policy change. Engaging CHWs in legislative and policy-building processes could narrow the divide between policies and communities that often struggle to observe the benefits of

policies. In acknowledgement of this, the findings of this study suggest that CHWs could serve as critical vehicles for helping achieve health equity.

Finally, this study situates CHWs within the racial implications raised by the COVID-19 pandemic. Racism does not solely manifest in the form of flagrant acts of violence or harassment. Racism is embedded within the structures of long-standing institutions. Health care systems have struggled with legacies of structural racism and racial discrimination, which continue to harm communities of color. Although progress has been made, vestiges of racialized medicine continue to impact patients. Dismissal of patients with cultural and/or linguistic barriers to care remains an impediment to providing truly culturally responsive care. In this study, CHWs discussed their roles as patient advocates and desires to facilitate constructive transformation within health and social service systems. It is possible that the COVID-19 pandemic – and the tragic yet eye-opening lessons that have consequently been thrust into national attention – may provide the impetus needed to bring these desires to fruition.

### Limitations

A unique strength of this study is that interviews were conducted as the COVID-19 pandemic progressed. Nevertheless, this study has several limitations. First, the study's small sample size may not have led to saturation attainment in each area of study. As a result, the themes and sub-themes identified through this analysis may not completely capture the experiences of CHWs' and their managers' as they relate to this study's research questions. Second, although the CHWs and managers who were interviewed reported large diversity in the patient populations they served, lack of representation from CHWs from certain ethnic and racial groups challenges the ability for this study's findings to be generalized to all CHWs. Third, concentration of this study on the state of Connecticut (with the exception of one CHW, who was

also providing services to patients in Massachusetts) may compromise the generalizability of this study's findings to other states in the country.

## Conclusions

In spite of these limitations, findings from this study clearly demonstrate that CHWs are and should be considered as essential health care workers who should receive fair compensations and benefits in recognition of their essential contributions to community health. Moving forward, these findings can be used to advocate for the permanent inclusion and reimbursement of CHWs through government and private insurance mechanisms due to their roles as critical members of health care and social service teams. Optimal integration of CHWs into health and social service systems will require further implementation research to develop standardized CHW training curriculums, training cascades, supportive supervision, case load estimators, and quality assurance protocols.

## References

1. VanderWielen, L. M., Vanderbilt, A. A., Crossman, S. H., Mayer, S. D., Enurah, A. S., Gordon, S. S., & Bradner, M. K. (2015). Health disparities and underserved populations: a potential solution, medical school partnerships with free clinics to improve curriculum. *Medical education online*, 20, 27535. <https://doi.org/10.3402/meo.v20.27535>
2. Health Resources and Services Administration. Shortage designation: health professional shortage areas & medically underserved areas/populations. HRSA. 2012;2013
3. Bresciani, M. (n.d.). *Trusted Voices: The Role of Community Health Workers in Health System Transformation* (Vol. 1, Issue brief). Boston, MA: Community Catalyst.

4. Gunderson, Jean M. DNP; Wieland, Mark L. MD, MPH; Quirindongo-Cedeno, Onelis MD; Asiedu, Gladys B. PhD; Ridgeway, Jennifer L. PhD; O'Brien, Michael W. MSW; Nelson, Tara M. CHW; Buzard, Ron MDiv; Campbell, Chad MPA; Njeru, Jane W. MB, ChB  
Community Health Workers as an Extension of Care Coordination in Primary Care, *Journal of Ambulatory Care Management*: October/December 2018 - Volume 41 - Issue 4 - p 333-340.
5. Richter RW, Bengen B, Alsup PA, Bruun B, Kilcoyne MM, Challenor BD. The community health worker. *Am J Public Health*. 1974;64:1056–1061.
6. Swider SM. Outcome effectiveness of community health workers: an integrative literature review. *Public Health Nurs*. 2002 Jan-Feb;19(1):11-20. doi: 10.1046/j.1525-1446.2002.19003.x. PMID: 11841678.
7. Tang, Patrick Y., Omni Cassidy, Maggie J. Morgan, Tracy Sbrocco, Juana Ballesteros, Gloria Ramsey, Ashley E. Martin, Laura Guzman-Corrales, and Jason Mose. Community Health Worker Advocacy Toolkit. Working paper. National Peer Support Collaborative, 2013.
8. U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions. Community Health Worker National Workforce Study. (2007).
9. Center for Health & Research Transformation. Advancing the Profession and Sustainability of Community Health Workers. (2018).
10. Bovbjerg, R. R., Eyster, L., Ormond, B., Anderson, T., & Richardson, E. (2013). Integrating Community Health Workers into a Reformed Health Care System. The Urban Institute.

11. "Addressing Racial Health Disparities in The COVID-19 Pandemic: Immediate And Long-Term Policy Solutions, " Health Affairs Blog, July 20, 2020.
12. Boyce MR and Katz R. (2019) Community Health Workers and Pandemic Preparedness: Current and Prospective Roles. *Front. Public Health* 7:62.
13. Ruff, E., & Murphy, K. (2020). Community Health Workers are Essential to States' COVID-19 Contact Tracing Efforts. *Families USA*.
14. Glaser, Barney G. and Anselm Strauss. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago, IL: Aldine Publishing Co, 1967.
15. Salmona, M., Kaczynski, D., Lieber, E., Richards, L., & Weisner, T. S. (2020). Qualitative and mixed methods data analysis using Dedoose: A practical approach for research across the social sciences.
16. Covid-19 Fueling Anti-Asian Racism and Xenophobia Worldwide (Rep.). (2020, May 12). Retrieved <https://www.hrw.org/news/2020/05/12/covid-19-fueling-anti-asian-racism-and-xenophobia-worldwide>
17. Justin A. Chen, Emily Zhang, and Cindy H. Liu, 2020: Potential Impact of COVID-19–Related Racial Discrimination on the Health of Asian Americans. *American Journal of Public Health* 110, 1624\_1627, <https://doi.org/10.2105/AJPH.2020.305858>
18. Aurora B. Le, 2021: The Health Impacts of COVID-19–Related Racial Discrimination of Asian Americans Extend Into the Workplace. *American Journal of Public Health* 111, e17\_e18, <https://doi.org/10.2105/AJPH.2020.306139>
19. Hswen Y, Xu X, Hing A, Hawkins JB, Brownstein JS, Gee GC. Association of “#COVID19” versus “#Chinesevirus” with anti-Asian sentiments on Twitter: March 9–23, 2020. *American Journal of Public Health*. March 18, 2021: e1–e9. <https://doi.org/10.2105/AJPH.2021.306154>