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Differential Impacts of COVID-19 in New York State: Understanding and eliminating minority health disparities in a 21st-century pandemic

2021

Community Health Workers and COVID-19 in New York State: Adaptable and Resilient, but Strained

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Recommended Citation

Golden, Annis and Williams, Amy. 2021. "Community Health Workers and COVID-19 in New York State: Adaptable and Resilient, but Strained" *Understanding and eliminating minority health disparities in a 21st-century pandemic: A White Paper Collection*. University at Albany, SUNY: Scholars Archive. https://scholarsarchive.library.albany.edu/covid_mhd_nys_white_papers/1

In April 2020, the University at Albany was asked by Gov. Andrew Cuomo to research why communities of color in New York have been disproportionately impacted by COVID-19. The goal of this research, carried out in partnership with the New York State Department of Health and Northwell Health, is to add to the existing well of knowledge about health disparities in New York State by identifying the environmental, socioeconomic and occupational factors that explain why COVID-19 has disproportionately harmed Black and Hispanic New Yorkers and to propose practical intervention strategies to eliminate these disparities and save lives.

For additional information about this project please see: www.albany.edu/mhd or contact Theresa Pardo, Special Assistant to the President and Project Director for this initiative at tpardo@ctg.albany.edu.

Community Health Workers and COVID-19 in New York State:

Adaptable and Resilient, but Strained

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Abstract

This report summarizes findings from an interview-based study conducted in October and November 2020, and inferences that may be drawn from those findings with respect to the contributions of CHWs to eliminating disparities in the impact of COVID-19, and resources needed by CHW-based programs going forward. Findings are reported in the following areas: New connection strategies with clients used by CHWs in response to physical distancing requirements, barriers to connections; new areas of support CHWs provided; socioemotional impact of the pandemic and adaptations on CHWs; resources needed going forward; CHW support for efforts to eliminate disparities in COVID-19 impact on communities of color.

Introduction

As part of a group of studies being conducted at the University at Albany that respond to the disparate impact of the COVID-19 pandemic on communities of color, and identification of proven interventions to eliminate health disparities, the research study reported on here focuses on Community Health Workers (CHWs). Prior to the pandemic CHWs have been identified in many studies as a powerful resource in the elimination of health disparities. Numerous studies have documented their effectiveness in improving health outcomes and reducing healthcare costs. CHWs work in a variety of contexts, including chronic disease management, cancer prevention, and maternal-child health.

The American Public Health Association's definition of community health workers highlights the *what* and the *how* of community health workers' effectiveness.

APHA: a community health worker is a frontline public health worker who is a *trusted member* of and/or has an unusually close understanding of the community served. 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. A community health worker also *builds individual and community capacity by increasing health knowledge and self-sufficiency* through a range of activities such as outreach, community education, informal counseling, social support and advocacy. (emphasis added)

This report summarizes findings from this interview-based study conducted in October and November 2020, and inferences that may be drawn from those findings with respect to the contributions of CHWs to eliminating disparities in the impact of COVID-19, and resources needed by CHW-based programs going forward.

Study Aims

This study was undertaken with the following aims:

- To document the ways in which CHWs/home visitors' work was impacted by COVID-19 with a particular focus on how client contact was maintained; specifically, how CHWs managed the competing demands of physical distancing with liaison roles had relied heavily on face-to-face interaction and home visiting, especially in communities who may be less well connected through communication technologies.
- To identify barriers to maintaining contact client that were encountered, either in terms of CHWs' own resources or their clients' resources (e.g., lack of internet connection, loss of phone service)
- To identify additional resources CHWs need to continue their work in eliminating health disparities in their particular program's area of focus, and to avoid increasing health disparities in these areas.
- To identify ways in which CHWs may be able to support the public health effort to fight the pandemic and eliminate disparities in the impact of COVID-19 on communities of color.

The study was intended to help address the disparate impact of Covid-19 on communities of color in two main ways:

- By helping to identify how programs established to address health disparities, for example in the areas of MCH or chronic disease management, are adapting to a new communication ecology created by Covid-19 – or, conversely, what barriers to adaptation they are facing and how these barriers could be addressed – thus helping to avoid a

situation where Covid-19 exacerbates existing disparities even if not directly affecting individuals' health through transmission of the virus.

- By showing how the work of CHWs, though not originally focused on infectious disease prevention, can help to convey essential public health information that will allow their clients to reduce their risk of contracting Covid-19 and combat misinformation

Background

The COVID-19 pandemic has exposed many pre-existing inequities suffered by communities of color in the U.S. and around the world. Longstanding health-related inequities, for example with respect to maternal and child health, chronic diseases, and healthcare access, underlie the disparate impact of the pandemic on African American, Latinx, American Indian, and economically disadvantaged communities. Dr. Eliseo J. Pérez-Stable, director of the National Institute on Minority Health and Health Disparities (NIMHD), and colleagues, in addressing COVID-19 and racial/ethnic disparities argue that addressing these inequities requires interventions that are “culturally appropriate and community competent and ... “consider the nuances of population, community, family, and individual differences” (Hooper et al., 2020). To achieve this requires a deep understanding of the community and this requires engaging with the communities in mutual partnership. CHWs embody this understanding and partnership model.

CHWs are frontline public health workers who are trusted members of the community they serve and have been identified as a powerful resource in the elimination of health disparities (Zahn et al., 2012). CHWs function as liaisons between communities and health and social services, facilitating access to services, and serving as community advocates; in addition, CHW programs empower the individuals who serve in these roles and build community capacity. Communication research focusing on health and communities suggests that the more connected

residents are to other community actors, including local health and human service organizations, the more likely they are to actively seek health information, to be knowledgeable about preventing and detecting diseases, and to report having access to healthcare services (Kim et al., 2011). There has been a growing trend in incorporating diverse forms of CHWs into health programs (Balcazar et al., 2011)(London et al., 2018) as part of the broader general movement toward addressing health disparities at the community level. CHWs, because they are members of communities in which they work, or have special knowledge of those communities, are assumed to be able to interact with residents in a culturally relevant manner and bridge divides between provider organizations and vulnerable community members (Arvey & Fernandez, 2012). CHW interventions have been extensively evaluated and reported on in (Scott et al., 2018); (CDC, 2014), including multiple randomized clinical trial (RCT) designs (Gibbons & Tyus, 2007); (Kangovi et al., 2018), with significant evidence pointing to their effectiveness in a variety of contexts, including chronic disease management in culturally and linguistically diverse populations (Goris et al., 2013); (Henderson et al., 2011); maternal and child health (Lewin et al., 2010); and cancer treatment at federally qualified health centers (Roland et al., 2017).

CHWs vary in terms of formal training and educational attainment, and in the specific activities they perform, at the international, national, and state levels, but have become increasingly recognized as making valuable contributions to public health in settings around the world (Perry et al., 2014). The desirability of balancing the advantages of standardized training with inclusiveness in a way consistent with the spirit of the history and development of CHWs is addressed in training recommendations from national organizations such as the National Association of Community Health Workers and MHP Salud, as well as at the state level through NYS DOH sponsored programs departments of health, and nonprofit advocacy and training

organizations like and the Community Health Worker Network of New York City through its participation in the NYS Community Health Worker Initiative (Zahn et al., 2012). At this time, there is no standard certification for CHWs in NYS as there are for most other categories of healthcare workers. However, there are some widely accepted areas of competency, reflected in the recommendations of the NYS Community Health Initiative for defining a distinctive scope of practice for CHWs: outreach and community mobilization, community/cultural liaison, case management and care coordination, home-based support, health promotion and health coaching, and system navigation (Matos et al., 2011).

In spite of these demonstrated contributions, it is widely agreed that the full potential of CHWs remains unrealized as a result of their not being fully integrated into the healthcare system in a manner that would provide sustainable funding from Medicare and Medicaid, to support their activities (Zahn et al., 2012); (Bir et al., 2018) According to the National Academy for State Health Policy, in NYS, CHWs can be “optional team members of Health Home care teams” and Medicaid reimbursement has been authorized for their use in home-based asthma care (National Academy for State Health Policy, n.d.).

Yet CHW champions and experts point to the crucially important potential contributions of CHWs to the response to the pandemic. CHWs are uniquely well positioned to communicate critical health information to vulnerable communities, including racial/ethnic minorities, immigrants, and the poor (Kangovi, 2020; MHP Salud, 2020; (Peretz et al., 2020); Smith & Wennerstrom, 2020). In addition, prior research in global settings in the context of other pandemics underscores their contributions (Boyce & Katz, 2019). CHWs can, among other vital tasks, dispel potentially harmful misinformation, adapt available information to make it culturally appropriate for the communities they serve, and connect residents to services that

address social determinants of health (including supports for food, housing, health insurance, unemployment insurance).

This study was undertaken to address urgent questions about how CHWs functioned during the height of the pandemic and how they are functioning subsequently, during the reopening period in NYS – questions that should be systematically investigated in the face of an ongoing public health crisis. More needs to be known about how CHWs are functioning in the context of the COVID-19 pandemic, and how they can be more effectively utilized to ensure that public health messages are not only understandable but also actionable. Of particular interest is how they themselves manage the competing demands of physical distancing with their liaison roles, especially in communities who may be less well connected through communication technologies.

Study Design

The study was designed to include multiple perspectives, including CHW advocates, program managers/supervisors, and CHWs – via semi-structured interviews conducted over zoom or other video platforms, that are recorded and transcribed, and subjected to thematic analysis. Participants were recruited through the Healthcare Association of New York State, the NYS Department of Health, and through professional referrals.

Participants were promised that no information they provided would be specifically attributed to them as individuals or to their program name or specific location (other than upstate/downstate, urban/rural). All participants were offered a \$25 Walmart gift card in appreciation for their participation. The study protocol was reviewed and approved by the University at Albany Institutional Review Board.

- 29 interviews, averaging approximately 1 hour each, were conducted with 48 participants, including 28 CHWs, 15 CHW supervisors (many of whom self-identified as former CHWs), and 5 CHW advocates (one of whom also self-identified as a CHW)
- 15 programs at 12 organizations participated, located in varied settings throughout New York State - upstate and downstate, urban and rural
- 6 organizations/programs were MCH-related (of those 6, 4 were publicly supported through grants, and 2 were non-profits operating without NYS support); remainder of the programs were chronic disease management, and other public health promotion programs
- 5 CHW advocates working in organizations that employed CHWs and/or provided training programs were interviewed – 2 Upstate Urban; 3 Downstate Urban

All interviews were professionally transcribed, imported into the NVivo qualitative data analysis program, and thematically analyzed.

Key Findings

1. New Connection Strategies – Staying Socially Connected while Physically Distant

We address here the question of how CHWs adapted to maintain connection with clients and carry out other program activities with the onset of the pandemic, given their former emphasis on face-to-face interaction and home visiting. This CHW's description of adaptations typifies the resilience displayed by CHWs, even as they struggled with many of the same issues that their clients faced (e.g. juggling home schooling with work, securing food, social isolation, and uncertainty).

And then, I was with the task of, "Okay, how do I figure this out? I don't have a printer here. I don't have the ability to mail her something, so I will have to get the form from the other agency; send it to my supervisor; my supervisor will print that and mail it to the family; and the family will send it back to her; then she will scan it and then send it to me." It was like, we're thinking outside of the box in a million ways. We couldn't be stuck

in the past. We had to be creative at every step. There was something here that we were learning: that we were getting stuck, but somehow we were able to find the way out.

- CHW in downstate chronic disease management program

After an initial period of great disruption in March 2020 described by some participants as “panic” or “mayhem,” CHWs were resourceful in adapting to the new communication ecology. Clients in MCH programs, because they are younger families, appeared to be more likely to have access to digital technology, although there was considerable variation across the interviews, depending on locale and individual circumstances. In some instances, CHWs reported that their MCH clients reported piggy backing on resources provided by the local school district to children, though more typically this was reported as not being feasible because the children needed to be using these devices during the same hours that the clients would typically have contact with their clients. Some CHWs attempted to accommodate this situation by allowing for after-hours contact with clients, but this could be problematic because it further blurs the lines between work and home life for CHWs.

CHWs reported using video platforms, including Zoom, but more often Facebook Messenger or other social media apps to keep in touch with clients. They also used lower tech solutions like phone calls, and even physically distanced house calls, during which they would talk with clients from the sidewalk while the client stood on their front steps or porch. However, some supervisors particularly expressed concerns about whether these “front porch” or “sidewalk” meetings compromised clients’ privacy. CHWs emphasized importance of “meeting clients wherever they are” in terms of technology rather than trying for one uniform platform.

CHWs in the chronic disease management programs that deal with older patient populations reported more challenges, given a generally lower level of clients’ digital literacy and resource access. CHWs encouraged clients to enlist the assistance of younger family

members in setting up email accounts and utilizing other digital communication resources. Given the social isolation experienced by many of these individuals, contact was crucial, even if phone was only the means.

The participants when the first we call them, they were really happy to hear our voice. And they say, "Oh, my god." I have a participant that she call me "my angel." "Oh, my god, my angel is calling me." And she was talking to her psychiatrist and she says, "I have an angel that call me and is helping me." And with the food pantry, especially in those days that they couldn't go out at all, we tried to help them as much as we can with delivering the food and getting in contact with their doctors or nurses at the clinic, so they can have their medications delivered to the house and all that.

– CHW in downstate chronic disease management program

CHWs reported that in many instances, information sharing was a challenge. Some shared links to videos via texts, attached pdfs to emails (after staff scanned existing print materials), and posted material on Facebook. Others still relied on low tech solutions of printed materials that were placed in postal mail or hand delivered to clients' homes, given the difficulty that some clients had with opening and reading electronic documents.

It was particularly important for CHWs to stay connected to one another, in order to share strategies and combat social isolation. They reported using technology to keep connected via Zoom (often in meetings organized by their supervisors) and group texts. In some of the better resourced programs, they were also able to connect clients to each other through group education and support groups conducted over Zoom. However, this was especially problematic in rural areas with more limited internet connectivity.

2. Challenges and Barriers to Adaptation in the Pandemic Environment

CHWs and their supervisors reported encountering challenges, both as a result of lack of technological resources in their own programs, and/or knowledge of how to use it, and a result of limitations in terms of resources or knowledge on their clients' part.

Yeah, I had a couple [of clients] that ran out of minutes. At the end of March, some people

you couldn't talk to, but when their minutes start over in April, you had kind of got a system. Okay, so, the beginning of the month, that's when we're going to talk. And then, when they move their minutes, they usually could still text. So, if I see through the Facetime in the beginning of the month, like anything else, we can do a text message for it, in that aspect. So, most of them really, by May and June, those communications got stronger because everyone was able to kind of find a way to access some kind of technology.

- CHW in upstate maternal-child health (MCH) program

Great variation was reported in the technology supplied to CHWs, with many programs not technologically equipped to meet the new demands of the drastically changed communication environment. This varied according to the resources of the parent organization and/or the resourcefulness of organization in garnering additional technology resources. Some CHWs lacked smart phones, laptop computers/tablets, or reliable internet connections.

So communication has always been very challenging here. I would love to be able to explain why that is, but I can't. So, if you can imagine poor communication and then COVID hits a home visiting service program. . . . Were we essential? Were we not? It was mad, complete and total madness. You couldn't get an answer. The more questions you asked, the less you heard back. There was talk about getting us laptops. I don't know whatever happened to that. We never got them. They was talk about getting cell phones, which the girls finally got maybe two months ago [after 6 months].

– CHW supervisor in downstate MCH program

There was also variation in CHWs' digital literacy skills. While most participants were technically "digital natives," this did not necessarily mean being well acquainted with all of the relevant technologies or having access. Participants often reported being a part of a group in which there would be one especially tech-savvy member who would then serve as a resource to the others. In addition, there was wide variation in clients' access to devices, connectivity, and ability to use the devices. Frequently, CHWs were placed in the position of needing to coach clients, one of their new pandemic roles, which are described in more detail below.

3. New Areas of Support – Meeting the Pandemic Emergency

CHW programs continued to do their best to support their clients in the areas for which their program was originally designed (e.g., diabetes management, asthma management, maternal

health). However, their roles expanded to include addressing clients' questions and fears about Covid-19 by accessing and sharing Covid-19 related information with clients, as well as combating misinformation for clients who were not using information technology themselves to access information from credible sources (e.g., many CHWs referenced the CDC as a reliable source).

*I went over a little bit of the false advertising in COVID times [with our moms group]. I did also mention people pretending to do COVID tests and asking for personal information so they can do identity theft. I also mentioned because it has always been there but now a lot of moms since they know that a lot of those moms are going through hard times, they're getting like Adidas is giving out free masks or free shoes. Or Costco is giving a \$100 gift card. Just click here and fill out your information kind of things. So, I did went over with my circle so moms will know how easy it is to know if it's fake or real to just double check before giving out your information. . . .
If you're not sure, just call 311 and they'll double check for you if it's real or not. So, there's different ways for you to double check that this is real. For me, it was very important to touch base on that, for moms to be aware that that's going on. All these free things that sounds too good to be true, it most likely is not. So, just double check. I teach them some ways of double checking to be sure that the information is real before giving out any information to anybody.*

- CHW in downstate MCH program

Some of those whose programs were situated in public agencies reported having some of their time reassigned to tasks like contact tracing. In addition, CHWs reported, as mentioned above, coaching clients in how to use digital technology, including personal communication technology, patient portals/telehealth, and children's school connections – even while some reported struggling with the technology themselves. In short, just as CHWs were engaged, prior to the pandemic, and remained engaged in “increasing health knowledge and self-sufficiency” (as described by the APHA), they were now frequently engaged with developing their own digital literacy and their clients'.

Moreover, CHWs reported that while they had always provided emotional support for clients, this was significantly intensified, which elevated CHWs' stress levels.

A participant just lost her husband because of the Covid, and the day after she just find that she was pregnant. . . . And right away. I have like no words to tell. I just feel like so bad. I just wanted to cry because, you know, like she just lost her husband.

- CHW in downstate MCH program

In the face of such disruption and distress, many CHWs reported becoming human “portals” – a lifeline to other services and information for their clients, especially for addressing food insecurity concerns as they helped clients by providing information about the changing resources available in their communities.

The participants when the first we call them, they were really happy to hear our voice. And they say, “Oh, my god.” I have a participant that she call me “my angel.” “Oh, my god, my angel is calling me.” And she was talking to her psychiatrist and she says, “I have an angel that call me and is helping me.” And with the food pantry, especially in those days that they couldn’t go out at all, we tried to help them as much as we can with delivering the food and getting in contact with their doctors or nurses at the clinic, so they can have their medications delivered to the house and all that.

- CHW in downstate chronic disease management program

4. Socioemotional Impact of Pandemic on CHWs

The impact of the pandemic on the mental and physical health of front-line healthcare workers has been widely reported. CHWs also report significant socioemotional consequences. For example, the technological adaptations that CHWs used to surmount the pandemic’s physical distancing requirements were successful in maintaining client contact, but had unintended consequences. CHWs and their supervisors reported that boundaries between home and work dissolved – a phenomenon that has been widely reported among individuals across many occupations who transitioned to remote work with the advent of the pandemic. However, for the CHWs the stresses associated with this change in work modality may be heightened because of their lack of preparation, given that the former nature of their work included firm physical boundaries. Many reported difficulties in carving out a quiet space in their home environments to interact with clients.

I think that's one of the things that for me working at the office was like I left the office, I left all of my cases at the office. All the worries about this mom and this other mom or this family. But working at home, it's kind of hard. You're still at home so you're still thinking about it. What else can I be? Even when I'm off, I'm around and I see a program and I'm like I'll go and ask. Maybe it could be good for my families. It's like I'm always working even if I'm not working. That's kind of sometimes it could be a little bit overwhelming to never be like stop thinking about what else could you do for them.

- CHW in downstate MCH program

As well, CHWs' mirroring of the characteristics of their clients was both a liability as well as an asset. Their similarities gave them greater insight and empathy into their clients' circumstances, but many spoke of the stresses of being called upon to be supportive of clients while also managing increased caretaking responsibilities in their own homes, dealing with illness and even death in their own families, and sometimes experiencing illness themselves.

There was a lot of stress for them because some of my staff, they were losing family members. So, people were dying. I had one staff person, she had at least 10 to 12 people die. Every week, like two people a week was dying. I was like, "Oh, my god." I was stressed out hearing her stuff. So, I couldn't imagine what that was like for her who was experiencing it.

- CHW supervisor in upstate chronic disease management program

In CHWs' interviews, their accounts of their own experiences with social isolation mirrored their descriptions of their clients, which they described managing through regular contact with their co-workers (e.g., via group texts) and supportive supervisors (in virtual meetings and other forms of mediated supportive messaging). One CHW supervisor, though, also voiced a need for the efforts and experiences of CHWs to be validated and recognized at a higher level (i.e., referencing the state agencies that fund many of these programs).

5. Resources Needed to Continue to Support CHWs in Eliminating Health Disparities

The experiences reported by CHWs and their supervisors point toward the following resources that would support CHW-based programs during the coming months, and post pandemic:

- More materials (specific to their program’s area of focus, but also COVID-19 related) for use with their clients that are adapted to the online environment; including, but not limited to, Spanish language materials.
- Digital resources for CHWs (i.e., smart phones and laptops/tablets), training in their use, and training on how to coach clients:

And it's not like—they didn't provide us with tablets, they didn't provide us with laptops, they didn't give us nothing, so how were we—I know that some people were using their personal phones to call those select few, maybe clients that they've had or known on a deeper, more intimate level. I personally am not calling a client on my—I just didn't feel comfortable. – CHW in downstate MCH program

- More social support for CHWs:

So, here you have a pandemic. People are losing people. Family members are sick. It was a lot going on. So, I shifted to all of their [the CHW staff] mental health. That was the shift for me. I'm like, I need to make sure people have their mental health intact, their emotional health is intact, because it's easy to tell somebody, "Oh, you need to be to work on time. You need to," when they're being impacted by trauma. They're being traumatized by stuff that's happening around them. The other thing that was impactful for them as well was all the unrest.

– CHW supervisor in upstate chronic disease management program

- Related to socioemotional support, was the need for formal recognition by state-level program sponsors voiced by some CHW supervisors for the work of CHWs under the taxing conditions of the pandemic:

I think it's really good to hear back from others of the well done job that's being done. I don't think that feedback is being received. If community health workers hear it, it comes from me. But maybe at a higher level, I think is good for showing the support of all the hard work they've done because the behind the scenes can't be seen by others. Living the life of a day of fitting in home visits, outreach, children doing schooling, babies that are being taken care of, maybe spouses that are working in the home, that is a big role to carry out. And maybe hearing it from me is fine to a point, but maybe getting that feedback from a higher force would be like, wow, they saw this and that I'm a part of that. I think could be very encouraging, especially for keeping people in this position. Because as a result, we have seen that people have left their positions just from the overwhelming stress.

– CHW supervisor in upstate MCH program

They also commented on the resources needed by their clients:

- Digital resources for clients (i.e., smart phones and tablets; broadband connectivity)

and education in their use

Well, they need more minutes. You know what I mean? You can't tell somebody, "Here's these minutes." Well, if they have to do a telehealth visit with their doctor even if it's not a video, if it's just a phone telehealth, and that is what they were doing early on, you can be on hold for 15 minutes. While you're on hold waiting for your provider, you could burn through your minutes and then you don't even get to talk to your provider. So, they need to up the minutes. They need to give the vouchers. I wish they could get even better phones so that people could at least have smartphones because the little generic flip phones aren't gonna cut it.

- CHW supervisor in upstate chronic disease management program

6. CHWs Supporting Efforts to Eliminate Disparities in COVID-19 Impact

The findings reported in this section address the research question on the potentiality CHW-based programs in supporting the public health effort to eliminate disparities in the impact of COVID-19 on communities of color.

The interview accounts obtained for this study attest to the relationships of trust that CHWs have forged with their clients, and their endurance through the worst days of the pandemic. CHWs are looked to by their clients as a trusted source of information on COVID-19, including vaccination.

I think on the CHW side, it's really making sure that people know what the accurate information is, where to go to get it, etc. And, so I think just providing a ton of information and having one-on-one conversations with people and having those conversations being with someone who they trust who they see as a peer is gonna be essential to make sure that we're successful in actually having folks get vaccinated and trust. Because, some people may hear from the government, from the State or City, the advertisements around getting vaccinated, but unless they actually hear it from someone they know and trust in their community, that will be what will drive them to actually get the vaccine and follow through with it.

- CHW Advocate Downstate

However, CHWs' dual roles as members of the vulnerable communities they serve and members of health-related service organizations position them somewhat differently in relation

to the vaccination effort than healthcare and public health professionals who are not also members of historically marginalized communities. They may be more likely to be hesitant, but also have more access to reliable sources of information.

I think they bear some of the same mistrust with the healthcare system and administration and all of that as the communities that they support. But, the difference is that they are sort of deeply embedded in a healthcare system, so they are getting information from – There's been times through this pandemic where nobody had answers, but they're getting fairly consistent reliable information on a regular basis. And, they also have resources to ask questions. So, it may not completely turn the tide for them, but I think they're in a different position because they have access to this information. So, once we have more information and we're able to share it with the community health workers and have these ongoing conversations, I think potentially they would be more likely to get the vaccine before people who are isolated from the healthcare system and factual information.

– CHW Advocate Downstate

I know many CHWs that are also hesitant about the vaccine for the same reasons that other folks in their community are. I think that the way it will likely play out, we have a physician member of our board. She was actually one of the founding members of the Community Health Worker Network. And, she is very well respected and trusted by community health workers because of her extensive and long role. So, I'm seeing that what our approach will probably be once the vaccine is out and readily available is, we'll do a series of sessions with her and she'll help to kind of break it down and help people understand and help in that first phase, help CHWs build a little bit of trust in it so that they can then convey that to folks that they work with.

– CHW Advocate Upstate

The CHW model of health promotion emphasizes respect for client autonomy and self determination, and “meeting them where they are” in comparison to more traditional models of persuasion that prioritize adherence to institutional recommendations. Very few CHWs said they would attempt to *persuade* their clients to be vaccinated. The vast majority said that they would pass along information from sources they trust (CDC was mentioned multiple times) so that clients *could make up their own minds*.

Our role will be very important because mom will ask. If they hear it on the news, they will ask us what you know about the COVID. I mean, my clients will ask me should I get it. And it's always you can't tell them yes or no. You have to just inform them and let them make the decision. But they will ask so it is important to be a

program that will teach all the community health workers around the city and the state for them to know what is about the COVID vaccine that is good and the risks and stuff like that.

– CHW in downstate MCH program

Some frankly expressed personal reservations regarding vaccines and the difficulty of advocating for an action when you have reservations yourself.

Well, I think it's going to be a hard sell to this population because they're already mistrustful. I think it's a hard sell when you don't believe in it yourself. And I'm not speaking for anybody really, but myself. Not that my personal views matter, but I'm thinking to myself, if I'm a CHW and I'm trying to talk you into something I wouldn't do, I would feel a little hypocritical.

– CHW in downstate MCH program

Many predicted significant hesitancy on the part of the communities they serve (affirmed in polling both at the time and subsequently), referencing influenza and other vaccine hesitancy that they have observed previously; in addition to mistrust of the accelerated vaccination development process (sometimes voiced on their own behalf and sometimes on behalf their communities), and the long history of mistreatment of African Americans and other communities of color by healthcare and public health institutions.

At the same time, CHWs, in their traditional bridging role between vulnerable community members, the programs that employ them, and the health and human service organizations they facilitate connections with can effectively convey community concerns in the community's own voice, and respect for those concerns. This can in turn inform messaging from public health and healthcare professionals seeking to promote vaccination acceptance in vulnerable communities.

Moreover, given that changes in attitude with respect to vaccine acceptance are unlikely to be the product of a single exposure to a single message, no matter how well designed that message may be, CHWs are ideally positioned to support public health messaging through the

multiple contacts they have with clients and answering of evolving questions, provided they are equipped to do so by the programs that employ them.

It would be very surprising if this is a successful distribution in the absence of community health worker or community health worker type people to build that trust. . . . I think it could happen in a few different ways. I think there could be some general information sharing that likely will not be immediately received and responded to upon the first communication, but just continuous reinforcement and modeling within local communities. But, then I think for those community health workers who are part of healthcare systems, partnering with the clinicians that when a clinician identifies that a patient could benefit from this vaccine, involving the community health worker in that conversation and then obviously that reinforcement. . . . And, then obviously we could do like a broader sort of population health approach where it's less tied to a specific clinician, but more just going off the list of patients who really could benefit from this and having sort of like the community health workers proactively outreach to start that conversation. I don't think it's gonna be a one conversation situation. I think it'll be a few phases. I mean, there might be some people who are very eager to get it, but I think for a lot of communities it's going to be initial information and then reinforcement. A lot of answering a lot of questions. – CHW Advocate Downstate

It is important to note that this study was conducted in October/November 2020, prior to vaccine rollouts, and that recent national polls point to increasing levels of acceptance among communities of color, and a shift in focus to issues of accessibility. However, significant reservations remain, including among healthcare workers of color (Grumbach et al., 2021).

This study echoes the need, expressed in many other places, of the need for materials that acknowledge and address concerns expressed by members of communities of color, whose autonomy has not been historically respected.

Conclusions and Recommendations

This study's findings lead to three primary conclusions, detailed below: (1) the importance of ongoing CHW-based program support and even expansion of their role in eliminating health disparities; (2) the importance of the role of CHW-based programs in sharing culturally appropriate COVID-19 related information with the communities they serve and providing resources to address community members' questions and concerns about vaccination;

(3) the need to address inequities in access to digital resources and digital literacy to meet the challenges of connecting with sources of social support, healthcare seeking, and information seeking under the constraints of the pandemic and in a post-pandemic world.

1. Continued support and expansion of CHW-based programs to eliminate health inequities.

The essence of CHWs' work is in their status as trusted messengers in under-resourced communities, who as members of those communities, and often as former clients of the programs they work for, understand the needs of community members, are willing to meet them where they are without judgement and with compassion, and help them to navigate the healthcare and human service systems. The CHW model is deeply rooted in the "social determinants of health" model, which means in this context working with the whole person, not just the medical condition.

2. CHWs have been and continue to be a powerful force in eliminating minority health disparities, and arguably now more than ever deserve continued support and public funding if their work is to continue in eliminating the pre-existing health disparities that have contributed to the disparate impact of COVID-19 on communities of color. This study helps to document the critical role CHWs play in connecting members of under-resourced communities to services and healthcare and the "lifeline" role they are playing in a time of extreme disruption. Situated as they are in programs that are administered by community-based organizations, they play a crucial role in bridging gaps between members of vulnerable communities and healthcare systems.

As argued by Patricia Peretz of New York Presbyterian Hospital's Division of Community and Population Health, and colleagues, in a November 2020 Perspective piece in the *New England Journal of Medicine*, "Investing in community health workers (CHWs) and

community-based organizations can help address the social determinants of poor health that disproportionately affect low-income, minority populations and that are magnified during times of crisis. These workers and organizations can help improve material conditions, facilitate access to health care systems, and provide psychosocial support.” Advocate and public health scientist Shreya Kangovi likewise champions the value of CHWs in achieving health equity. In a recent Robert Wood Johnson Foundation Culture of Health Blog, Dr. Kangovi points to having helped inform President Biden’s proposal to create jobs for an additional 150,000 CHWs nationwide and to working with Centers for Medicare & Medicaid Services (CMMS) toward funding CHW services (*Community Health Workers*, 2021). Advocates of CHW programs in NYS in public agencies and private sector organizations should support these efforts and ensure continued support for existing programs. As Peretz and colleagues exhort, “As we define our path forward from the Covid-19 crisis, we should recognize the integral work of CHWs in supporting patients and communities, including the critical role they have played as frontline team members during the pandemic. Now is the time for payers and health care systems to take action to invest in a sustainable CHW workforce” (Peretz et al., 2020).

3. Provide COVID-19 education for CHWs and culturally appropriate materials for distribution.

The interviews obtained for this study suggest variability among programs in terms of prioritizing COVID-19 information for clients and ability to access information with confidence. As trusted messengers with ongoing contact and relationships with vulnerable community members, CHWs are ideally positioned to convey essential public health information to help clients reduce their risk of contracting COVID-19 and combat misinformation. However, they need focused education on COVID-19 related issues, and

culturally appropriate materials to share with their clients that address community concerns, and that respect CHW principles of empowerment and self determination, which extend to the CHWs themselves. While this is already happening in some better resourced programs, more can be done.

Entities that provide trainings to CHWs, such as the NYS DOH, and organizations like the New York City Community Health Network, Make the Road New York, the Community Health Worker Network of Buffalo, and the Healthy Capital District Initiative can play a role in developing COVID-19 specific trainings and materials, and making them available to CHW programs throughout the state, regardless of the programs' specific focus.

4. Provide training, devices, and connectivity to eliminate digital divide issues for CHWs and their clients. To enable CHWs to continue their program specific work in the context of a public health crisis that is exacerbating existing disparities, and to support COVID-19 specific mitigation efforts, it is critical to provide the needed digital resources and communication strategies to keep CHWs connected with their clients. Digital technologies play a key role in keeping connected, but challenges with digital resources emerge strongly from participant interviews collected for this study as another inequity being highlighted by COVID-19. Just as the pandemic has shone a spotlight on the health inequities that underlie its disparate impact, the pandemic has illuminated how digital divide issues are implicated in health and well being. As argued recently in *AJPH* (Benda et al., 2020), the internet is a social determinant of health. This emerges clearly in this study as CHWs recount the challenges of connecting with some clients when face-to-face connections were disrupted, the challenges of connecting clients with services, and the expansion of the areas of support they provided to include advocating on clients' behalf to internet service providers. The

broadband internet access as a SDOH model notes that internet access impacts all of the AMA SDOH domains: healthcare system access, economic stability, education, food security, community and social connections, interactions with the neighborhood and physical environment – as well as an SDOH that the AMA does not list: access to information.

CHWs and their clients need training and technological resources, and there is a powerful potential role for CHWs to play as “digital ambassadors” to their clients, for example in the acceptance of telehealth. Lack of ability to access telehealth services puts vulnerable community members at risk for exacerbation of health disparities, given the widely forecasted view that the telehealth modality of delivering care is likely to continue post-pandemic with funding support from CMMS. At the same time, this study recognizes that virtual interactions can never entirely, nor should they attempt to, replace the in-person, face to face interactions these programs are grounded in.

Entities that provide trainings to CHWs, such as the NYS DOH, and organizations like the New York City Community Health Network, Make the Road New York, the Community Health Worker Network of Buffalo, and the Healthy Capital District Initiative can play a role in developing digital literacy training, and training in how to coach clients in fundamental skills like downloading apps, setting up an email address, and using patient portals. At the same time, mechanisms must be found to provide technological resources to CHWs and their clients. CHWs and their clients need robust internet connectivity to be able to access health-related information and participate in video based online interactions. They also need devices, such as tablets or smart phones to utilize that connectivity and skills. Substantial parts of both urban and rural New York State still lack connectivity (Taddeo, 2020), and supports for low income residents to help make devices and connectivity affordable have

been a patchwork of public and private options that are difficult to navigate and leave many needs unmet. Governor Cuomo's 2021 Reimagine Rebuild Renew Agenda announced during his January 12, 2021 State of the State address (*Governor Cuomo Outlines 2021 Agenda*, 2021) included an initiative to provide affordable internet for all low-income families that responds to a report by the Connectivity Working Group of the Reimagine NY Commission (*Reimagineny-Commission_connectivityworkinggroup04.Pdf*, n.d.). That report addressed issues of connectivity, affordability, and digital literacy. It is to be hoped that these issues can begin to be addressed in the coming months, with the Governor's current budget proposal's inclusion of a provision to make high-speed internet available to low-income households for \$15 per month a positive sign (Rulison, 2021)

These recommendations are not by any means the sole responsibility of the public sector to accomplish. Private sector organizations, such as foundations and corporations as part of their corporate social responsibility efforts, can help. Moreover, healthcare systems, including, to name just two who have partnered with University at Albany researchers recently, New York Presbyterian Hospital and Northwell Health, through their community engagement initiatives are already engaged in powerful partnerships with local non-profits to address the disparate impact of COVID-19 on communities of color.

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