Addressing Health-Related Social Needs During COVID-19 Through a Hospital-Based, Community Health Worker Program: A Case Study

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Background. Despite accounting for 34% of the population in Austin, Texas, Latinx individuals made up 50% of those who tested positive for coronavirus, 54% of COVID-related hospitalizations, and 51% of COVID-related deaths between March and June 2020. Of hospitalized Latinx patients, 40% had never seen a primary care provider and many had undiagnosed health conditions. A community health worker (CHW) pilot program was implemented based on these disparities. *Method*. This mixed-method implementation study describes a hospital-based, CHW program for Latinx patients hospitalized with COVID-19 at an academic medical center in Austin, Texas. The program included a social needs assessment, care coordination, and post-discharge follow-up. Patient data include demographics from the full sample ($N = 57$), social determinants of health ($n = 24$), and qualitative interviews ($n = 6$). Focus group data from health care professionals ($n = 26$) is also presented to describe the benefits of the CHW program. *Results*. Latinx patients in this study, two-thirds of who primarily spoke Spanish, reported high levels of satisfaction with the CHW program with fewer reported social needs after the CHW program. Health care providers underscored CHW expertise in addressing complex social needs, providing continuity of care within the hospital, and closing the loop through community resource

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navigation. *Conclusion*. This study demonstrated the capacity of CHWs to provide holistic care in hospital settings through trust building and increased capacity to address health-related social needs. Investment in hospital-based, CHW programs for vulnerable populations such as uninsured, Spanish-speaking patients is necessary to reduce health disparities beyond COVID-19.

Keywords: COVID-19; community health workers; social determinants of health; Hispanic or Latino; health promotion; health equity; health disparities

Ample research confirms that social determinants of health (SDOH) such as education, income, and neighborhood account for most patient health outcomes (Braveman & Gottlieb, 2014; Marmot, 2005; Marmot & Bell, 2016). The COVID-19 pandemic disproportionately impacted the Latinx community in terms of COVID-19 hospitalizations and deaths as well as adverse SDOH such as housing instability, food insecurity, and inability to pay bills (Center on Budget and Policy Priorities, 2022; Green et al., 2021; Macias Gil et al., 2020; Mackey et al., 2021).

Of the first 100 consecutive COVID-19 patients admitted to our hospital in Austin, Texas, between March 29 and May 13, 2020, 79% of patients identified as Latinx; 62% primarily spoke Spanish; 52% were uninsured; and nearly half of the patients did not have a primary care provider (Patel et al., 2022). Using a health-related social needs (HRSN) screening tool, we found that 64% of COVID-19 patients had unmet social needs, such as food access, rental assistance, and transportation.

Traditional hospital case management is primarily focused on discharge planning, and most hospital providers are trained to prioritize clinical care over social care, which can make it challenging to address social needs (Gonçalves-Bradley et al., 2022; Hunter & Birmingham, 2013; Zurlo & Zuliani, 2018). Yet assessing and addressing HRSN is essential to reducing unnecessary readmissions and improving patient outcomes, particularly for marginalized and underserved communities (Andermann, 2016; Baker et al., 2021; Bambra et al., 2010; Williams et al., 2008). Community health workers (CHWs) or promotores are frontline public health workers who are trusted members of the community that serve as a bridge between hospital systems and community settings (American Public Health Association [APHA], 2024; Ignoffo et al., 2022; Ohuabunwa et al., 2021). Promotores played an essential role during the COVID-19 pandemic with contact tracing, vaccination efforts, and health education (Demeke et al., 2022; Peretz et al., 2020; Silesky et al., 2023). Therefore, we developed a community health worker (CHW) pilot program to improve the quality of care and reduce the burden on hospital-based medical providers during the pandemic.

METHOD

Implementation Framework

The Consolidated Framework for Implementation Research (CFIR) is relevant to this study and includes five domains: outer setting, inner setting, characteristics of individuals, intervention, and process (Damschroder et al., 2022). The outer setting and characteristics of individuals were taken into consideration while designing this pilot program. The COVID-19 pandemic disproportionately impacted the Latinx community due to intersecting immigration and health policies, high levels of essential workers, and a political climate that lead to fear and uncertainty about accessing vaccinations and health care services (Demeke et al., 2022; Olayo-Méndez et al., 2021). The COVID-19 pandemic had an undeniable impact on community needs, resources, and policies (outer setting) as well as patient knowledge and beliefs about COVID-19, patient social needs, health care professional self-efficacy, and community identification with an organization (characteristics of individuals). The Latinx community was also inundated with COVID-19 misinformation, and CHWs are uniquely positioned to provide culturally and linguistically congruent health education (Silesky et al., 2023). The inner setting and intervention were considered during planning in terms of hiring a bilingual and bicultural CHW with previous health care experience in Texas. The hiring process was informed by a highly experienced CHW-I (RG), who also provided onboarding, training, and supervision. Finally, several components were considered during the evaluation, as we collected qualitative data on patient satisfaction and quantitative data on changes in patient HRSN (intervention), and qualitative data from health care professionals (HCPs) on satisfaction, feasibility, and acceptability (inner setting and process).

Sample

Latinx patients ($N = 71$) from an academic medical center in Austin, Texas, were enrolled in a CHW program (Figure 1). There was approximately 80% retention in program completion ($N = 57$) and a 40% completion rate with the surveys ($n = 24$). Sociodemographic data were collected at baseline, including HRSN. Primary outcomes were collected at program completion and

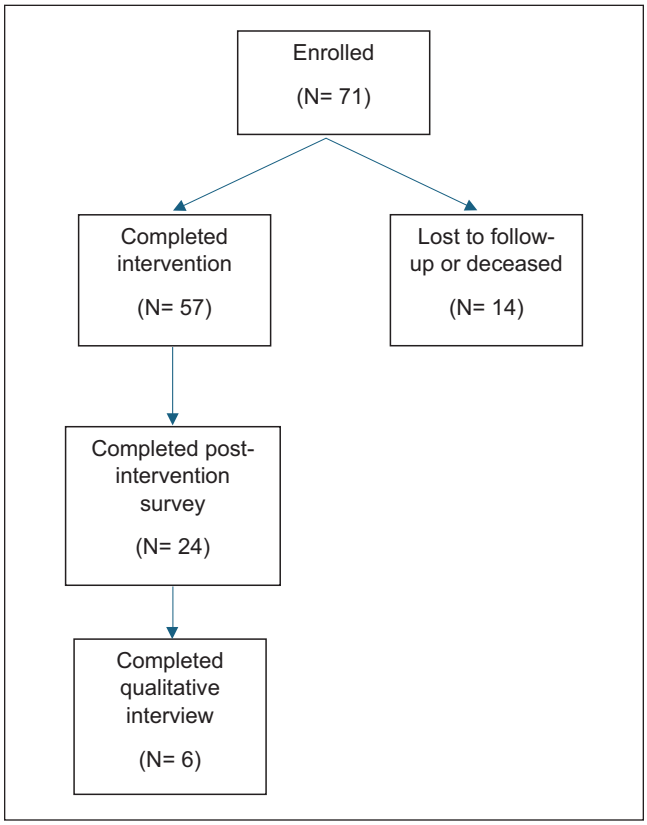

FIGURE 1 Patient Enrollment

included patient satisfaction and prevalence of HRSN. Qualitative interviews (n = 6) were completed with a subsample of COVID-19 patients who completed the program and focused on patient experiences of hospitalization and the CHW program. Finally, HCPs (n=26) who collaborated with the CHW also completed surveys and qualitative interviews.

The Program

We implemented a single-site CHW pilot program in a hospital setting between January 2021 and April 2022. Our goal was to address the disproportionate burden of COVID-19 on the region's most vulnerable population, specifically the Latinx community. The CHW job description was written by an experienced CHW based on the competencies and roles outlined by the Community Health Worker Core Consensus (C3) Project (Rosenthal et al., 2018). This position had a particular focus on a bilingual and bicultural CHW (Latinx and Spanish-speaking) who had experience in health care settings and/or lived experiences navigating the health care system. During the CHW's onboarding and training process, our team engaged in staff education on CHW roles and advocated for the CHW to be fully integrated into the hospital system including the EMR system.

The CHW (BG) was an integral part of the program design and evaluation, which included the creation of a standardized assessment and the identification of primary patient outcomes, workflow, and referral process. We tested several iterations of the needs assessment and data collection processes before finalizing a successful workflow.

The evaluation team consisted of researchers with a background in internal medicine, psychology, public health, social work, and CHWs at an academic medical school. The CHW completed 2 weeks of training on hospital policies, the hospital system, research ethics, electronic medical records, motivational interviewing, and the intervention. She also received weekly supervision from two physicians as well as a CHW instructor (RG). The CHW instructor has more than 20 years of experience as a CHW with Latinx and migrant populations. Supervision with the CHW-I included supportive, individual supervision and group supervision with a team of CHWs providing COVID-19 programming and services.

The CHW provided health education and system navigation for primarily Spanish-speaking, Latinx patients and their families during COVID-19 hospitalization and recovery. The CHW was part of an interdisciplinary, hospital team composed of physicians, nurses, social workers, physical and occupational therapists, and medical assistants. This program was modeled after the evidence-based IMPaCT (Individualized Management for Patient-Centered Targets) model, which incorporates relationship building, goal setting, alignment, and support for patients transitioning from the hospital for 30 days (Kangovi et al., 2014, 2016). While these components were included in this study, the CHW focused on assessing and addressing HRSN and providing care navigation. This was not a time-limited program, meaning that the CHW could follow-up with patients for the length of time necessary to meet their social or medical needs. There was considerable variability in terms of when and where follow-up occurred and how long to provide support. On average, each patient was contacted four times and received support for 46 days after the initial assessment. The primary goals of the CHW program were to: (a) engage patients/family in discharge planning, health promotion, and health education; (b) assess patients' HRSN using a standardized tool; (c) connect patients to primary care medical homes and outpatient teams; (d) support contact tracing efforts and promote COVID-19 isolation, quarantine, and vaccination; and (e) promote continuity of care by connecting patients to community resources using a closed-loop electronic

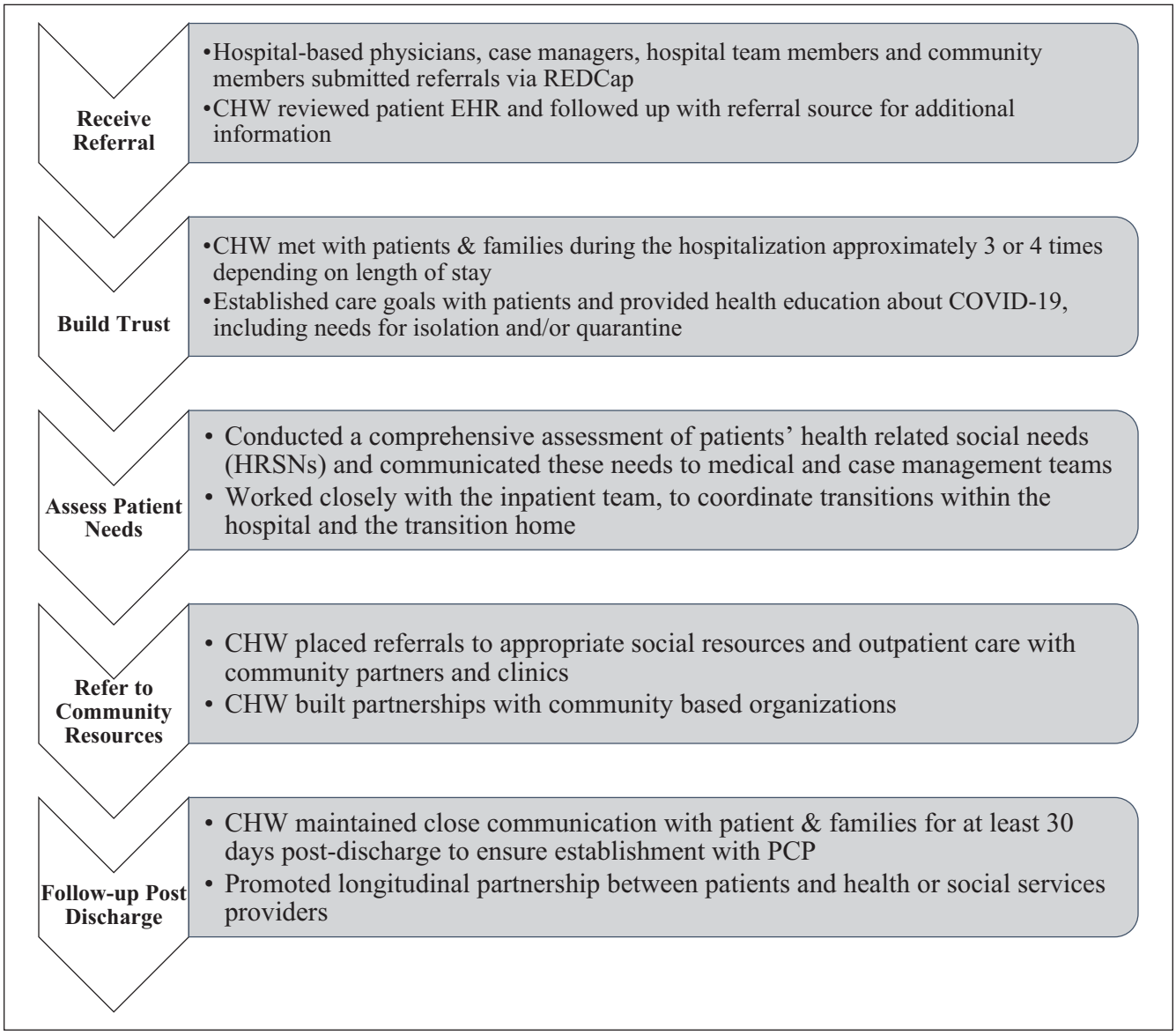

FIGURE 2 Workflow of Hospital Based, CHW Program for COVID-19 Patients

referral system used by community-based organizations and clinics across [City] (Figure 2).

Quantitative Data Collection and Analysis. Sociodemographic data ($N = 57$) was collected at baseline by the CHW as part of the program including age, gender, race, ethnicity, language, education, employment status, and insurance. Follow-up, phone-based surveys ($N = 24$) were completed with patients in English or Spanish after program completion by two CHW research assistants (TD & CM). These CHWs were full-time staff members within CHW Hub and focused primarily on supporting community-based, COVID-19 vaccination sites. The primary outcome was HRSN based on components of the PRAPARE survey including questions on housing, material security, transportation, social integration, and stress (National Association Community Health Centers, 2016a; Weir et al., 2020). Higher scores indicate higher needs (National Association Community Health Centers, 2016b). HCPs completed brief surveys including questions on demographics and burnout (reported elsewhere; Chatham et al., 2024). Quantitative data were reviewed and cleaned before descriptive analyses, which were conducted in SAS.

Qualitative Data Collection and Analysis. Qualitative data were collected from patients and HCPs. Qualitative interviews were completed with a subsample of COVID-19 patients, approximately 3 to 6 months after completion of the phone-based survey (n = 6). Patient interviews were conducted in Spanish by two Latina doctoral student research assistants (AC and TL) and lasted approximately 75 min. Patient audio files were recorded with Google Voice and professionally transcribed and translated by the University Library. A purposive sample of HCPs who collaborated with the hospital-based CHW was recruited (N = 26) to participate in a focus group (five total) or individual interview (two total), each lasting approximately 60 min. HCP audio files were recorded with Zoom and manually transcribed (LP). Qualitative data were analyzed in NVivo (QSR International Pty Ltd., 2020).

Qualitative data were analyzed (LP) using thematic approach due to the descriptive and exploratory nature of the analysis (Braun & Clarke, 2006). After an initial review of all transcripts, a draft codebook was created for each sample (patients and HCPs) with structural codes for each interview question (Saldaña, 2015). Then, line-by-line coding was completed with the two most substantive focus groups or interviews to identify an initial set of codes for each question. This codebook was used to code subsequent focus groups or interviews as well as identify any new codes. After initial coding was complete, themes were identified based on the frequency and salience of codes assessed by the number of overall quotes for each code as well as the number of participants and transcripts that identified a code. These findings were then presented and reviewed with the research team to narrow codes into themes. Findings were used to improve implementation and disseminated to staff and leadership within the hospital system.

RESULTS

Patient Demographics

The average age of patients who completed the program (N = 57) was 51 and two-thirds of patients were men. The majority (96%) identified as White, Latinx individuals, and one-fifth of participants spoke English as their primary language. About half the sample had less than a high school education and lived with at least 3 other household members. One-third had full-time employment at enrollment, and almost half the sample lacked health insurance or coverage (Table 1).

TABLE 1
Demographic Variables for Patients Hospitalized With COVID-19 (N = 57)

Variables	*N (%)*
Age (mean)	50.1
Sex (% Female)	19 (33%)
Race	
Black	1 (2%)
White	54 (96%)
American Indian/Alaska Native	1 (2%)
Missing or declined to report	1
Hispanic/Latinx	56 (98%)
Primary Language	
Spanish	48 (84%)
English	9 (16%)
Education	
Less than High School (HS)	27 (50%)
HS/GED	19 (35%)
More than HS	8 (15%)
Missing	3
Household size (mean)	3.9 (1.8)
Insurance/Health Coverage	
Uninsured	25 (46%)
County coverage	13 (24%)
Public (Medicare, Medicaid)	9 (17%)
Private (HMO, PPO)	7 (13%)
Employment	
Not seeking work	24 (44%)
Unemployed and seeking work	10 (18%)
Full-time	16 (29%)
Part-time	5 (9%)
Missing	2
Established with primary care	36 (63%)
	Mean (SD)
Number of health conditions	1.9 (1.6)
Length of stay (days)	13.9 (15.2)

HCP Demographics

The average age of HCPs who participated in the qualitative study was 35.2. Most HCPs identified as White (84%), one-fifth as Hispanic or Latinx, and one-third spoke Spanish. Most respondents were a physician or resident (69%) followed by a nurse (15%), social worker (12%), and chaplain (4%). HCPs had 7.5 years of health care experience on average (Table 2).

TABLE 2
Demographic Variables for Hospital-Based, Health Care Professionals (*N* = 26)

Variables	*N (%)*
Age (mean, *SD*)	35.2 (9.9)
Sex (% Female)	19 (73%)
Race	
Black	1 (4%)
White	21 (84%)
Asian	4 (16%)
Hispanic/Latinx	5 (20%)
Languages spoken	
English	26 (100%)
Spanish	8 (31%)
Other	4 (15%)
Hospital role	
Case Management and Chaplaincy	6 (23%)
Physician	8 (31%)
Resident	12 (46%)
Health care credentials	
Nurse (RN or NP)	4 (15%)
Social Work (LMSW, LCSW)	3 (12%)
Physician or Resident (MD)	18 (69%)
Chaplain	1 (4%)
Number of years as HCP (mean, *SD*)	7.5 (9.3)

Patient Outcomes

The primary outcome was HRSN. At baseline, more than 90% of patients reported at least one HRSN. Food (47%), rental or mortgage assistance (36%), utility assistance (36%), and cash assistance (26%) were the top needs identified by patients. Few patients reported experiencing homelessness, but almost half the sample reported unstable housing. One-fifth reported transportation barriers to medical or non-medical appointments. Almost half reported experiencing "quite a bit" or "very much" stress. The CHW provided 150 referrals to 57 patients, primarily for these HRSN, as well as other services such as health coverage or insurance (Table 3).

At follow-up, patients reported improvements in several areas including employment and transportation. While the number of patients who reported "no material needs" increased (11 to 14), the average number of needs increased as well as the overall HRSN score (7.7 to 9.3). Patients reported an increase in social isolation with almost a quarter of participants reporting less than one social interaction per week, yet there was a decrease in reported overall stress, with most participants reporting little to no stress after the program (84%). Patients reported high satisfaction with the program (average=4.8 out of 5).

Qualitative Findings

Patient Perspectives. Patients reported several benefits associated with the CHW program including material support, physical support, and emotional support (Table 4). For material support, patients reported getting assistance with food, rent, and medical bills. Patients often talked about how comforting it was to have access to a CHW who could help them navigate the health care system, such as outstanding medical bills, as well as connect them to community resources, such as rental assistance: "I applied for [the] assistance they were offering at that time for the apartments, and I did qualify and everything. Yes, they did help me pay the rent" (44 yo female). However, some patients were ineligible for assistance due to lack of resources in their county: "She tried to give me community help, but the truth is that here in my county there's not much help."

Patients described the emotional support they felt from the CHW, particularly how much time she spent with them, and how much they trusted her. One patient stated, "She talked to me, and she was always keeping an eye on me. . .she was one of the people who told me, 'Hang in there. You'll see, you'll get better'" (40 yo male). Another patient stated: "When I talked to her, it was as if I had known her for a long time." Other patients described how important it was for the CHW to normalize their recovery experience, particularly as it related to the mental distress and traumatic nature of COVID-19: "She told me, 'Don't worry, we're seeing lots of people going through this.' That calmed me down, when she was telling me that" (36 yo female).

HCP Perspectives. HCPs spoke highly of the CHW program, identifying four primary benefits: "holistic care," "closing the loop," "continuity of care," and "provider peace of mind" (Table 5). Holistic care was defined as comprehensive care that addressed the medical, social and emotional needs of patients and their families. More specifically, HCPs described how the CHW was able to enhance hospital services by building patient trust, providing culturally and linguistically aligned care. The CHW enhanced communication to Latinx families and conducted a more thorough assessment of HRSN:

TABLE 3
Health-Related Social Needs (HRSN) Before and After CHW Intervention for COVID-19

	Full Sample (N = 54)	*Follow-Up Sample (N = 25)*	
Variables	*Baseline N (%)*	*Baseline N (%)*	*Post-Intervention N (%)*
Employment			
Not seeking work	22 (41%)	12 (80%)	9 (36%)
Unemployed and seeking work	10 (19%)	4 (16%)	3 (12%)
Full-time	15 (28%)	7 (28%)	8 (32%)
Part-time	5 (9%)	2 (8%)	5 (20%)
Missing	2 (3%)	0 (0%)	0 (0%)
Insurance/Health Coverage			
Uninsured	25 (46%)	13 (52%)	6 (24%)
County Coverage	13 (24%)	5 (20%)	14 (56%)
Public (Medicare, Medicaid)	9 (17%)	3 (12%)	2 (8%)
Private (HMO, PPO)	7 (13%)	4 (16%)	3 (12%)
Housing Situation (% without housing)	2 (4%)[a]	0 (0%)	3 (12%)
Housing Stability (% unstable)	20 (37%)[a]	10 (40%)	10 (40%)
Material Needs[2]			
No Unmet Needs	22 (41%)	11 (44%)	14 (56%)
Food	16 (30%)	8 (32%)	7 (28%)
Medicine or healthcare needs	6 (11%)	2 (8%)	4 (16%)
Utilities	14 (26%)	7 (28%)	7 (28%)
Childcare		0 (0%)	3 (12%)
Clothing	7 (13%)	4 (16%)	5 (20%)
Phone	0	0 (0%)	6 (24%)
Other	7 (13%)	4 (16%)	0 (0%)
Transportation Barriers			
No needs	42 (78%)	19 (76%)	21 (84%)
Kept from medical appts	5 (9%)	4 (16%)	3 (12%)
Kept from non-medical appts	7 (13%)	4 (16%)	1 (4%)
Social Integration			
Less than once/week	3 (6%)[a]	0 (0%)	6 (24%)
1-2 times/week	8 (15%)[a]	4 (16%)	11 (44%)
3-5 times/week	29 (56%)[a]	13 (52%)	4 (16%)
+5 times/week	12 (23%)[a]	8 (32%)	5 (20%)
Stress			
Not at all	8 (15%)[a]	4 (16%)	6 (24%)
A little bit	5 (10%)[a]	3 (12%)	15 (60%)
Somewhat	12 (23%)[a]	6 (24%)	2 (8%)
Quite a bit	17 (33%)[a]	6 (24%)	2 (8%)
Very Much	10 (19%)[a]	6 (24%)	0 (0%)
Total PRAPARE risk score	9.7 (2.4)	7.7 (1.6)	9.3 (2.4)

[a]Missing data ($N = 52$, 4%).

TABLE 4
Qualitative Findings From Patients Hospitalized With COVID-19 (*N* = 6)

Theme	*Example quote*
Material Support	"She was supporting me and when I had a question, I would talk to her and say, 'You know what, I don't know what to do. Just look at what's going on,' and she would say, 'No, don't worry about it.' I did have a little bit of trouble with the other departments, and she would tell me what to do and all that. Yes, she helped me a lot" (44 yo female).
Physical Support	"She is the one who has helped me now with the vaccines. Simply put, I work all week, and the only days I have free are Saturday and Sunday. She helped me get the vaccines because [she] is in contact with the Mexican consulate, she is in contact with the person at the consulate, and she recommended me" (59 yo male).
Emotional Support	"It was difficult to express these thoughts with my family because I knew that I was going to worry them, I knew they were worried. By talking to someone outside that circle, someone that has that knowledge, someone who knows that this disease makes us feel desperate. Now I understand it, it's part of the disease" (36 yo female).

TABLE 5
Qualitative Findings From Focus Groups With Health Care Providers (*N* = 26)

Theme	*Example quote*
Holistic care	"I think she really completes the care as a whole. Because we do a lot of the medical things, we prescribe all these medications, we do all these things, but she helps us take care of the human in front of us, not just the disease" (Resident).
Closing the loop	"I would say most of the patients I see are Latinx, Hispanic populations. And a lot of them have family outside of America, a lot are dual language or primarily Spanish speaking. And there's, there's so many practical things that she helped with that I didn't even know about. She'd already taken care of it." (Physician).
Continuity of care	"One thing I think with [the] CHW provides (is) continuity of care, whether the patient is up on the floor and then gets transferred to ICU and then gets transferred to a different floor, and the medicine teams and the attending doctors are changing. . . [CHW] is able to follow them wherever they go in the hospital, and then once they get home too" (Case Manager).
Provider peace of mind	"Whenever I had a patient with CHW, one, I just felt so much more reassured that their transition of care from inpatient to outpatient would be much more smooth" (Physician).

> I don't speak Spanish. I would talk to a patient with an interpreter, we both have our masks on, and think I had a decent plan for discharge. And then I would involve the CHW and she would be able to talk to the whole family. [She would] find out that there were five more people with COVID at home and that they actually needed two things that I hadn't identified yet . . . So I feel like we were doing the best we could, but I feel like [the] CHW was able to identify gaps that I didn't even know, and then solve them with resources that I didn't have. (Physician)

The CHW was able to provide more time and attention to patients in complex social situations that the hospital team would otherwise be unable to address:

> As a case manager, I would not have been able to coordinate [in that way]. I couldn't have gotten the 14 people together and created a food train for this family, and paid their rent, and worried about whether [the patient] was attending school. [The CHW] delves a lot deeper and can uncover a lot of layers to make this family as successful as it can be. (Case manager)

Continuity of care was defined as the patient-centered process by which the CHW collaborated with both the patient and the hospital care team to center patient needs and improve communication across hospital teams. HCPs described how the CHW improved the care team workflow across the hospitalization stay, from the initial needs assessment to discharge planning and transitioning back into the community: "She bridges what is the big gap between the hospital and home, and she helps us understand the patient's social and cultural context, and familial structure . . . she is an ambassador for the patient" (physician). This was particularly important during the COVID-19 pandemic when there were considerable staffing shortages and turnover among nursing and case management staff, and many patients often had multi-week stays, where they transitioned from intensive units to lower levels of care. HCPs highlighted how the CHW intervention provided necessary transitional support and prevented patients from readmitting: "It's the stuff that is going to last longer than the illness or hospitalization, and also create complications for recovery or things that will make a patient come back to the hospital if it's not addressed" (case manager).

Closing the loop was defined as ensuring that patients received the social care services they needed, either during the hospital stay or after discharge. The CHW was able to "close the loop" on complex social needs, especially those that required family member involvement (e.g., medical power of attorney), that could not be addressed during the inpatient stay, or were longer term in nature (e.g., housing). One HCP stated,

> The CHWs have just been a godsend for our patients, and for us to know that our patients are getting so many of the things that, as physicians, we felt we want to address, but feel helpless to address like, housing insecurity and transportation for follow up visits and food. (Physician)

While there was some initial concern that the CHW would be at odds with the case management team, case managers reported the CHW was able to address the HRSN they identified but were unable to address due to time and caseload: "On the case management side, it takes a huge load off of us . . . figuring out every dynamic, everything [patients] can need. But there's only so much we can do from inside our office" (case manager).

Finally, provider peace of mind was defined as providing closure to HCPs on patient outcomes, particularly when the CHW was able to share patient success stories. HCPs described how the inability to address HRSN often led to unnecessary readmissions, which weighed on them: "And I always remember, 'Well, if something goes wrong, they'll just come back.' And it's really sad to think that way. But that's what ends up happening with a lot of our patients" (resident). Therefore, the CHW intervention was not only seen to improve patient outcomes but also to improve provider peace of mind:

> But when CHW's on the case with my patients, I feel like I am making a difference, that as a team, we can impact people's lives for the better and not just kind of put band aids and hope the band aid doesn't come off because then they have to come back, and we have to repeat the process. (Resident)

The CHW provided closure to providers about socially complex patients post-discharge that they would not have otherwise known about: "She definitely provides a sense of closure . . . you don't have to wish, you don't have to wonder, because she really does close those loops and those gaps, which provides us a sense of accomplishment" (non-physician). Another HCP mentioned how helpful it was for the CHW to provide updates at team huddles and boost morale during a time of heightened burnout and exhaustion: "Hearing the stories and seeing the pictures of [CHW] with a family in the community and seeing the whole family, not just the patient that we took care of . . . builds confidence, and says, wow, this does make a difference" (physician). Success stories were particularly important during COVID-19, where patient deaths and HCP burnout were historically high.

DISCUSSION

This implementation study aimed to improve the quality of care for patients hospitalized with COVID-19. We considered all five CFIR domains (outer setting, inner setting, characteristics of individuals, intervention, and process) in the implementation and evaluation process. Patients reported high satisfaction with the CHW intervention and provided examples of material, physical, and emotional support during their COVID-19 hospitalization and recovery. HCPs underscored how the CHW increased capacity to address HRSN, improved access to culturally and linguistically appropriate navigation and improved continuity of care during and after hospitalization.

Implications for Research

Significant literature supports the efficacy of CHWs in hospital settings, particularly as it relates to health care utilization (Carter et al., 2021; Kangovi et al., 2014,

2020). However, there is less research that uses HRSNs as a primary outcome to assess the efficacy of CHW interventions. Physicians have reported feeling uncomfortable conducting HRSN screenings due to limited time and knowledge of community resources (Herrera et al., 2019; Meyer et al., 2020). Moreover, some literature suggests that physician-conducted HRSN screening can cause additional stress and lead to burnout (De Marchis et al., 2019). Our findings suggest that the CHW is a necessary team member for closing the loop in terms of HRSN, providing continuity of care during hospitalization, bridging care beyond the hospital setting and increasing provider peace of mind.

Patients reported high levels of satisfaction with the CHW intervention, but quantitative data were mixed in terms of whether the CHW intervention reduced HRSN over time. While the number of patients who reported a material need decreased, the average and total number of HRSNs increased at follow-up. There are several possible explanations for these conflicting trends. First, patients may have been unaware of HRSN that would arise post-hospital discharge. It is estimated that 20% to 50% of patients hospitalized with COVID-19 will experience post-COVID conditions, which can be difficult to determine until after discharge (Groff et al., 2021; Huang et al., 2021). Second, as patients developed a trusting relationship with the CHW, they may have been more inclined to report their social needs at follow-up compared with baseline, or more medically stable to address them. Third, federal funds for financial strain due to COVID-19 were available in the spring of 2021, yet most of these programs were time-limited and ran out of funds by the fall of 2021 when the post-intervention follow-up data was collected. Therefore, future studies need to consider how HRSN can be used as a primary outcome to evaluate intervention efficacy while recognizing that SDOH is often due to long-term structural barriers that may be challenging to resolve.

Implications for Practice

There are several implications for practice. First, as outlined in the CFIR framework, it is important to understand the needs of the population to implement a culturally responsive intervention. We completed a hospital-wide, needs assessment at the beginning of the pandemic, which identified a high rate of HRSN within the Latinx community. This directly informed the CHW intervention design and who we hired to ensure cultural and linguistic congruency with the primary population (Patel et al., 2022). In addition, because our program was filling a gap in hospital care, the hospital was receptive to the integration of a CHW. Third, our research team included an experienced CHW instructor (CHW-I) as the supervisor (RG). Therefore, he was able to write the job description, provide comprehensive training, and inform the implementation plan in a short time frame. We recommend including CHWs and CHW-Is on the intervention design and implementation team to appropriately plan hospital-based, transitional care interventions that are culturally relevant and feasible.

The CHW pilot program also faced several barriers to implementation. The CHW program started in January 2021 when personal protective equipment, COVID-19 vaccines, health education on vaccine safety, and quarantine protocols were all needed. This meant that our team had to fill several gaps in terms of health care system level barriers in addition to the administrative tasks of designing, implementing, and evaluating a pilot project. In addition, while there was high demand for CHW services, we had a limited capacity to serve all patients because funding was limited to one full-time CHW. Therefore, it was important to identify specific referral criteria so the CHW could focus on patients who could be most effectively served, such as Spanish speakers who were new to the medical system and had a planned discharge home. Moreover, the hospital-based CHW was part of a larger, COVID-19 program within the Department, called the Promotores Outreach, Training, and Engagement Hub. This facilitated CHW collaboration and continuity of care across inpatient, outpatient and community settings.

Another barrier was the integration of the CHW into the hospital system during a pandemic. Best practices encourage training and preparation prior to implementation; however, this was not possible due to the time sensitive nature of the project, and we engaged in a simultaneous process of preparation and implementation (Gutierrez Kapheim & Campbell, 2014). While hospital-based, CHW programs are growing in popularity, few HCPs were familiar with the CHW role, competencies, and scope of practice prior to the pilot program. This required staff-wide education including informal introductions with the internal medicine and case management departments and presentations during multidisciplinary rounds. We also needed to create an efficient referral process that allowed CHW to easily track all referrals and respond in a timely manner. We disseminated a handout with eligibility criteria and an online referral form so hospital staff could provide the most pertinent information and the CHW could easily track new referrals. Finally, the CHW was unable to document in the electronic medical record (EMR) after many months of advocacy due to being a medical school employee and not a hospital employee. This made it difficult for the hospital team to know which patients

were receiving CHW services and limited the CHW's ability to communicate care plans across medical services or teams. To work around this administrative barrier, the CHW attended daily multidisciplinary rounds to communicate with HCPs and facilitate communication within the hospital system. This also required the CHW to document in a research database that was not ideal for tracking updates or case management. Therefore, administrative support and leadership buy-in are essential for the full integration of CHWs into hospital teams and systems, as previous literature has indicated (Gutierrez Kapheim & Campbell, 2014).

Implications for Future Policy

In terms of policy implications, more sustainable funding for CHWs is needed within hospital settings, particularly those that serve marginalized populations such as uninsured, unhoused, or undocumented individuals. This could be addressed by organizational policies that hire CHWs as full-time staff members, this would require significant investment from hospital systems. In addition, federal and state level policies to reimburse for CHW services are crucial. Finally, further policy analysis is needed to evaluate the efficacy of federal and state social safety policies such as eviction moratoriums to improve population health outcomes. As our data demonstrated an increase in HRSN score during a period when funding ran out for many COVID-19 related resources, it is important to note that HRSN screening and care navigation alone cannot compensate for underinvestment in the social safety net.

Limitations

There were some limitations to this study. First, as an implementation study, these findings are descriptive and do not imply causation. More rigorous studies are needed to evaluate the impact of CHW interventions on HRSN, or health care provider outcomes, such as self-efficacy and burnout. Second, due to the nature of the COVID-19 pandemic, there was a short amount of time to design and implement this CHW program, and there were more eligible patients than one CHW was able to serve. Future studies would benefit from scaling social care intervention based on the number of patients in need of support. Third, we struggled to collect follow-up surveys with patients/families after program completion, which may have been due to time limitations or material stressors. Research assistants reported challenges scheduling phone interviews due to schedule conflicts, particularly for patients who were financially insecure or single-earner households.

CONCLUSION

A CHW provided culturally appropriate care to hospitalized COVID-19 patients by building trust and providing health education, care coordination and community resources. CHWs address HRSN that are not traditionally addressed by hospital case management through longitudinal follow up. CHWs can also play an integral role in informing the implementation and evaluation of CHW interventions. Health care system investment is needed to effectively implement CHW interventions to assess and address HRSN in hospital settings.

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