

Computer-Mediated Sharing Circles for Intersectional Peer Support with Home Care Workers

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Home care workers (HCWs) provide essential care in patients' homes but are often underappreciated and work in stressful and isolated environments with diverse and intersecting support needs. This paper describes a computer-mediated peer support program that centers around *sharing circles*: spaces for personal, narrative storytelling to encourage HCWs to collaboratively reflect on their home care experiences and build rapport and shared identity with their peers. We describe the design of this program and a 12-week deployment that we conducted to evaluate the program with 42 HCWs in New York City. Our findings show that participants engaged in multiple types of peer support including emotional validation, learning how to navigate the workplace and patient care, defining and enabling good home care praxis, and building understanding around purpose and identity as HCWs. We discuss how these findings inform the design of technology and use of holistic pedagogies, such as storytelling, to enable this support in computer-mediated peer support programs. Such programs can help researchers and practitioners interested in addressing diverse needs that occur in intersectional contexts, such as that of HCWs and other marginalized populations.

CCS Concepts: • Human-centered computing \rightarrow Empirical studies in collaborative and social computing; Social networking sites; Computer supported cooperative work; Social engineering (social sciences); • Social and professional topics \rightarrow User characteristics.

Additional Key Words and Phrases: peer support, sharing circles, support groups, mutual help, safe spaces, home care workers, healthcare, practitioners, professionalization

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1 INTRODUCTION

Home care workers (HCWs) are essential, frontline workers who work long hours in patients' own homes to provide long-term assistive [62, 110], rehabilitative [64], and palliative care [110]. Despite their growing importance in the United States healthcare system [135], HCWs feel that their profession is not respected by patients and other healthcare professionals [7, 128]. HCWs do not work in traditional clinical settings and are thus often poorly supported, feel isolated, and left to handle situations in patients' homes alone [43]. In New York City (NYC) where our work is situated, HCWs are typically older women, ethnic minorities, or immigrants [19], and sometimes face prejudice or harassment from their patients or patients' families [80]. These overlapping concerns create a context where HCWs have diverse and nuanced *intersectional support needs* [107] that involve a desire for professional learning [134], emotional support [35], and addressing discrimination [80].

In this paper, we explore the design and deployment of an online peer support program for the challenges HCWs face in their work. A *peer support program* is a broad term for services designed to address the informational, emotional, and tangible needs of a specific population by grouping members of that population together. Past research in CSCW and related fields has examined online peer support programs in various contexts. These programs have been used to foster professionalization and mastery of practice [29, 77, 100], provide information and empathy for patients facing challenging life events [12, 89, 139], and create safe spaces where issues of identity can be explored and aggressions of inequality addressed as a first step towards healing [28, 86, 96]. However, HCWs' intersectional needs do not fit cleanly into any single support program model. Instead, we draw on this literature, in professional development, therapeutic support, safe spaces, and Indigenous healing, to create a flexible pedagogy that is appropriate to the home care context, and we investigate how such pedagogies, typically leveraged for in-person support programs, can be translated to online spaces.

Our peer support pedagogy was based on *sharing circles*, spaces for healing and building understanding through listening and telling long-form narratives on personal experiences around a shared topic [86, 131]. We recruited 42 participants into five sharing circle panels with 6-9 participants each. Circles were hosted on voice or video conferencing and lasted 8 weeks with the same set of participants. Program topics and stories were also mirrored on a closed Facebook group for participants which lasted 4 additional weeks for a total intervention period of 12 weeks. Trained HCWs facilitated the circles and moderated the Facebook group while researchers observed and transcribed participant interactions. All participants were given a survey to gather demographic information, and a subset were also interviewed on their experiences and perceived support in the program. We used interview data and detailed observations to understand how participants used the program as a space to give and receive peer support, and how affordances and features of the program contributed to or hindered supportive interactions.

We found that the sharing circles' focus on narrative storytelling enabled participants to address multiple support needs. Sharing common experiences created emotional support through commiseration and empathetic relating. Storytelling also aided in learning by legitimizing the information and advice participants gave each other, as stories of personal experiences created authentic, valued, and persuasive narratives about care work. The support program exposed participants to a variety of experiential knowledges about different care outcomes and situations. This exposure may contribute to the development and transmission of praxes that lead to better health outcomes, address issues of abuse and marginalization faced by HCWs, and enable HCWs to better reflect their values and identity as care workers. This suggests that narrative-focused pedagogies have a flexibility that make them appropriate for HCWs and similar practitioners who are seeking to

fulfill a variety of needs around emotional support, professional development and learning, and personal advocacy.

We also discuss the trade-offs of online peer support relative to in-person programs. While programs using computer-mediated communication (CMC) are appropriate simply due to the geographically isolated nature of HCWs' work, they also provide opportunities to design for intersectional support needs. Past CSCW work has identified ways in which computer-mediated programs could create more customized experiences for participants [139]. We build on this literature by discussing how the design of both a program's pedagogy and the technology that supports it could be configured to address diverse support needs through flexible experiences, in addition to customization. Finally, we discuss the role of storytelling in creating legitimate knowledge for practitioners and issues around sustainability of support programs.

It is challenging for a single program to handle the diverse peer support needs of an intersectional audience [89]. However, intersectionality is an inescapable reality for marginalized workers, such as HCWs, who need peer support the most. We contribute to research in computer-mediated support programs by designing, deploying, and evaluating a program built around a flexible and narratively oriented pedagogy. We discuss implications of our design that will be useful for researchers and practitioners interested in how to foster peer support with vulnerable or marginalized communities in highly intersectional contexts.

2 DIVERSE NEEDS AND PEDAGOGIES FOR PEER SUPPORT

In this section, we describe the support needs of HCWs and discuss past research on online peer support programs that inspired the design of our intervention.

2.1 Home Care Workers

HCWs are healthcare professionals that provide long-term, chronic [64], post-acute [95, 127], and assistive care services [34] in patients' homes. In the United States, patients that require assistive services are increasingly seeking to live at home with the help of HCWs, rather than in an assisted living facility or nursing home [62]. As a result, HCWs are one of the fastest growing occupations in the US [135].

HCWs are a distributed workforce and spend significantly more time in patients' homes than they do with peers or supervisors. This physical separation can foment the invisibilization of their work, as HCWs feel poorly supported, underappreciated by the broader healthcare team [7, 42] and left alone to deal with care and interpersonal challenges in patients' homes [43]. During the COVID-19 pandemic, home care agencies that employ HCWs had difficulty procuring supplies for HCWs, and HCWs felt they did not receive the same degree of recognition as other essential workers [129]. Creating structures that enable HCWs to receive support from each other may help HCWs advocate for improved work conditions, better recognition, and other professional needs and lead to higher quality of care by sharing knowledge and norms [107].

From a CSCW perspective, HCWs are an interesting population because they, more than traditional clinicians, rely on computer-mediated tools to coordinate their work with patients, patients' families, each other, and the healthcare system. HCWs use tools for electronic visit verification and care task tracking in their daily work [113], and prior research has examined how information technologies can address the support needs of HCWs, including decision support systems, electronic knowledge bases [21], and diary tools for tracking patient care and care coordination [13]. For similar care workers beyond HCWs, researchers have examined how to design CMCs to foster coordination between informal caregivers in the home, such as family and friends [133, 148]. Other studies have focused on the emotional burdens and stress of caregivers [24, 116]. Social support

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has been shown to be instrumental in caregiver well-being, and research has also explored how CMC can help caregivers leverage their networks of support [124].

HCWs have a wide variety of support needs related to improving the experience of home care work, empowering HCWs as experts and professionals, and addressing the emotional burdens and stresses of the job [107]. Peer support programs in other contexts have focused on specific subsets of these needs, such as professional development, group therapy, and safe spaces. Below, we review these three areas of research and describe how they relate the context and needs of HCWs.

2.2 Caregiver and Professional Support

Despite HCWs' increasing importance in US healthcare, training requirements can vary widely and many HCWs have reported performing medical tasks that were not in their formal training [110]. In the US, HCWs are often migrant workers who may be overqualified for their position [34] and can develop repertoires of tacit skills and knowledge that are important for delivering quality care [107]. Despite this, HCWs are largely viewed as unskilled domestic laborers [128] and seek training and upskilling programs to combat this perception [134]. This need is central to professional support programs that focus on learning practice and career advancement.

CMC platforms, such as forums, social media sites, or chat rooms, might be useful for creating needed professional support groups for HCWs. Most directly, past research in CSCW has focused on understanding how HCWs' support and informational needs could be addressed by computer-mediated programs [15, 107]. Work with informal caregivers has explored various CMC-based support systems, from small, closed communities with question-and-answer boards [21] to social media and journaling websites for sharing between family caregivers [124]. Such programs can reduce the sense of burden members felt while providing care [81].

Beyond home care, online mentorship programs have been designed to connect isolated practitioners or enable collaborative learning, such as with doctors in rural settings [94] or community health workers in the Global South [147]. Various other research has also tried to support community health workers by providing feedback on their practice [36], highlighting the invisibilized maintenance work they perform [136], and enabling computer-mediated training [74]. Finally, there is a large body of research in how online environments can host *communities of practice* which enable learning and mastery of specialized skills and norms among a wide variety of practitioners [18, 26, 55, 105].

In domains such as education, schoolteachers use online professional groups to share information about pedagogical practices and seek advice [67]. These groups can be a useful resource to help new teachers learn and develop professional practices [77, 85] and may be especially critical during initial training or to help new teachers cope with a challenging workplace [91]. While some researchers have found that learning from computer-mediated peer communities can vary based on the engagement of the individual teacher [23, 97], in-person teacher support groups have been shown to enhance the motivation of teachers by mediating effects on their professional commitment [122].

Before the use of CMC, professional support programs have existed among healthcare practitioners and professionals in other domains for a long time. In medicine, clinicians may participate in professional associations that can help underperforming practitioners by providing peer consultation [141] or in groups with other clinicians of the same domain but varying experience levels to leverage collective expertise [100]. In-person support groups and peer-to-peer matching programs can also foster social support between caregivers and improve their psychological well-being [25, 32]. Some medical institutions have created peer support programs to address traumatic or emotionally harmful events that clinicians may experience in the course of their work [39, 76].

Overall, professional support programs focus on learning and mentorship that lead to mastery in a practice, accessing advice for handling challenges in the workplace, and emotional support to deal with the stresses and burdens of work. These issues are relevant to HCWs who seek continuing education in care practice and feel unsupported on the job. We discuss how professional support groups influence our intervention design in Section 3.

2.3 Therapeutic and Medical Support

HCWs build long-term and trusting relationships with patients, and doing so requires significant emotional intelligence and labor [103]. These relationships lead to better care and more fulfilling work [43], but can also leave HCWs emotionally vulnerable when they experience the death of a patient or abuse in the patients' home [107]. Home care is a high-stress job that can have a significant impact on HCWs' mental health [35]. Thus, we also drew inspiration from peer support programs designed for therapeutic or medical purposes.

CSCW research plays a large role in this space as online therapeutic groups have increased access to support programs for a variety of wellness issues. For example, researchers have studied discussion boards and forums that enabled patients to share informational and emotional support, such as with cancer patients [139, 140], around other health issues such as first time mothers' transitions to parenthood [50, 98], or for healthy behaviors such as exercise and weight loss [22]. Beyond forums, some online communities have been designed around different affordances, such as sharing step counts with friends to encourage physical activity [30], chat groups and digital spaces for recording mementos for bereavement [89], or audio recordings for around nutrition plans and goals [49]. Online groups can be more accessible than in-person support programs, particularly for women and younger participants [143].

Although online communities for this support are relatively new, they are influenced by a history of *group therapy* approaches which leverage peers to address shared needs for participants coping with similar medical conditions or life experiences [12]. For example, in the US, there exists a rich tradition of *mutual help* programs for substance abuse [60, 66], mental health [104], prisoner reentry [79], and other issues. Overall, these programs focus creating an environment where members can express their feelings and receive empathetic support [111] that can help them better understand and cope with their emotions and make better use of outside support structures, such as family and doctors [12, 126]. Peer support in these groups can have many forms, such as directed advice and feedback, statements of affirmation and compliments, or positive social interactions [8]. Group therapy has been shown to impact self-efficacy and esteem, quality of life, and access to and use of health care services [17]. By reducing barriers to facilitate care-seeking behavior [33], group therapy can also reduce hospital admission rates [111].

While theories of peer support have attempted to explain how the informational and emotional support that can be attained through peer relationships can influence health outcomes [33, 121], the efficacy of group therapy in both traditional and online settings is still debated [54, 57]. Furthermore, the models and outcomes of peer support relevant to therapeutic interventions may not translate into HCW contexts as the home care profession is not a disease or condition to treat. However, HCWs do have a need for emotionally affirming and informational support, and creating accessible online support groups is also relevant as HCWs are geographically distributed and face barriers to meeting peers in-person.

2.4 Safe Spaces and Indigenous Healing

In the US, HCWs occupy the bottom of the healthcare hierarchy and often come from marginalized backgrounds [9]. Due to their gender, race, and immigrant status, as well as their physical isolation in the patient's home, HCWs can suffer from intersecting processes of power that lead to harassment at

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work [10] and many report facing discrimination on the job [80]. Most therapeutic and professional support programs do not address issues of power, marginalized identities, or the relational struggles of their members, so we looked to Indigenous scholarship and safe spaces to better understand how to design support groups for HCWs.

Safe spaces are places for members of a marginalized community to gather, socialize, feel a sense of belonging, and share experiences of marginality while minimizing the potential for harassment and other silencing practices from the dominant cultural group [28, 118]. The safe space concept originally stemmed from feminist literature that highlighted the role and need for female-only spaces [4]. It has since been applied to other contexts, such as with LGBTQ+ populations and in social justice education [61]. However, the latter definition of "safe spaces" in educational settings have a divergent meaning and are usually heterogeneous groups that have less in common with peer support in terms of intent and outcomes [1, 137]. Thus, we focus on the feminist and LGBTQ+ scholarship.

Although the concept of safe spaces has referred to physical locales in the past, recent research in CSCW and related fields has focused on how online groups and social media may constitute virtual safe spaces. Online groups can connect isolated individuals to valuable peer support, but can also create opportunities for harm and trolling [51], and so online safe spaces are often closed groups, and moderators must engage in boundary work to enforce who [93] and what discourse belongs in the group [46]. Safety also implies an environment where certain actions are possible that may not be outside the group. For example, social media in deeply patriarchal societies can enable women to discuss otherwise taboo subjects [151]. Among LGBTQ+ youth, online safe spaces provide opportunities for members to explore their sexual identities [84], "see themselves" [114], and foster a sense of community and group membership [112].

In safe spaces, members can share stories of their experiences while maintaining and re-enforcing their authority and validity over those experiences [28]. This understanding of the centrality of personal experience and narrative storytelling is also present in Indigenous healing and encapsulated in the concept of *storywork*. Storywork is the use of story to facilitate learning through telling experiential knowledge, knowing through reflection, and healing through sharing [2]. We focus on *sharing circles*, sometimes called "talking circles" or "healing circles" [86], a form of discussion group that serves as a platform for storywork. Similar approaches have also been applied in non-Indigenous contexts as "narrative psychology" [90].

Sharing circles are openly structured discussions that enable participants to share narratives within the context and tone of tribal cultural protocols and Indigenous epistemology [70, 131]. Storywork does not assume that knowledge can be separated from experience through empirical observation. Instead, these groups use storytelling and reflection to create knowing [31] that is intentful and helpful towards a transformative and decolonizing practice [70]. To encourage equitable speaking opportunities, deep listening, and reflection, while discouraging direct debate, sharing circles may use an object to designate the current speaker [86]. Visual and physical prompts may also elicit storytelling [45].

In computer-mediated environments, some researchers have designed custom conferencing tools to enable online sharing circles and provide affordances for tone setting, turn-taking, and encouraging a feeling of social presence [58]. Other relevant work in CSCW, although it does not directly relate to storywork and sharing circles, include technology designed for reflection and storytelling [29, 49]. For example, similar to elicitation, some researchers designed specialized interfaces to enable users to explore and tell stories around digital archives of photographs and videos [119]. In another project, participants shared audio recordings of their experiences trying to eat healthily, and through this process, performed reflection and felt a sense of empowerment [48, 49]. Some researchers have found that encouraging reflection on self-tracking data, such as

diabetics monitoring their blood sugar levels, can inspire users to feel more agency and could encourage healthy behaviors [87]. Finally, some work has explored designing culturally appropriate apps with Indigenous youth [138].

Unlike approaches which focus on recording and quantifying personal experiences, it's important to note that the stories told in sharing circles are not positivist forms of knowledge, but are instead heavily situated within the experience of the teller and translated through the relationship between participants [72]. The knowing created through storywork may help participants make sense of their own experiences, inform their own practices, and feel a sense of comfort and support [68]. Thus, the healing of storytelling methods is a holistic approach which respects participant's experiences as undecontextualizable, and through the telling of those experiences, enables participants to explore and understand their identity [45]. As this understanding is built through the relationships between participants, sharing circles aim to encourage vulnerability and fluid interactions in a space of trust [131]. Continued engagement in vulnerable storytelling can improve individual perceptions of their health outcomes and overall well-being [86].

Both safe spaces and sharing circles focus on the validity of personal experiences and exploring identity in a welcoming environment. Sharing circles also emphasize a reflective and vulnerable approach to building an understanding of situated knowledge. While safe spaces are created to counter the experiences of marginalization, sharing circles also focus on transformative practice to address internalized forms of marginality. We find these elements relevant to home care, as HCWs report conflicting norms and values about what it means to be an HCW, feel a desire to build a cohesive identity as an HCW, and can face discriminatory practices from challenging work environments. We aimed to create a support program where HCWs can share, reflect upon, and feel validated in their experiences, as we now discuss.

3 DESIGNING AND IMPLEMENTING A PEER SUPPORT PROGRAM FOR HOME CARE WORKERS

The conception and design of this program was a collaborative effort between researchers in multiple fields and long-term community partners at the 1199SEIU Training and Employment Funds (TEF). Researchers included medical doctors, technologists, and labor and employer relations scholars with several years of experience working broadly in the home care space and specifically in partnership with the TEF. The TEF is the continuing education and training services of 1199SEIU, one of the largest healthcare worker unions in the US, and deeply involved with home care in New York City. This research was informed and made possible by this history of joint work through this multi-disciplinary partnership and multiple understandings of the home care context.

This program was sparked by observing the challenges of HCWs during the COVID-19 pandemic and subsequent lock downs, which saw the breakages of existing support structures and the increased isolation of HCWs [129]. Prior research in this context explored the variety of support needs that HCWs have: not only informational and emotional, but also a need to build professional identity, self-efficacy, and esteem [107]. However, because of a lack of regular interaction, there are few opportunities for relationships to naturally develop between HCWs, resulting in sparse endogenous peer support networks and professional communities [7, 43].

Our goal was to design and evaluate a computer-mediated support program that addressed intersectional peer support needs. While past work in CSCW has recognized that participants' intersectional identities can influence their experiences and needs in online spaces [107, 114], most identity-oriented research focuses on one aspect at a time [115]. We hope to address this gap by building on several bodies of literature summarized in Section 2, which described how support programs might serve HCW's needs as healthcare professionals and also as marginalized workers in stressful and traumatic situations who are primarily ethnic minority women.

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Table 1. Our design goals and their relationship to related literature.

Literature	Goals	Design Features
Caregiver and Professional Support	 Learning Career Advancement	 Topics about different care situations. Open floor for problems experienced in the workplace. Follow-up questions for advice or feedback. Engaging peers with diverse experiences and experience levels.
Therapeutic and Medical Support	 Emotional Support Informational Support Self-Efficacy	 Topics about common problems. Topics about positive aspects of care and successes. Open floor for current stresses and frustrations. Follow-up questions on related experiences.
Safe Spaces and Indigenous Scholarship	 Reflection and Knowing Validity and Identity Addressing Experiences of Marginality 	 Ground rules to give space to share experiences. Unstructured sessions with maximal time for storywork. Open floor for issues facing HCWs as a whole. Summary statements on meaning of sessions. Discussing alternatives and how values connect to practices.

Simultaneously addressing these different needs led to the design of a flexible pedagogy which we describe and evaluate here. Our program consisted of a combination of synchronous, moderated sharing circles on a video conferencing platform and an asynchronous group on a social networking site. Throughout the design process, we sought feedback from our partners at the TEF and HCWs, who we recruited as peer facilitators. We describe these features in more detail and a summary is provided in Table 1.

3.1 Design of Support Program

The main feature of the support program was virtually conducted *sharing circles*. Inspired by sharing circles in Indigenous scholarship, we hoped to create a respectful environment where HCWs could collaboratively reflect and share stories on lived experiences and practices. Through this process, HCWs could share informational and emotional support around the experiential and relational aspects of home care work and potentially create discourses that lead to knowing and transformative understanding [31, 70].

Sharing Circle Structure. Sharing circles were conducted by peer facilitators and held weekly via the Zoom platform [152]. Participants had the choice of joining via video or voice-only conferencing via a normal phone call, and each session lasted between 60-75 minutes. The sharing circles ran weekly for eight weeks, which prior literature suggested would be sufficient for building rapport among participants [54, 107]. The circles had five different elements: ground rules and introductions, a topic, open floor for issues, summary statements, and final reflection and feedback. However, any individual session incorporated at most three of these elements. As our goal was to give participants the space to have long speaking turns for storywork and deep listening, the structure was kept as minimal as possible.

Facilitators spent time in the first session describing four *ground rules*. The first two, drawn from safe spaces literature, were to frame participation as voluntary and that all experiences were valid and deserving of respect. To encourage an environment of trust and comfort, the third ground rule was confidentiality. To help make this legible, this rule was explicitly described to mirror HCWs' existing understanding of patient confidentiality. Finally, because the circles were designed for participants to tell and relate to narrative experiences, the fourth ground rule encouraged HCWs to give each other the space to speak and empowered facilitators to manage speaking turns. See Appendix A for a list of ground rules and the text used to explain them.

After the initial week, sessions began with a welcome, and then most of the time was spent discussing the *weekly topic*. Circles built on past work in therapeutic and professional support groups for different types of support. After one participant finished sharing a story, facilitators encouraged others to continue the conversation by discussing their own similar or contrasting experiences. Similar experiences were valuable from a therapeutic perspective as these emphasized common histories and shared characteristics to create commiseration and empathy [54]. Different experiences were valuable for professional support because they provided opportunities to explore new perspectives on the possibilities in home care and to leverage the combined experiences of the circle [5]. Facilitators asked participants to reflect on past experiences and actions and to consider what they would do if faced with the same situations as their peers to encourage both relatability and discussion.

Starting in the fifth week, after participants were familiar with the group, we also started each session with an *open floor for issues*, allowing participants to bring up and discuss concerns not necessarily related to the weekly topic. The open nature of the issues helped make the sharing circles more relevant to participants' day-to-day experiences and positionality as HCWs and helped direct the circles towards more immediate support needs. For example, participants could discuss a workplace problem that they were currently experiencing to receive professional advice or emotional support from their peers. Alternatively, a participant could discuss issues that they felt were facing the home care field as a whole and relevant to their professional identity as HCWs.

Finally, at the end of each session, facilitators asked each participant to provide a *summary statement* or closing comment on the session. This was intended to allow every participant at least one chance to speak and also encouraged reflection on their interactions in the circle. Participants could use their summary to describe what they learned or was important to them personally in the session. In the final week of sharing circles, we also gave participants some time to reflect and give feedback on their experiences in sharing circles as whole. For more detail on the various activities in the sharing circles and how they were scheduled, see Figure 1.

Weekly Topics. Weekly sharing circles included a discussion topic that focused on the relational and experiential aspects of home care work. To create the list of topics, we focused initially on peer support needs in prior work on HCWs. These included topics about emotionally stressful situations and emotional labor, feeling respected in their job and efforts at professionalization and training, and challenging events where an HCW felt marginalized or treated unfairly by their agencies or patients [107]. By including topics on problems and challenges, we hoped that participants could provide informational and emotional support to their peers facing these challenges. In addition, we also wrote topics around positive experiences in home care to explore professional pride and identity, such as success stories, good memories, and demonstrations of good practices, particularly where HCWs felt they contributed to the well-being of a patient. Topics on positive experiences were intended to affirm and validate participants' identity as HCWs, help support their self-efficacy, and explore how their values and desires manifested in practice.

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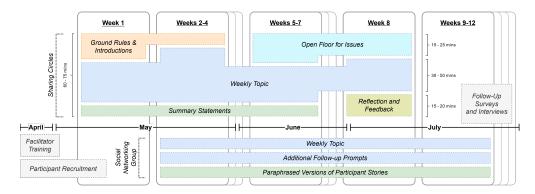


Fig. 1. An overview of the peer support program, describing the features of the sharing circles and social networking group, the approximate amount of time spent on elements within each session, and the overall schedule of the program.

After writing an initial list of 30 potential topics, we solicited feedback from our facilitators and partners at 1199SEIU TEF to assess their appropriateness and refine their wording. We selected 12 topics that we felt were most likely to engage participants to cover the duration of the support program. We interleaved topics around positive experiences and challenges on alternating weeks to try to keep the discussion from overly focusing on specific issues and ensure that we addressed different support needs equally. Because care work is highly interpersonal, we tried to select topics with an equal distribution around relationships with other groups an HCW interacted with at work: patients and their families, other HCWs, supervisors, and clinicians. Finally, in line with the goal of sharing stories, these topics were formatted as open-ended invitations to speak on experiences rather than interrogative questions on beliefs or perspectives. See Appendix B for a schedule of topics used in the support program.

Peer Facilitators. Each sharing circle was led by two HCW facilitators. We chose peer facilitators because they could better relate to HCWs' experiences, and our community partners felt this fit well with the goals of the program which was to create an environment for peer support. As the TEF provided peer-led continuing education for HCWs, we were able to recruit six facilitators who all had prior experience leading training courses. This meant they were more comfortable speaking in front of a group, had some prior experience managing discussions and conflicts, and, due to the COVID-19 pandemic, experience using video conferencing.

We conducted trainings with peer facilitators on how to lead the sharing circles which consisted of three two-hour sessions held via video conference and led by two researchers, one with a background in community-based social services. The training introduced the goals of the program and helped facilitators understand their role. We reviewed potential topics and follow-up questions, and practiced ways to encourage non-directive conversation [125] and handle conflicts. We described resources that HCWs could be referred to should sensitive issues arise (e.g., emotional trauma, elder abuse, or workplace harassment). Finally, because the facilitators also moderated the social networking group, we went over how to browse the group and perform moderation actions. Facilitators were sent paper packets with the training materials and other resources, such as contact lists for reporting sensitive issues.

During the program, facilitators were in charge of managing the circle, opening and closing the sessions, and setting the pace of the discussion. Facilitators played an important role in ensuring

that HCWs were given ample time to speak by calling on participants and giving speakers space. This encouraged longer-form stories to be shared and reduced the fragmentation of participants' narratives [71]. Facilitators were trained to ask follow-up questions and encourage participation and given resources for examples of how to engage participants. Facilitators debriefed with researchers after their sharing circle sessions, and all facilitators met for a group debrief after the second week. In the debriefs, facilitators discussed what went well, important interactions in the circles, strategies for encouraging conversation, and points of discussion for upcoming topics. For more details on the role of facilitators in implementing the pedagogy of the program, please see [106].

Social Networking Group. The support program also included a *social networking group* that was hosted on Facebook [40]. This was strictly optional and intended to connect HCWs to a broader community of peers from other sharing circles. As a larger community, the social networking group could potentially enable access to further informational and community resources and be available to meet support needs at irregular times and beyond the duration of the circles. Similar to other online safe spaces [93], we made the Facebook group a private and closed group. Members needed to be approved by a moderator to join and posts were not visible to non-members. By only inviting participants after they had been introduced to the social networking group in the first sharing circle session, we hoped to assure participants that only HCWs would be allowed as members and the group was safe [99].

The Facebook component ran concurrently with, and as an extension to, the sharing circles and adopted the same ground rules and structure. The weekly topic discussed in the sharing circles was posted to the group at the beginning of the week and another followup question related to the topic was posted later in the week. At the end of the week, a researcher typed up and posted an anonymized and paraphrased version of a story an HCW had shared in the circles in response to the topic. The sharing circle facilitators moderated the social networking group, frequently liked posts, added comments, and reminded participants of the group's availability in the circles.

Participant Handling. While all participants were invited to the same social networking group, the circles were smaller and consisted of a subset of the participants, a *sharing circle panel*. Participants were assigned to a designated panel for sessions scheduled at a consistent day and time of the week so that they would meet the same set of peers. Panels were kept small to maximize the amount of speaking time each participant could have. The largest panels had nine participants assigned, while the smallest panel had six participants, although week-to-week attendance varied. The average session was attended by between five to six participants.

Because informational and emotional support is more effective when received from trusted peers [132], the support program aimed to build trusting relationships between participants. The initial session started with asking participants to introduce themselves and describe their background as HCWs to help members build rapport with each other. In addition, the panel assignment enabled continued interaction with the same peers, which would allow participants to socialize and develop a history of interactions. We hoped this history would lead to interpersonal trust and participants feeling comfortable expressing more personal experiences [56].

We also were concerned with recruiting participants from a diverse set of agencies and experience levels. Caregivers can build specialized bodies of tacit knowledge based on their experience in past practice [107, 120]. In professional development efforts, bringing diverse experiences to a group setting might enable all members to benefit by accessing a broader body of knowledge [5, 100] or enable mentorship of newcomers [78]. Furthermore, we hoped that adding diverse perspectives to the sharing circles would foster the development of a deeper knowing about home care practice by enriching collaborative reflection. By learning about and relating to each others' telling of tacit

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Table 2. Descriptive statistics of participants' demographics.

Gender	Women: 40; Men: 2
Age	Min: 25 years; Max: 72 years; Avg: 46.8 years
Experience	1-5 years: 13; 6-10 years: 13; 11-15 years: 5; 16-20 years: 7; 20+ years: 4
Race	Black: 26; American Indian or Alaska Native: 1; White: 1; Mixed: 1; Other: 4; Unreported: 9
Ethnicity	Hispanic or Latinx: 12; Non-Hispanic/Latinx: 20; Unreported: 10
Birth Nation	U.S.: 7; Caribbean: 14; West Africa: 10; South America: 4; Mexico: 3; Unreported: 4
Education	Some high school: 4; Completed high school: 12; Some college: 11; College degree: 3; Graduate degree: 12

knowledge and experiences of practice, participants may develop a more critical understanding of their work that is transformative to their identity and practice as an HCW.

3.2 Study Procedures

We ran the peer support program for 12 weeks in New York City with 42 HCWs in five sharing circle panels. All study procedures were approved by our community partner and our IRB, and we describe them in more detail below.

Recruitment and Participant Details. We recruited participants with the help of our community partner, 1199SEIU TEF. Using a randomized list of HCWs who had participated in prior TEF training activities, a staff member contacted prospective participants via phone call, described the program, and asked if they would be interested in joining our study. Participants who expressed interest were sent an online form to record their consent and gather contact information. During recruitment, participants were assigned to a panel based on their personal schedule and availability, and five different panels were offered with various times throughout the week to accommodate participants. Participants were offered technical support to help them complete the form and join the sharing circle and social networking group.

In total, we recruited 42 participants who worked for 19 different home care agencies throughout all five boroughs of NYC. Table 2 provides participants' demographic details. Similar to the general demographics of HCWs in the United States [127], our sample was predominantly Latinx and non-white. All participants except for two were women.

We were careful to protect participant confidentiality, especially because the sharing circles could discuss sensitive issues and problems related to participants' employment. We emphasized confidentiality in our ground rules and deliberately did not record the circles. As the program occurred during the COVID-19 pandemic, all program interactions, including consent, facilitator training, sharing circles, debriefs, and interviews, were conducted remotely. Participants were not compensated for attending the sharing circles. However, they did receive a \$25 gift card for each research-oriented form, survey, or interview they participated in, for a maximum compensation of \$75 per participant.

Study Schedule and Data Collection. Our study ran for 12 weeks, from the end of April to July 2021, as shown in Figure 1. At least one researcher was present in each sharing circle session to observe, take detailed notes, and troubleshoot Zoom issues but stayed off camera and limited their interactions to technical support. After the sharing circles ended, the Facebook group was maintained for an additional four weeks so that participants could continue to seek support and discuss weekly topics.

At the end of the program, participants were given a survey to collect demographic information. We also conducted 17 semi-structured follow-up interviews with a subset of participants that we identified using stratified sampling to capture a range of participation levels. Interviews sought an understanding of participants' experiences in the program and how the design and content of the program related to their support needs and identity as HCWs. Interviews were conducted individually, lasted 30-45 minutes, and were audio-recorded with participants' consent.

Data Analysis. Our data consisted of survey data with participant demographic details, copious notes from sharing circle sessions, interactions on the Facebook group, and audio recordings of participant interviews.

Our detailed notes from the sharing circles were analyzed inductively, with each transcript independently coded by at least two researchers who met regularly to reconcile their codes. Because we were less interested in the topic of the speech than in how it was used in the course of supportive interactions, we followed a discourse analysis approach [92] that focused on identifying the intent and purpose of participants speaking in the circles. Our final codebook consisted of 20 codes, and example codes include *referencing_peer*, *relating*, or *advising*.

Participant interviews were professionally transcribed and also coded inductively by at least two researchers with several rounds of reconciliation. Example codes include <code>support_is_opportunities_to_interact_with_peers</code>, <code>sharing_to_give_authentic_experiences</code>, and <code>facilitators_can_relate/understand</code>. Our final codebook consisted of 53 codes. This data was then analyzed using a thematic approach to group codes into themes [14]. We focused on identifying where participants felt, or did not feel, supported in the program and how that support was affected by the design of the program, actions of the facilitators, or other participants. Finally, we integrated these themes with the codes from our discourse analysis of the sharing circles, producing high-level themes that comprehensively represent our data.

4 FINDINGS

Our findings show how the peer support program was a valuable space for HCWs to share in multiple forms of support, from emotional validation to exercising a voice around workplace issues. HCWs also used the sharing circles to build a broader awareness of care situations and a better understanding of care practice, which led to discussions on their values, role, and identity as HCWs. Finally, participants discussed the relative advantages or disadvantages of an online support program compared to in-person interactions.

4.1 Peer Support Program Validated HCWs' Emotional Experiences and Mitigated Isolation

The peer support program enabled participants to reciprocally share stories that reduced isolation and affirmed and validated their emotional experiences. HCWs have the unique challenge of managing their job site on their own and usually do not interact heavily with other HCWs. In the follow-up interviews, some participants described how their feelings of isolation were exacerbated by the COVID-19 pandemic, as the few occasions to meet peers on the bus or during in-service training were lost. Training that used to happen in-person was replaced by online offerings which did not offer the same opportunities for supportive interactions. In contrast, the support program combined its online nature with an open structure and intentional design that allowed participants to meet with peers they could not access otherwise and share similar situations and experiences in front of an empathetic audience. One participant explicitly compared the circles to online training on whether they provided space for HCWs to discuss their problems:

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When we go to the training I said, "The nurse will come and preach and preach, and then we write the test and we go away." But with this, it was marvelous. Everyone was able to say everything. (E8, Interview)

Some participants described a need to talk to peers because they could not discuss their experiences with friends and family for fear of violating HIPAA privacy regulations or because they felt that friends and family did not fully understand their experiences and challenges. The support program provided an opportunity for participants to meet new aides who had similar experiences to create empathetic and validating support. During the program, when an HCW shared an experience on the topic, other participants often recalled a story of their own. For example, in one session, a participant (D6) shared a story expressing her frustrations with coworkers who would do the bare minimum and rush to leave. This prompted another participant to build on this theme by sharing an instance where she was a substitute on a case:

My case is similar to what [D6] have. But not as tough as she had it. ... So there was a day that I went to a patient's house to fill in for one of the aides. And when I got there, I saw that night aide was going. ... Unfortunately, what she showed me was amazing. They had a pile up of laundry, close to the ceiling. (D8, Sharing Circle)

These kinds of reciprocal sharings had two effects. First, by sharing similar stories, participants learned that their peers faced similar challenges in their jobs. Being an isolated worker meant that when HCWs had a problem or other experience, they often felt like they were the only one with that issue. As relayed below, an opportunity to hear similar experiences made participants feel less alone and helped address the perception of isolation in their work:

When I was listening to other people's stories, it made me feel good to hear that it's not I, alone, in going through it. I didn't know other people experiencing the same thing that I have been experiencing because sometimes you think you're out there, and you're alone. "Why does it alone happening to me?" Or when you hear other people stories, it comes like you're in the same position as them ... getting the same kind of problems. (B2, Interview)

The second effect was that HCWs provided affirmation for each other, by agreeing with the challenges in each others' experiences, validating emotional responses, and providing encouragement. In D8's story about laundry, she began by acknowledging how tough D6's situation was. Participants also complimented and reassured each other. In one session, a facilitator (F6) shared a story about being discriminated against even though she went through the effort of learning the patient's native language. Another participant complimented her dedication:

You made a point to learn the language because you wanted to know what was said in front of you, behind you. I think that was commendable. ... Wow, I'm impressed by that. (E9, Sharing Circle)

Many participants had experienced racial discrimination and shared stories that highlighted patterns of abuse, such as being called derogatory names. During a topic around safety, multiple participants related similar stories of feeling unsafe in patients' homes, such as dealing with angry or unstable patients who had visible weapons, such as knives or large sticks. This may have been especially relevant for female participants who face additional gendered concerns around safety. For example, one participant described once being followed onto a train by a male family member after the end of her shift. The participant below described feeling unsafe because of the presence of drugs in the home and being pressured by a male family member:

The time in this job when I feel unsafe is when I go the patient's house, and they have some family, son or daughter, that use drugs. And they asked me for some money. I say no,

I never got cash with me, I wanted he know that, that he doesn't ask me anymore about money because sometimes he ask me. (C3, Sharing Circle)

The fact that facilitators of the support program were also HCWs furthered an environment that reduced isolation, as they could relate to participants' experiences, such as what happened between E9 and F6. Through reciprocal storytelling, the sharing circles became a computer-mediated space where HCWs could vent about their experiences and receive emotional support from empathetic peers. This created a sense of rapport, which participants ultimately saw as therapeutic. Because of this, some participants described this form of social support as most valuable for HCWs who do not have large personal networks of friends or family. By relating to similar situations and stories from peers, the support program reduced feelings of isolation on the job:

[In the support program,] you're able to see the benefits that we have working, from doing this job, we have seen the challenges that people go through. And then, they make [you] know also that I'm not alone. (D8, Interview)

4.2 Peer Support Program Built Understanding toward Resolving Workplace Issues

Many problems that HCWs shared were related to their workplace. The support group allowed HCWs to speak on and raise awareness around common job-related problems and grievances. Because their audience was other HCWs, for whom this information was very relevant, participants felt like they had an effective "voice" in the support program. One participant described that it was important to have this voice in the sharing circles due to a lack of it in the workplace:

Home care, we don't really have a voice. Because the thing, no matter who you complain to is sometimes no changes, but it's important for us to have our own little circle to talk over stuff. (A2, Interview)

The confidentiality of the support program, through relevant ground rules and HCW-only membership, enabled participants to turn their voice towards discussing issues in their workplace, such as what they felt was appropriate treatment by agencies and their rights as workers in the context of challenges they faced. Participants shared stories about employment situations, including problems taking vacation, agencies not respecting working hours, being assigned cases they were uncomfortable with, and issues of unemployment and worker's compensation. The support program provided a place for participants to vent about frustrating workplace issues, build understanding about their causes, and seek advice for how they should address them. For example, one HCW described trying to get compensation for a workplace injury that occurred right outside the patient's home. The sharing circle discussed how she was being treated and why she was unable to get compensation. Eventually, one participant provided an explanation that was accepted by the group:

Listen, they're not going to consider she got hurt on the job. She clocked out, so after that, they're not responsible. That's what they're going to say; that's why she's not compensated. Because she clocked out. (A2, Sharing Circle)

In follow-up interviews, some participants cited this incident as an example of being able to learn from the experiences of peers and that it helped them be aware of the possibility of not being protected from injuries once they clocked out, even if it occurred on the patients' premises. Peers made suggestions for how to address the problem, and a facilitator offered to help the original HCW contact a paralegal. Hearing peers' experiences and advice for handling these issues may be a useful resource that enables HCWs to better navigate the workplace:

People can benefit from this program because some of them have a problem with their [supervisor]. Some of them don't know how to work with the union. ... They don't even know how to explain the problem or who to contact. When they're in the circle they explain

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their problem. Someone else in the program takes their name and their number to give them after the program to help them. (A1, Interview)

Finally, by sharing these issues and hearing the reactions of peers, the support program also helped HCWs develop shared values around work, such as the importance of self-care, setting boundaries with patients, and seeking outside support. These were topics that participants brought up without being prompted by researchers and could form the basis for shared workplace norms. Participants also provided advice to their peers for practices around these values, such as how to cope with a stressful work environment, how to approach supervisors, and who to talk to about workplace issues. Communicating these norms and values might be especially important for HCWs who have immigrated to the United States and whose unfamiliarity with work practices might lead to them being taken advantage of:

The kind of home care worker that sometimes comes to me, they feel they don't have right to talk about how they feel, because they are in other country, not their country. ... They need to be in this [support] program, because they feel they don't have the right to talk about nothing that happened in the job. They have to be quiet and support and work with the same problem for many years. (C3, Interview)

4.3 Peer Support Program Enabled Sharing of Experiential Knowledge to Improve Care Practice

Besides workplace norms and situations, participants also felt that the sharing circles were valuable for learning about and building efficacy in their work as HCWs. HCWs used the program to give each other advice on proper practice, which could lead to confidence in handling different situations and improved practice. However, in doing so, the sharing circles also became a contested space.

While the emotional validation described in Section 4.1 was driven by sharing similar experiences, learning about care practice was a result of discussion on different situations. This was further aided by recruiting participants from different agencies, who saw patients with a variety of conditions, and the online nature of the program, which made it easier for HCWs from all parts of NYC to join the same sharing circle. This diversity of experiences allowed participants to expand their understanding of the variety of care possibilities and outcomes they may face. One participant described how the sharing circles allowed them to contribute to and access a shared body of knowledge to improve their own skills and enable them to better do their job as a care provider:

People talk about difficult kinds of clients they have. And then me? I don't have that client, but years ago, I experienced some of them. I didn't have experience with all the things they were explaining. After you heard everybody talking about that. I can explain what I have, and then I can fulfill all my work. (A1, Interview)

Another participant who was new to home care described the support program as a way to learn from others' experiences. This was a sentiment echoed by multiple interviewees, who agreed that the program would be especially valuable to newcomers, who have limited familiarity with handling care situations for which their patients are at risk. Newcomers could bring their circumstances before the group for advice, and peers could propose alternative practices that provide insight into how to handle their situation:

Being in the program, [HCWs] will have the opportunity to speak about what they're going through: What was the experience of a certain topic? How did they go about it by the same topic? What would they change about the situation if they didn't go about it? Would they choose A, B or C, et cetera? (E2, Interview)

For example, in one of the sharing circles, a participant described a situation with an elderly couple. The HCW was assigned to the husband, but the wife felt uncomfortable when the HCW bathed him, a task that was part of the job. Another participant in the session gave advice for how to work with the wife by including her in this activity:

Engage her. "Okay, I'm going to wash this part, and you wash that part." Sometimes even if it the same client, even if they cannot use their hands, you could put the rag wet with soap and hold their hand, and they could feel. ... Because she's still in charge her house, she don't want another woman touching her man. So let's get her involved too, so we could avoid problems. (C2, Sharing Circle)

Handling the relational aspects of patient care is an example of tacit knowledge and expertise that HCWs develop in the course of their practice. Because this knowledge is grounded in experience, it needs to be transmitted in ways that emphasize that experience. In follow-up interviews, participants described how the advice they received in the support program was valuable because it was given by other HCWs while sharing stories of their work. This made the advice more authentic and often included discussion of issues that wouldn't be covered in training. As described below, HCWs felt they were contributing by sharing their stories, which led to further affirmation of the value of those experiences:

It made me feel good, and it made me feel that I can share what I know with each other. I can give them whatever little experience that I have, as a home care worker, with each other. So at least they could take whatever little that I give and go with it. (B2, Interview)

However, as a space for discussing advice on what HCWs should do, the presentation of opposing viewpoints was a source of conflict. There were a few instances where an HCW admonished another participant, directly disagreed with someone's past actions, or tried to end a line of conversation about what they should have done. Participants also disliked it when they felt a peer was pushing an agenda with off-topic conversation. In one of the sharing circles, a participant described how couching advice in the context of personal experience could minimize conflict:

Share your experience, and let them understand, 'I'm not criticizing you, but I have a problem, issue like this before, and this is how I handled it, and I find it work for me.' Get them to soften.... (B3, Sharing Circle)

Generally, these conflicts did not occur frequently, and interviewees described being unfazed by disagreements when they did occur. Participants described conflicts as a minimal part of their experience in the circles. The technological affordances of the online sharing circles may also reduce conflict by making it difficult for multiple people to speak at once. Differing viewpoints could also be constructive and lead to better care by reinforcing best practices, as described by the participant below:

There are a lot of things we do which we don't practice. We learn, but we don't practice. But as we continue to discuss it, I think we should also go and tell to the others and then it creates reinforcement. Help them to know that we have to do this and that in the correct way. (E8, Interview)

Overall, though the support program was not designed with learning materials, many participants mentioned that the program helped them learn and improve their practice. Some participants believed that, in future iterations, the program could also provide space to explicitly discuss best practices, add educational materials and videos, and invite knowledgeable guest speakers, such as doctors. But even without including these canonical sources of expertise, telling stories of practice highlighted the value of, and enabled participants to share, their own experiential knowledge.

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4.4 Peer Support Program Explored Collective Purpose and Identity through Reflection

The support program not only gave participants a space to exchange advice around care practices, but also to reflect upon and develop collective values about care. By sharing their stories, HCWs expressed their values around care work. These included motivations to continue in home care and how to balance between competing demands, such as work boundaries and financial needs versus providing the best possible care. As described by the participant below, the support program enabled HCWs to collaboratively create and understand common values around home care:

It's a fine line. Everybody wants financial gain, but this profession has to be more about empathy than anything else to be successful at this field. I feel like having people that first year come into these groups, it helps them sort out those feelings. "We know you're not getting paid, but don't you feel great about helping Ms. Jones do her PT exercises? Doesn't it feel great that you make her laugh so much...?" (B6, Interview)

Multiple aspects of the support program design were important in encouraging reflective discussion around values. The first was that facilitators used follow-up questions to probe participants' reactions to their own and others' experiences and gave space for participants to recall and discuss their feelings and thoughts in detail. A follow-up question might be to ask a participant to think through how they would approach their past situations differently with the advantage of their current knowledge. The summary statements at the end of each session were also an opportunity for reflection, which helped connect practice to values. For example, one participant used her summary to describe how she learned to talk with clients and how this skill was connected to her motivation to be a care worker:

I like healthcare because everyone like to help a person. I learn it's really important to listen to client, sometimes the client have problems, they don't have somebody to talk about that. It's not only the person feel sick. Sometimes, they have bad sentimental thing. So it's important to talk to your client everyday. (A8, Sharing Circle)

The program's topics were also important to frame discussion around motivations and values around home care, such as the importance of patience and empathy, and enabled participants to vocalize what they felt was their purpose as HCWs. Because home care is a demanding job, describing these values helped inspire participants and built a sense of pride in their role. This was particularly evident during weeks when the support program took up a positive topic, such as recalling stories about when an HCW had fun with a patient and describing moments that they shared with their clients that made the job rewarding. Topics such as these allowed positive aspects of care to be brought to the forefront of the care experience and may have been particularly valuable for more senior or experienced participants, as it reminded of their own reasons for being an HCW, as described below:

[Listening to peers] made me realize, it reminded me that I like helping people. And I was relieved ... I said to myself, "This is a good reminder," because like I said, there are times that you're not lucky and you get people that are angry or cannot handle it, but you also get to maybe understand or learn something, and that's why you always getting certain patients, maybe just to learn something. That's a lesson. (D7, Interview)

For some participants, the sharing circle helped build a deeper knowing about the role of home care and how values connect to practice. Participants could champion the commitment displayed by the circle's members, as described in Section 4.1, and discuss the importance of home care during the pandemic or for aging populations. The support program may provide a space to





Fig. 2. Participants from separate sessions used the video to show objects to the sharing circle. On the left, a participant shows the dominoes set that she used to play with her patient. On the right, a participant shows a drawing that a patient gifted her.

socialize newcomers, as described by B6 above, and serve as a platform for the work of HCWs to be recognized and celebrated.

4.5 Peer Support Program Used Online Affordances to Enable Remote Support and Storytelling

This was the first time most participants had engaged in a support program online. We asked them to compare their experiences in the program with how they accessed and sought support in their normal interactions with peers or traditional in-person gatherings of HCWs. Although participants felt in-person environments enabled more natural interactions and meetings, online environments enabled HCWs to join in different modalities, accommodated more diverse schedules, and provided affordances that bettered the storytelling experience.

A major disadvantage of the online nature of the support program was the relative lack of accessible backchannels. Participants said that, while meeting peers during in-person training, they could exchange contact information and phone numbers afterwards or during breaks to maintain relationships. This was difficult to accomplish in the support program as the Zoom platform did not enable participants to easily meet individually after sessions. While participants could message each other privately using Zoom's text chat, many participants called in via basic phone service and did not have access to this feature. Instead, in the final week of sharing circles, some participants elected to announce their personal phone numbers to the entire panel, but this was not something that everyone was comfortable doing.

In designing this program, we included an optional social networking group on Facebook to enable participants to stay in contact with each other as an attempt to build a more sustainable online community. However, this was also not a sufficient replacement for backchannel sharing of personal contact information. While 18 of our participants joined the Facebook group in total, participants only wrote posts on the group a few times during the program period. Instead, HCWs primarily preferred to use it to consume or react to content and preferred the video conferencing circles as a space for in-depth engagement or self-expression:

In Facebook, I'm like the person who like to read, because I don't use Facebook a lot ... because I think when you speak, you open up more. You open more than when you are writing. (B8, Interview)

Participants were also wary of the privacy implications of a social networking group and felt they had less control over what information they disclosed. While posts and comments in the group were not visible to non-members, this was not readily evident to participants from the way 39:20 Anthony Poon et al.

that group-only content was presented in their overall news feed. Participants were also nervous about the visibility of information in their Facebook profiles and whether they could participate in the support program under pseudonyms. For example, one participant had set up their Facebook account to use a fake name. As described earlier in Sections 4.1 and 4.2, a sense of confidentiality was important to allowing participants the voice to speak about issues relevant to their work, and some participants were concerned that their names and other information visible on their profile would make it easier for information offered in the support program to make it back to their agency:

I think that we should use more the person's last name and not the first name or either you use the first name and not the last name. Just use one name. So in that way, we won't be identified by other people. ... I just don't trust people. You might be in the same agency discussing certain things about the coordinators and whatever. You don't know who will go back and say, because that person is from the same agency I'm from. (B2, Interview)

We also spent considerable effort handling technical issues during recruitment and the course of the program. Staff helped participants install the Zoom app and join the sharing circles using the app or via a basic phone call. Participants took some time to become comfortable using the conferencing system, such as learning how to mute and unmute, use the camera, and end the call. We had frequent issues of noise or disconnections due to the environments that participants joined from, which distracted from the discussion in the circles. Some participants joined from work, while taking care of their own family and children, or while preparing and eating dinner. Others joined during their commutes, which meant that they were in noisy environments with unstable Internet connections, such as buses and trains.

However, the ability for participants to join from different environments and different points of their daily routine was also an advantage of the online nature of the support program. This may have enabled participants to join who otherwise would have been unavailable due to constraints of physical travel or schedule availability. The online modality enabled HCWs to meet peers from different agencies across the city, lowered the cost of entry, and allowed participants more flexibility in attending the program. As described in Section 4.3, this was valuable because it helped include more diverse perspectives and a broader body of experiences. However, it was important to ensure that sessions ended on time, so HCWs could fit the program into busy schedules. Although participants may be less attentive, interviewees still found it valuable to be able to listen in while, for example, having a lunch break:

We have to travel a lot in the field. Sometimes we have two visits a day, so we're in-between trains, and just having this platform where you could be home in your pajamas and share your opinion I think it's awesome. ... You don't have to worry about losing money on transportation to get to a building. (B6, Interview)

Because the online nature of the program allowed participants to join from different physical places, this may have enabled HCWs to participate from environments they felt most comfortable with. At least one participant joined from their home and invited some friends to listen in to the sharing circle over speakerphone and tea. Contrasting her experience to an in-person program, another participant described feeling more comfortable online because she was participating from home and felt that it was much less likely that she would be unintentionally overheard compared to a busy, shared space such as the union office. Participants having control over what was visible and audible to others via camera and microphone controls may have also contributed to an increased sense of comfort, especially for participants who were camera shy:

For me, it will give me more confidence. ... If I like it, I will going to talk, give you my opinion. But I don't know what happened in the camera and the things like that. I'm scared to talk. (E3, Interview)

The use of video conferencing in different environments also enabled some unique affordances. As shown in Figure 2, participants used the camera to show off things from their home or work to support their stories, such as artwork that a patient made for them, figurines and objects that represented a personal connection to a patient, cards, letters, and certificates. Other HCWs enjoyed seeing these items, and it encouraged comments and questions. In this way, participants could use the video as a storytelling aid to illustrate their narratives and engage their peers.

Finally, as described earlier in Section 4.3, the affordances of the video conferencing platform discouraged multiple participants from speaking at once because they were not understandable when multiple audio sources were muxed. Similar to how in-person sharing circles may use an object to designate the current speaker, this affects the type of interpersonal engagement in the sharing circles by encouraging longer speaking turns, equitable speaking time, and reducing overt conflict.

5 DISCUSSION

At a high-level, our findings show how the program addressed the diverse peer support needs of HCWs and highlight design implications for creating online and intersectional peer support programs. We now discuss how our work builds on past literature in CSCW in considering how computer-mediated tools can be designed to enable support programs and flexible pedagogies such as storytelling. We then discuss relevant issues in the sustainability of peer support programs, particularly in relation to institutions such as peer communities and unions.

5.1 Storytelling and Flexible Pedagogies Can Address Intersectional Support Needs

Our findings build on prior work that describes the diversity of support needs that HCWs have as both caregivers and marginalized workers in the healthcare system [107]. As described in Section 4.3, we found that needs could vary by experience level, such as newcomers using the sharing circles to access and leverage the knowledge of other HCWs. Other researchers have proposed designing programs specific to experience levels, for both supporting the informational needs of newcomers [91, 101] or the emotional support needs of more experienced workers [139, 149]. Past research in CSCW and related fields have also noted that online support communities can have diverse needs that can shift over time [50, 52, 59]. Furthermore, as noted in Section 4.2, HCWs who are immigrants and minorities may have unique support needs stemming from shared experiences of migration, language barriers, or ethnic and gender discrimination and harassment. Other researchers have also noted that workers from underrepresented groups may benefit from peer support programs specifically designed for their needs [11, 82].

Intersectional populations create a tension where members can have diverse and conflicting needs. Though recognizing this tension, most past work in CSCW has focused on a single type of identity at a time [115] and how computer-mediated peer support can be most effective when support experiences are tailored to the needs of individual members by varying who participates and the technology used [50, 52, 150]. In our work, we explore a second strategy for addressing intersectional needs of HCWs, through designing for flexible computer-mediated pedagogies, such as storytelling. The pedagogies of technology interventions are important mediators of participant experiences and are as critical a part of the sociotechnical environment as the specific ICT tools and selection of participants. The design of such pedagogies deserves appropriate consideration and research. While some past work presented an activity-oriented pedagogy to encourage reflection [29], we found that our comparatively unstructured and narratively-oriented approach created a flexibility that was important for addressing various support needs.

Firstly, storytelling served the professional development needs of HCWs by fostering the transmission of experiential knowledge around practice even while in an online environment. Past work

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has noted that much of the knowledge in professional communities is tacit [38], and caregivers, in particular, develop experiential knowledge that is critical for their practice and well-being [120]. Because it is not explicit, learning this knowledge occurs best while performing in the environment of practice, a process called *situated learning* [78, 142]. However, online groups are usually far removed from the context of practice and thus creates a gap where it is difficult for situated learning to occur. This learning gap is particularly relevant to HCWs who spend most of their time in patients' homes and leverage highly interpersonal and tacit skills, yet interact with peers and perform most of their training through CMC platforms.

Storytelling may be a way to foster the transmission of tacit knowledge in computer-mediated spaces. Stories based in personal experience gave our participants relational and contextual details that were important to building an understanding of the environment of practice. As described in Section 4.3, participants valued stories and the advice given because they were grounded in and invoked experience. Especially valuable for newcomers, HCWs felt more confident in handling potential care situations after hearing the stories of peers and felt that the variety of experiences was particularly valuable to expanding their understanding of the environment and practice of home care. By recreating the environment through storytelling, online professional development programs may be able to teach tacit knowledge even in removed contexts [130].

Secondly, we also observed how storytelling could enable the emotionally affirming and informational support associated with therapeutic support programs. In Section 4.1, we described how participants performed storywork to relate to each other and share similar stories of both good and bad experiences. This enabled participants to acknowledge each other's struggles and created empathetic support that reduced feelings of isolation. These stories also provided a basis for discussing advice and seeking help, such as dealing with the workplace issues described in Section 4.2. Peers asked each other clarifying questions which both created a sense that their problems were being listened to and produced relevant advice and information for the storyteller.

Finally, storytelling can lead to a deeper knowing on collective identity and practice. As described in Section 4.4, participants used the sharing circles to create understanding around their role as HCWs by creating identity and relating practices to values through reflective storytelling. Because this knowing was based on stories of practice, it was relevant to HCWs' day-to-day work and could lead to personal change and more confident practice [109]. By using narratives around work to explore their values and create a sense of pride in their roles as HCWs, participants collaboratively created knowing about how their practices and values connect to a shared identity as home care workers. As described in Sections 4.1 and 4.2, hearing stories of similar experiences also helped create common ground between participants, reinforced this shared identity, and may help create a community that can advocate for and create praxes that contest experiences of marginalization and works towards shared interests.

5.2 Computer-Mediated Programs' Affordances for Intersectional Peer Support

Past research on the relative effectiveness of online versus in-person peer support is mixed [57, 99], and there are disadvantages to online programs, some of which are described in Section 4.5. However, we also found that computer-mediated programs have specific affordances that can be leveraged for intersectional peer support needs. In this section, we further discuss how to leverage ICTs along two strategies for doing so: by enabling flexible pedagogies such as storytelling and by creating more tailored support program experiences.

As discussed in Section 5.1, HCWs addressed a wide variety of support needs by telling and relating to each other's stories. However, storytelling is a distinct skill that HCWs do not necessarily learn in the course of their normal practice. Thus, not all participants may be experienced at telling persuasive and cohesive narratives about their experiences. Other participants were shy

or uncomfortable speaking in front of strangers. While participants in a program built around storywork can still benefit from listening and reflection regardless of storytelling ability [6], participants who cannot communicate their stories effectively may find it more difficult to relate to, engage, and receive support from other participants and may not experience the same benefits.

An online program, due to its computer-mediated nature, could more seamlessly integrate other applications and features that are designed to aid in storytelling, creating a *computer-assisted storywork*. For example, one could imagine a photo journaling app that helps participants gather and organize pictures and videos through their smartphones [45, 65] that would then later be easily shared in the video conferencing space to perform multimedia storytelling [119]. Such a technology might make the support program more closely connected with participants' everyday experiences. In text-based spaces, such as a Facebook group, the platform could potentially employ built-in conversational agents, such as chatbots [102] or AI-powered feedback [63], to suggest ways for participants to better organize their narratives, prompt for relevant contextual details, or encourage relating to or following up on another's story.

The design and pedagogy of the support program could also be adjusted to better leverage storytelling affordances in the computer-mediated environment. As shown in Figure 2, participants used video conferencing to show and tell stories about objects around them. Some participants only turned on their video feeds when they had something to show. A pedagogical change to the program to encourage storytelling may be to have a weekly topic explicitly focused around show-and-tell. This might encourage participants to use the video feature more often and help participants create more engaging stories in the sharing circles. Additionally, a design approach that considers different types and levels of reflection [41] might produce computer-mediated pedagogies that are more effective at encouraging storytelling.

As described in Section 5.1, computer-mediated support programs may also effectively leverage tailored experiences to create more relevant and effective support for individual participants. In therapeutic settings, support programs usually focus on patients with the same disease or condition [54, 145], and more specific matching on support needs [139], treatment plans, lifestyles [99], or common lived experiences can further improve program effectiveness and participant satisfaction [20, 47, 56]. Online programs may be able to more easily match participants simply because they can have wider reach due to fewer geographical limitations and lower temporal and monetary costs to participate [118], as described in Section 4.5. An online program with access to a larger population may find it easier to match participants into homophilic groups.

Participants may also be interested in tailoring their support program experience by the types of support they seek. An online support program could simultaneously offer the option of multiple types of more focused sessions within the same week. These sessions could have different topics focused on, for example, informational support for HCWs with patients suffering from heart failure, emotional support for HCWs who recently lost a client, or other specific needs. Beyond the topic, groups could be made to vary by size. Past research has shown how smaller groups can encourage reflection, self-disclosure, and reciprocity, while larger groups better foster information sharing [52, 150]. Different types of ICT environments, such as forums versus chat, could also encourage different types of support [27, 52]. An online peer support program which offers a variety of different options to participants might also use algorithmic tools to match or recommend particular types of sessions based on their support needs.

The computer-mediated context offers unique opportunities to more deeply integrate aids for flexible storytelling pedagogies and leverage a broader audience reach to create more tailored support experiences.

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5.3 Storytelling Enables Tacit Knowledge Exchange by Creating Legitimacy

We were surprised by how many participants considered the sharing circles to be an effective professional learning space. While not explicitly designed as a training program, participants found the experiential knowledge expressed in their peers' stories to be valuable. As described in Sections 4.2 and 4.3, participants learned how to navigate the workplace or gained advice for handling hypothetical care situations. However, storytelling did more than simply help illustrate and explain experiential knowledge. Presenting this knowledge as stories also contributed to its authenticity and thus elevated it and made it worthy of consideration. In this way, storytelling legitimized the storyteller in a way that increased the value of the knowledge and encouraged learning.

This role of storytelling in legitimizing experiential knowledge may be due to the fact that the sharing circles were relatively egalitarian. HCWs were not told how experienced other participants were, and the ground rules emphasized that everyone was afforded equal opportunities to speak. In traditional mentorship, there are distinct roles. Newcomers' learning first occurs at the periphery [142], while old-timers play a central and esteemed role as sources of expertise [108]. However, when these roles were not clear and authority was minimized, we found participants instead created legitimacy through the telling of experiences. In doing so, participants created authentic narratives that were valued by other HCWs and persuasively supported the advice they gave.

The legitimizing effect of storytelling has been observed in other professional contexts. For example, management scholars have described how entrepreneurs use storytelling to create an identity around a venture. The legitimacy of this identity helps entrepreneurs marshal stakeholder support from both workers and potential investors [83, 88]. Our participants also used stories to help them marshal informational and emotional support resources from peers, but legitimacy was more important when participants used their storytelling to communicate their understanding of peers' situations and give tacit informational resources to other participants. In the sharing circles, the value of expertise hinged upon the fact that it was embedded and created through personal experience and reflection on that experience [105]. Storytelling served as a way to communicate this embedding [70].

5.4 Institutions and Sustaining Peer Support Programs

Peer support is a continual need for HCWs, but sustaining peer support programs requires time and energy from participants and the involvement of larger institutions. While our participants volunteered their time and emotional energy, it is questionable whether they would continue to do so for longer duration programs or if the program did not have the tacit support of researchers and 1199SEIU. For this program, researchers and community partners provided funding and logistical support, something that must be maintained to continue to offer the program. Different institutions may play a role in sustaining peer support programs. One such institution might be online peer communities, and support programs might be only a smaller part of fostering self-sustaining peer communities. Other institutions might be unions and agencies, who might have more consistent funding, but introduce issues of power and influence around whose interests are represented in such a relationship.

Online peer communities are larger but looser social structures that are organically self-sustaining due to common interests and goals. In professional settings, one form of such communities may be networks of practice which enable members to seek help, learn, and exchange information about a profession [16]. In literature around safe spaces, a community might take the form of counterpublics, spaces to put attention to and explore taboo issues and shared identities that are not in the dominant public discourse [44, 75]. These communities are generally based in weak-ties, where members have

few deep and sustained interaction with specific individuals [53], but have access to a persistent and highly available set of peers [99].

Peer support programs, particularly those in synchronous online environments such as video conferencing, can help build and add resources to peer communities. As described in Section 4.1, support programs can provide an opportunity to meet and build rapport with peers, and participants can create identities around their membership [37]. In this way, a support program could provide entry points to a community that encourages sustained membership and engagement. Furthermore, synchronous support programs use more intensive engagement pedagogies and may result in deeper, strong-tie relations [146] that are more lasting and important for certain types of emotional and information support [73] than the weak-ties that hold online peer communities together. On the other hand, online peer communities could improve the sustainability of support programs, by providing an audience that would be interested in the continuation of the program and a population from which future peer facilitators could be recruited. The community could also serve as a site for backchannel interactions to occur, as described in Section 4.5. Designing for this symbiotic relationship was the intent of our Facebook group, as described in Section 3.1

More formal institutions, such as unions and agencies, might also be well positioned to operate peer support programs through their existing capability to provide funding and logistical support. However, who operates the program has implications for who participates, and participants may feel uncomfortable being forthright about issues related to the institution hosting the program. In our case, our program was offered in partnership with 1199SEIU TEF and was thus heavily affiliated with the union. This helped create a space where HCWs could be less worried that discussion about problems at their agencies would make it back to coworkers and supervisors, as described in Section 4.5, but alternatively, participants may have felt uncomfortable criticizing the union.

Agency or union hosting of support programs can also change how the purpose of such programs are perceived, particularly by transmitting incentives to participants or shaping the discourse of the program. For example, agencies may wish to encourage more learning around care practice to improve the effectiveness of their workers. One way this could be done is by leveraging agency records to match together participants in a group specifically for HCWs with patients with certain health conditions, such as heart failure [52]. An agency could also incentivize or mandate participation in this program. While such support might be more relevant and thus more effective for these participants, as described in Section 5.2, it also shapes and shifts the program away from other potential support and empowerment needs of HCWs and towards serving the needs of the agency.

6 LIMITATIONS AND FUTURE WORK

This work was an initial attempt to design for intersectional peer support, and questions of effectiveness, findings around pedagogy, broader theoretical applicability, and transferability to different contexts remain.

Regarding effectiveness, while our findings describe the types of support participants engaged in and received, further work could quantitatively test how such programs might impact outcomes such as stress, feelings of social isolation, learning, and job satisfaction. For example, while participants appreciated talking about their experiences, many of those experiences occurred long ago, and so the benefit of reflecting on them in the sharing circles may be muted by the time passed. We also did not specifically design and evaluate for different sub-populations beyond the capabilities of a flexible pedagogy, as described in Section 5.1. And while we made several efforts to encourage comfortable and safe participation, low-engagement participants may not have felt at ease, and the program did invite the potential for conflict, as described in Section 4.3, which could create undesirable outcomes. These provide opportunities to refine the design of this support program and explore more granular outcomes.

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In this paper, we focused on how the pedagogical design and technological environment of the support program affected the experience of participants, but the quality of facilitation also plays a large role in creating effective support [46]. In related work, we consider the experience of our facilitators, which despite their prior experience leading classes and undergoing training for the sharing circles, still required a few weeks to become comfortable in their role [106]. Future work might focus on facilitators' training and role, or understanding how facilitators impact the effectiveness and power dynamics of support programs [111].

Our use of sharing circles and focus on storywork was heavily influenced by Indigenous scholar-ship. However, our research was also a hybrid work because it came from a tradition of participatory action research [144] and did not fully embrace Indigenous epistemologies [3, 69, 70]. Compared to our program, Indigenous sharing circles may be more focused on preventing reactive speech [86] and include a more thorough treatment of spiritual [123] and physical health. Exploring these issues may move support programs closer towards a holistic understanding of health that is more compatible with Indigenous healing [45]. Additionally, our work did not occur within a tribal context, so Indigenous epistemologies may or may not be appropriate for a diverse audience which cannot rely on shared cultural and tribal grounding [86]. Future work could explore this continuum of what an Indigenous epistemic approach to peer support might look like in non-tribal contexts.

Some of the concepts explored in our discussion also warrant further research. As discussed in Section 5.4, future work could explore the relationship between support programs and institutions. These relationships could be critical towards creating sustainable programs for peer support but also influence the nature of those programs, and deeper and longer research engagements may expose dense descriptions about these relationships. In our context, further work could be done in partnership with 1199SEIU to offer peer support programs on a larger scale. As described in Section 5.3, future work might also examine how storywork mediates legitimacy and conflict in contexts beyond support programs. Similar to how the structure of the sharing circles limited overt conflict and direct challenges to legitimacy by encouraging long speaking turns and framing advice as telling of personal experience, future work could also design for enabling participants to support their own legitimacy and esteem as professional caregivers to outside parties.

Finally, our work focused on HCWs in New York City. Designing for intersectional peer support needs is relevant to other marginalized groups, and the same design implications may apply in those contexts. Also, a prominent feature of our study was the use of CMC technologies to provide peer support to an isolated workforce who could spare little time for additional travel, and many marginalized workers have similar constraints. For example, other researchers have described how gig workers experience social isolation [117]. Future work may apply a similar approach to increase access to peer support for other populations who are geographically or temporally constrained, such as farmers, parents of children with disabilities, community health workers, and so on.

7 CONCLUSION

Our work contributed a computer-mediated program to foster intersectional peer support in marginalized workforces such as home care workers. Designing support programs for these populations is a challenge because peer support is most effective when it is relevant to an individual's needs and context, but intersectionality implies diverse needs that vary by participant characteristics and time. We draw from multiple domains of past literature to design a program based on sharing circles. Our findings show how participants used the program to engage in multiple forms of support enabled by storytelling. We discuss how such programs and the technology tools that mediate them could be designed to leverage flexible pedagogies and enable tailored support for diverse peer support needs.

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A GROUND RULES

- (1) Voluntary Participation
 - Participation is a voluntary act of bravery.
 - You don't have to talk about things.
 - We encourage you to speak as openly as you feel comfortable.
- (2) Mutual Respect
 - All responses are valid. There are no right or wrong answers.
 - Please respect others even if you don't agree with them.
 - Don't attack others.
- (3) Confidentiality of Clients and Other HCWs
 - Anything said here is confidential.

- Don't reveal names and other identifying information about your clients.
- Protect the privacy of other members by not revealing their names and other identifying information outside of this group.
- (4) Fairness in Participation
 - (a) Sharing Circles
 - Allow each other equal opportunities to speak.
 - Make sure the previous person has finished speaking.
 - The facilitator may call on names or decide the speaking order if multiple people wish to speak.
 - The facilitator may cut someone short if we're running low on time to allow others to speak.
 - (b) Social Networking Group
 - Allow each other equal space to create posts about their own experiences.
 - The moderators may promote someone's post to give it more attention.
 - The moderators may remove spam posts.

B WEEKLY TOPICS

- Week 1 Why did you choose to join the home care profession? What do you wish you had known when you first started?
- Week 2 Tell us about a time when a client made you angry or treated you unfairly. How did you handle the situation?
- Week 3 Tell us about a time a doctor or nurse recognized your contributions to your clients' health.
- Week 4 Tell us about a time you helped a coworker do a better job or encouraged them to feel more motivated.
- Week 5 When was the last time you had to have a long discussion with your coordinator? What was that about and how did you handle it?
- Week 6 What makes you happy to come to work? Tell us about a special time that you were looking forward to going to work.
- Week 7 Do you feel safe while working with a client or traveling to and from a client? Tell us about a time you felt you had to protect yourself.
- Week 8 Tell us about something that you and your client did together to have fun or pass the time. How did you come across this activity?
- Week 9 At your agency, what are problems that home care workers don't discuss with coordinators? How do different agencies handle these problems?
- Week 10 Think back to your last new client or your first client. What advice would you give to a new home care worker or substitute?
- Week 11 Tell us about a time when you were proud of the work you did or felt you did a good job as a home care worker.
- Week 12 Tell us about a time where you had a long discussion with a client's family member. How do you deal with clients' family members?

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