

# “Then They Trust You . . .”: Managing Ergonomics in Home Care

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## Abstract

The home care workforce, already at 2.7 million caregivers, will become the nation's fastest growing occupation by 2024 as the senior boom generation accelerates the demand for in home services to meet its long-term care needs. The physically challenging work of assisting clients with intimate, essential acts of daily living places home care workers (HCWs) at risk for musculoskeletal disorders (MSDs); yet, HCWs typically receive little formal job training and may lack appropriate assistive devices. In this qualitative pilot study, HCW focus groups described workplace MSD risk factors and identified problem-solving strategies to improve ergonomic conditions. The results revealed that HCWs rely on their behavioral insights, self-styled communications skills and caring demeanor to navigate MSD risks to themselves and increase clients' physical independence of movement. We suggest changes in employer and government policies to acknowledge HCWs as valued team members in long-term care and to enhance their effectiveness as caregivers.

## Keywords

home care workers, care giving, ergonomics, musculoskeletal disorders, interventions, patient safety

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## Introduction

By 2029, all of the United States' baby boom generation, sixty million people, will be aged sixty-five and older.<sup>1</sup> This population shift, advances in medical technologies, and caregiving preferences will fuel an already large demand for long-term care services in homes rather than institutional settings.<sup>2</sup> A rapidly growing work force is being called upon to aid the elderly and people with disabilities with acts of daily living (ADLs). By 2024, home care workers (HCWs), at 2.7 million in 2014, will have risen to 3.5 million, the most job growth projected for any occupational grouping.<sup>3</sup> Two broad overlapping classifications of paraprofessionals provide direct care services in the home care industry: home health aides (HHAs)<sup>4</sup> and personal care aides (PCAs).<sup>5</sup> This article focuses on the latter group which comprises about two-thirds of the home care workforce. PCAs are known by various job titles, e.g., personal assistant, personal care attendant, home care aide, and HCW. We will use the term HCW for this article.

Both HCWs and HHAs provide instrumental care with ADLs, i.e., helping clients bathe, dress, groom, eat, and move about. HCWs and HHAs also may do house cleaning, laundry, grocery shopping, and meal preparation. Health care functions, however, are not included in job descriptions for HCWs, but in some states, HHAs are permitted to administer medication or check vital signs under supervision. The emotional and relational aspects of caregiving are often not listed in home care job descriptions, but by definition, caregivers utilize feelings and actions to attend to an individual's personal needs or well-being.<sup>6-9</sup>

It has long been recognized that workers in home care confront a myriad of potential health and safety hazards at work<sup>10-13</sup> and ergonomic issues remain a major concern.<sup>14,15</sup> HHAs and HCWs working with physically dependent clients face an elevated risk for back injuries and other musculoskeletal problems related to manual handling and transferring tasks.<sup>16-20</sup> Additional musculoskeletal disorder (MSD) risks lie in a complex set of environmental, organizational, and psychosocial factors in the home setting that caregivers in institutions typically do not face, and which may magnify HCWs' risk of injury. Environmental factors include maneuvering clients in small, crowded rooms, a lack of adjustable beds,<sup>16</sup> and doing housekeeping tasks without assistive tools or equipment, e.g., moving heavy furniture, vacuuming, cleaning bathrooms, carrying laundry, and groceries.<sup>11</sup> Organizational factors include working alone, the lack of ergonomic devices for transfers,<sup>16</sup> insufficient training,<sup>21,22</sup> and lack of direct supervisor support.<sup>23</sup> Further, caregivers may be confronted with "uncooperative"<sup>13</sup> or "combative" clients.<sup>16</sup>

Investigators in this qualitative pilot study sought to discover how a group of HCWs, with so many potential risk factors and few resources, perceived their MSD risks and how they managed them. The intent was to inform potential mitigation strategies and formulate workplace policies on hazard prevention.

## Methods

The researchers contacted two longstanding partners, a private home care agency employing thousand HCWs in Chicago and a labor union representing the HCWs at this agency. The union also represented forty thousand additional HCWs employed by other private agencies in Illinois or hired directly by consumers through state agencies. Our previous collaborations with both stakeholders included hazard identification and training on blood-borne pathogens,<sup>24</sup> slips and falls, chemical hazards, stress, elder abuse,<sup>25</sup> and pandemic flu prevention.

The union designated an active HCW member-leader to recruit peers to participate in focus group sessions to identify risk factors for MSD hazards and ergonomic solutions. Participants were required to have a minimum of three years' experience caring for clients with limited mobility. Fifty potential participants referred by union representatives were contacted via phone; other HCWs responded to announcements about the study at employer-sponsored or union-sponsored skill-building classes and were interviewed by the recruiter in person. The resultant study group of thirty-seven contained HCWs who worked for private agencies serving the elderly in the Chicago area (including the one mentioned above) or who were hired directly by clients to serve people with disabilities under age sixty. All participants were members of the union; some had previously taken part in union-sponsored activities; others had not. Participants identified as primarily female (86%) and African American/Black (88%) with an average age of forty-three years.

Four initial focus group sessions were held at the union hall in 2012 and took place over four months. Each session lasted one and a half hours to two hours. Group size ranged from eight to ten at each session. Each participant attended one of the four sessions and was paid fifteen US dollars per hour. The union provided an evening meal. At the beginning of each session, participants were given a twenty-item written survey with questions about home care work history and whether they currently experienced work-related pain. Participants then reviewed a chart which listed typical caregiving and housekeeping tasks entailing forceful exertion and/or stressful postures that had been previously associated with musculoskeletal pain.<sup>11</sup> HCWs were asked whether they did the task, whether the task was painful, what was needed to do painful tasks safely, and how changes could be implemented to improve conditions. The chart was used to guide the focus group discussions.

Towards the end of the session, the participants were given a list of recommendations for ergonomic solutions from previous research<sup>11</sup> and HCW training materials<sup>26</sup> and asked to review and compare them with their own suggestions.

The study design and instruments used in this inquiry received UIC IRB Approval Protocol #2011-0660, and participants signed informed consent statements.

## *Data Analysis*

Focus group sessions were audio recorded and transcribed verbatim by a transcription service. The investigators drew on the constant comparative model<sup>27</sup> to conduct the analysis. Research team members read the transcripts line by line and coded participants' comments, using broad categories reflecting the study's objectives (i.e., MSD risks, health impacts, and ergonomic solutions). They met and discussed preliminary themes emerging from the coded data and then presented the preliminary themes to a fifth focus group for validation purposes. This group, composed of two HCWs from each of the previous four focus groups, concurred with the preliminary themes and added more examples.

The preliminary themes provided a framework for data analysis. Research team members reread transcripts to determine whether the preliminary thematic framework accurately reflected the data and whether there were additional themes that had been missed in the initial analysis. In a series of meetings, they continued to categorize issues and supporting examples within the themes, grouping similar excerpts together. By this process of comparison, they added themes, expanded the categories within the themes, and noted areas of overlap among categories. They selected quotes which would provide illustrative evidence of the themes, revisiting and questioning assumptions linked to the categories and quotes they had chosen. After making a final selection of quotes, they subsequently met again several times to review drafts.

## **Results**

In the focus group sessions, participants identified MSD risk factors and described strategies to mitigate risks. These themes emerged from their discussions (see Table 1).

### *Home Care Tasks Can Be Painful*

Survey results revealed that 20%–30% of participants reported musculoskeletal pain when assisting the client getting in and out of bed, pushing or lifting a wheelchair, and assisting the client in and out of the tub or shower. Thirty percent to 40% of participants reported musculoskeletal pain performing house-keeping tasks. Tasks most likely to cause pain were cleaning the tub, cleaning the toilets, carrying grocery bags, and mopping the floor.

### *The Affective and Relational Aspects of Caregiving Are Linked to HCWs' Perceptions of Their Suitability to Work With Clients*

As focus group participants discussed MSD risks and ergonomic solutions, they often described their work in the context of their relationship with the client.

**Table 1.** Focus Group Themes.

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1. Home care work can be painful. Both caregiving tasks and housekeeping tasks place workers at risk of back injury and musculoskeletal disorders.
  2. The affective and relational aspects of caregiving are linked to HCWs' perceptions of their suitability to work with clients.
  3. There are psychosocial stressors embedded in the physical challenges of managing client mobility.
  4. How the worker interacts with the client may reduce both worker and client's risks of injury.
  5. The use of assistive devices to reduce ergonomic hazards in home care is a complex mitigation strategy.
  6. Home care workers want more knowledge and training about their clients' health.
  7. Home care workers employ a variety of self-devised strategies to problem-solving ergonomic hazards.
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HCWs assist clients in personal, even intimate, tasks performed daily over long periods. These ADLs by their very nature entail close physical contact as well as verbal and nonverbal communication between client and worker. Study participants explained the emotional dimension of caregiving work, their suitability for it, and the sensitivity that working with humans entails, as in the examples below:

HCW: You have to have a general caring spirit . . . a nurturing spirit, you have to be willing to accept and if you're not willing to accept, that's the reason why everybody don't do homecare. Everybody cannot be a CNA, everybody cannot work childcare, daycare, whatever. Because it takes a lot on you, it wears a lot on your mind, your body, your spirit and your soul. And if you don't have it, don't go in it. (Group 2, pp. 40–41)

HCW 1: I'm compassionate and I do for all my clients because I get attached. They say don't go in there and get attached. But it's . . .

HCW 2: . . . you're not human if you don't get attached.

HCW 3: Can't help it.

HCW 2: Can't help it, right.

HCW 3: You know, something wrong with you . . .

HCW 2: . . . if you work with people year in and year out . . .

HCW 3: Right, right.

HCW 2: and don't have no love for them. Something wrong with you. (Group 1, p. 5)

HCW 1: You supposed to keep it business, but you form a relationship.

HCW 2: You can't help it if you got . . .

HCW 1: . . . a bond, you know with the person. Because . . .

HCW 2: . . . it just happen.

HCW 1: . . . you taking care of them every day . . .

HCW 3: . . . you know what they don't like. You know when they sad, when they not sad. You know when they in pain, and when they not in pain. (Group 4, pp. 18–19)

*There are psychosocial stressors embedded in the physical challenges of managing client mobility.*

Participants noted fears that clients have of falling or getting injured while being assisted. HCWs also revealed that they were concerned that they themselves could fall or be injured when trying to help clients move:

HCW 1: . . . working with them. They just have that fear.

HCW 2: They're like: 'You ain't gonna drop me, is you, because the last person dropped me' . . .

HCW 3: You know, it's not only that our consumers have fear, we have fear because . . .

HCW 4: Oh, yes!

HCW 2: . . . I be scared sometimes.

HCW 4: Me too. (Group 1, pp. 44–45)

Many HCWs are paid to care for their own family members, a situation that brings additional emotional challenges. A HCW caring for her daughter revealed her anxiety and the physical toll that stress was taking on her:

HCW: . . . a lot of times like at night when you be feeling these aches and pains and it just from the tension . . . my daughter is my client. And she's back at home now. She's 46, she's back at home. She's tried several times to have her own apartment but she can't do it, you know she needs somebody . . . I get paid three hours a day for seven days a week. But I'm with her 24. But just tense, like up and down the stairs, you be so tensed up because you don't want them to fall. (Group 3, p. 21)

These workers also described the difficulties of navigating a generational role reversal. Caregivers must continually calibrate their relationship, i.e., how much to provide physical and emotional support versus the wishes of their loved one to remain independent.

HCW 1: I homecare for my father too. He's 80 years old and he's losing his balance but he still think he young and cool. And when I try to tell him . . . that it's time for him to use his cane . . . But he like, 'You're trying to make me old, you're trying to put me in a senior citizens' home.' I'm like, 'No, I'm not, dad, I care for you . . . I don't want you to hurt yourself' . . . he'll try to play it up like he can walk . . .

HCW 2: You know, sometime when we can be too close to a situation and you'd be more emotional than actually the patient because that is your dad. So you have to get yourself positioned.

HCW 3: You have to take yourself out. (Group 2, p. 42)

### *How the Worker Interacts With the Client May Reduce Both of Their Risks of Injury*

In displaying a positive demeanor and encouraging clients, some HCWs were able to create an environment that could influence a client's attitude, behavior, and willingness to cooperate with caregiving tasks, potentially lowering both clients' and workers' risks of injury. Participants reported modeling this approach with clients and with family members.

HCW 1: My first client, she's bedridden. And I been having her like for two years now... She never want us to open (the curtains), sun, nothin' like that. She was just, her daughter would clean her up and take care of her, and she'd do all that for her. But then she would just be like this.

HCW 2: Closed in.

HCW 1: Right. And I say, 'You know, we can't sit here in the dark now. It's too dark in here...' just making her joke, I made her laugh. And she said 'Girl, open that window.'... Because she was just in the house, and...

HCW 2: Depressed.

HCW 1: ... Then when I had her daughter change the curtains, (that) way she could see the sunlight. And she was getting more, every day she'd know when I come...

HCW 2: Accepting.

HCW 1: ... I open up the curtains so the sun could come. Even when it's raining I still open them so she could see what's going on outside. You know because she's always in the bed of her room. And that made her more helpful to her daughter and doing things more with her daughter. (Group 2, pp. 31–32)

Participants noted the importance of building a relationship of trust with clients and family members.

HCW 1: And I think it's like developing a relationship.

HCW 2: And then they trust you...

HCW 3: Oh, yeah, same with mine.

HCW 2: Yeah, even with the family.

HCW 1: Because when you like 'em, and if your consumer is good with you... there's basically nothing you can't get that consumer...

HCW 2: That's so true.

HCW 1: ... to do.

HCW 3: That's true.

HCW 2: Even when they're in pain.

HCW 3: That's so true too.

HCW 1: Even the ones that are not cooperative though.

HCW 2: Right.

HCW 1: Because I've had those too, but... (all laugh)

HCW 2: . . . you deal with them in a certain way. I just, I just bug 'em 'til they laugh. (Group 4, pp. 24–25)

HCWs closely observe what clients are able to do. Cognizant that clients can become frustrated or depressed about their limited mobility, HCWs encourage clients to assist as they are able. They may act as cheerleaders or coaches, as in these two examples:

HCW 1: You say when your client made up her bed, sometimes my mother get up and make her (bed), you gotta give them a little extra encouragement . . .

HCW 2: Oh yeah!

HCW 1: . . . and woo woo and high five-ing . . . Hello! Hot dog! Ding dong! And they love that kind of stuff. They get really excited you know, 'I'm gonna make it up (the bed) tomorrow too'. You know, they all like it. (Group 1, p. 16)

HCW . . . I got a 95-year-old man. He won't do stuff. People come in, he just sits there. But when I say, 'Come on Mr. X, come on, let's just do this'. He be like ready to roll! He be like ready to roll. (Group 2, p. 29)

In the example below, a HCW's empathetic and respectful understanding of her client's emotional need to move as independently as possible is coupled with her assessment that the client had the physical capability to pull himself up to stand. The worker did not have to do unnecessary handling and transferring of the client, thus reducing the worker's risk of musculoskeletal injury. It also helped build the client's self-confidence to help himself move:

HCW: (My client) was . . . impaired hearing and partially blind. And he had strokes. He could not move without a walker. And he would sit down on the couch, have a cup of . . . But getting up off the couch I asked him could he stand there and I would walk in front of him and lift him that way . . . He put his hands on the walker and lifted himself up . . . So that alleviated my shoulders from the lifting and moving . . . him to be more motivated too . . . It really was tearing away at him with those disabilities. I didn't want to take away anything that he wanted to help himself . . . And kept his spirit up. (Group 2, p. 41)

### *The Use of Assistive Devices to Reduce MSDs in Home Care Is a Challenging Ergonomic Intervention Strategy*

HCWs in this study described their experiences primarily with common devices, e.g., wheelchairs, walkers, and canes. A few had experience with devices for more dependent clients, such as mechanical lifts. The focus group discussions revealed complex issues in using assistive devices effectively. Equipment may be broken, missing parts, or inappropriately sized for the client:



HCW 1: Sometimes people don't have all the equipment for the wheelchair.

HCW 2: Some of them are broke.

HCW 1: The wheels don't lock. The seats are not high enough so they can elevate themselves up. I have to hold the wheelchair and try to lift the client, so that means my back, I'm straining my back, I'm straining my arms, my wrists and my feet hurt. (Laughter) Because you're putting pressure on your toes... When you have a broken equipment, and the wheelchair it's not the size of the client. That's a big problem. And for the client too because the client can push back, the wheelchair can go from underneath them and they can fall and pull you... (Group 1, p. 38)

Equipment may be available, but not fit the space in which it must be used:

HCW: It depends on how big the room is that you have them in. Because a lot of times, it's a big machine, and trying to get it in the room to put it up... put them on it can sometimes be complicated. (Group 3, p. 15)

Equipment may be available, but difficult to operate: Because HCWs frequently work alone, they lack help that workers in institutional settings might have access to when using mechanical lifting devices. Further, even though an HCW may normally have good rapport with a client, clients may act unpredictably, placing both themselves and workers at risk of injury.

HCW 1:...I had connected my client (to the hoist)...they had the manual one...and so I, I have to pump this... to swing this person. And this person's like 165 pounds, about 6'2", OK, and I'm swinging him and he's kicking his feet, I'm like. 'Don't kick your feet! Because if you do you're going to you know...'

HCW 2: Unbalance it...

HCW 1:...unbalance it and you're going to fall. I can't catch you, you know... But this particular time when he kicked he swung out. And I seen the hook coming loose, and... him falling so I grabbed him. Actually I guess because my adrenaline was going so fast I put the hook back up there, and yeah, I don't know if I pulled a muscle. At this point, I can't move because the pain was so excruciating... (Group 1, p. 22)

Clients may be unable to use the equipment properly or for sustained periods:

HCW: I have problems with my hands and my wrists. It really bothers me when I'm pushing the wheelchair and you have the client that will not use the foot holders and they're dragging their feet. (Group 1, p. 39)

HCW: But with those walkers... it's kind of hard on the worker to even show the person or have the person stand next to it, because a lot of times... (they're) bent over. They're scooped over. Or they get into a mode that they won't do no more, this is as far as they're going. (Group 1, p. 41)

Devices may be prescribed by a health care professional, but the client may not be physically able to use them as well as anticipated, placing the client and worker at risk of injury.

HCW: . . . I got one that's 83 and it's kind of hard for them . . . to get up and down on a regular toilet. Even though the 83-years-old woman got a toilet seat thing but it's still hard with her, she'll grab around my neck sometime. (Group 3, p. 24)

Clients may prefer the HCW over an assistive device: HCWs reported that sometimes clients do not like or want to use devices such as canes or walkers and prefer the assistance of the caregiver. Therefore, good rapport with clients may sometimes have a downside, i.e., when an HCW has a trusting relationship with a client, there may be a risk that the client will rely on the worker for physical support more than necessary and potentially increase the worker's risk of injury.

HCW: We have to sometimes encourage them to use the things that we get for them. Like my consumer, she got canes and she got walkers and stuff but she'd rather hold on to me to get from room to room. Instead of using her cane. But when we go out, she got the walker and she's like, 'Baby, now you know I just can't use this thing.' (Group 1, p. 57)

Because HCWs observe a client's behavior regularly, they may become aware of nuances in the client's abilities that other health care practitioners don't have the opportunity to observe. Here a participant questions clients' use of assistive devices when they might not be needed, thereby weakening their muscles and becoming more dependent on the HCW's physical support, potentially increasing the risk of musculoskeletal injury to the worker.

HCW: And then they say when, where you use the lift and they could try to start and stop still from getting up on they own, and helping themselves, because they're in there depending on the machine to do it for them, instead of them doing it, trying to do it themselves. So it handicaps them more. (Group 4, pp. 16–17)

### ***HCWs Want to Know More About Health Conditions That Impact Clients' Movement***

Participants identified education and training needs. Although some HCWs mentioned that they had been trained in body mechanics and doing transfers, several indicated that they would welcome training in how to "catch" their client or "break" a client's fall in emergent situations. Further, HCWs may benefit from learning more about how to manage their clients' health conditions. They wanted to know what they can do to reduce their client's experience of

pain. How they approach a client might increase or decrease the risk of injury when pain is a complicating factor.

HCW: One of the things that I often run into is the consumer I work for actually receives IV treatment medication and that's every few weeks. And so it's an up and down cycle of pain. These people are homebound. They are . . . bedbound, some of them are wheelchair bound . . . What if we're taught, you know, music therapy, given a CD, given something for them to calm them, soothe them . . . A pain skill . . . 'If you're at a 10 or at an 8 right now we can't do a shower right now. Let's do it a little bit later.' (Group 4, p. 22)

### *Be a Problem Solver*

Study participants indicated that part of their role is to identify resources to assist with clients' lifting and moving needs. A few participants stated that they encouraged nurses and therapists making home visits to order assistive devices for their patients. Some participants had more knowledge about no-cost or low-cost options available through health insurance and government agencies than others.

Participants also requested tools and equipment from clients and family members to make housekeeping tasks less taxing and hazardous, e.g., sponge mops, extended brushes, and buckets.

HCWs working in low-income families are aware of the financial constraints which can prohibit clients from obtaining ergonomically safer housekeeping equipment. Therefore, workers may need to devise other strategies, such as taking breaks.

HCW 1: This is about vacuuming.

HCW 2: . . . use lightweight vacuum cleaners. My clients got heavy duty vacuum cleaners.

HCW 3: Mine too, child. (all laugh)

HCW 4: Mine too!

HCW 1: Get a smaller one.

HCW 2: . . . want to purchase a light one. So I take my time. I take breaks in between vacuuming.

HCW 4: So that alleviate the pain. To alleviate the pain.

HCW 3: That's a good idea . . .

HCW 2: And go do something else and come back . . .

HCW 3: Yeah, some of them don't have enough money to buy a smaller . . .

(Group 2, p. 69)

Finally, study participants had many tips to share about how to make housekeeping tasks safer. These included: spraying cleaners in bathtubs and letting it

sit for a while, so that the worker would not have to scrub too hard; getting long handles from the “dollar store” for mopping and dusting; creating padding from old towels or rags to kneel on when scrubbing floors or bathing clients in the tub; getting cloth shower curtains that can be laundered rather than scrubbing mildew off plastic ones.

## Discussion

Several key findings emerged from the focus group discussions. First, HCWs reported experiencing musculoskeletal pain in performing housekeeping as well as caregiving tasks. The particular tasks most associated with pain in this group of workers corroborated earlier reports.<sup>11,28</sup> In this study, more workers reported pain associated with housekeeping than with caregiving. Although most of the home care ergonomics literature focuses on MSD risks associated with caregiving tasks, housekeeping tasks may be worthy of future study.

Second, home care work is emotionally as well as physically demanding.<sup>9,29–33</sup> The emotional and relational aspects of caregiving are intertwined with instrumental tasks and reflect an intrinsic motivation to work in home care. This finding supports a growing body of mixed methods and qualitative research which has explored the reasons why many HCWs take and remain in jobs in this poorly paying industry.<sup>29,34–36</sup> As a survey of 2260 HCWs providing consumer directed care in California discovered, “commitment to the consumer is the most important reason that they gave for why they took the job.”<sup>34</sup> Although turnover rates are high in the industry,<sup>37</sup> many of those who stay enjoy the autonomy of their work setting find dignity in their labor<sup>9,30,31</sup> and have developed strategies to deal with emotional stressors.<sup>29,31,38</sup>

The bonds that can develop between worker and client have been described in qualitative research,<sup>9,35,38,39</sup> and this study adds supporting evidence. Clients may invite their caregivers to eat with them, watch TV, play games, accompany them to appointments, and errands. Indeed, clients may see more of their HCWs than of their family members and friends. Thus, HCWs may become clients’ “fictive kin.”<sup>40,41</sup> In short, HCWs care not only *for* their clients, but *about* their clients.<sup>41</sup>

Third, the worker–client relationship seemed to be a lens through which participants viewed MSD risks. Others have noted stress that HCWs may experience in their interactions with abusive clients.<sup>29,42</sup> In this study, HCWs revealed anxiety in working with less extreme client behaviors or circumstances and linked it to an MSD risk. Several participants indicated that trying to catch a falling client was particularly worrisome for their clients and themselves.

The worker–client relationship was a lens not only to view risk but also to shape ergonomic strategies. HCWs used their personalities, communications skills and observations of their clients’ physical abilities and emotional needs to promote clients’ independence of movement and improve clients’

self-confidence and well-being. In some cases, this strategy also reduced the HCW's risk of injury.

Fourth, the use of assistive devices seems to be a complex, challenging mitigation strategy. Assistive devices used in institutional settings are thought to reduce the risk of musculoskeletal injuries to both health care workers and clients and have been advocated for home care.<sup>13,16-18</sup> Nevertheless, employer policies may limit or prohibit HCWs' use of transfer equipment in the home, even when HCWs may be placed in situations where its use is necessary and expected by the client.

Participants' descriptions of problems with commonly used assistive devices such as wheelchairs and walkers suggest a need for enhanced training programs in equipment use that include both the HCW and the client<sup>22</sup> and improved systems for reporting and repairing/replacing defective equipment. Lack of information about how to obtain transfer devices for low-income clients was also a concern.

Finally, participants flagged education and training challenges. HCWs receive little training about the medical conditions of their clients because "... concerns for patient safety, agency fears of liability, as well as state-level Nurse Practice Acts have limited the extent to which HCWs can provide even minor medical care."<sup>9</sup> Yet, HCWs find themselves in situations where more knowledge and skills training about their clients' conditions would enhance their ability to do their job effectively and could potentially decrease their clients' injury risk.

## Study Limitations

Qualitative methods with focus groups and in-depth interviews have been used in a growing body of home care studies to identify and describe working conditions and occupational hazards and to inform mitigation strategies.<sup>11,12,14,28,35,38</sup> Because this was a pilot qualitative study, the sample was small but comparable in size to other pilot studies.

The focus groups in this study consisted primarily of African American workers. Descriptions of Latina HCWs' perceptions of their caregiving abilities<sup>29,31</sup> support our findings of bonding between worker and client and suggest that HCWs use their communications skills and personalities to navigate the emotional demands of the job. Whether HCWs from various ethnic or cultural backgrounds would approach their relationship with their clients to navigate the ergonomic demands of ADLs in similar ways or differently needs to be explored.

Focus groups were composed of both workers caring for family members and those working with clients unrelated to them. More research is needed to explore the complex ergonomic and emotional challenges of those caring for relatives, especially because their work shift may be "24/7," they may need to provide hands-on assistance with intimate ADLs and with a family member of a different

gender, there may be existing emotional strains in family relationships, as well as other unique conditions.

## **Recommendations**

The home care environment presents substantive ergonomic challenges to HCWs who work with physically dependent clients. HCWs work alone without onsite supervision. They may work in cramped quarters and may need assistive devices and sufficient training in how to use them. They may need information about payment mechanisms to access assistive devices and other resources for their clients, and they may need education about clients' conditions in order to minimize pain, increase client strength, and promote independence of movement. Lacking these elements, many HCWs are, in effect, often left to their own devices. The only avenue they may have to prevent injury to themselves and their clients lies in the relationship itself. Banking on their personalities and their emotional commitment to their clients, HCWs may help clients reduce their risk of injury. Nevertheless, even with good communications skills and intentions to help, HCWs working with physically dependent clients face challenges which place them at risk of MSDs. Moreover, unpredictable or uncontrollable circumstances can and do occur which can further increase their risk.

Educational, technical, financial, and programmatic supports from the home care industry and government are needed in the following areas to promote the mobility, safety, and independence of clients and at the same time address the MSD risks to workers.

### ***Training and Professional Development***

Unlike HHAs with whom their job duties can overlap, HCWs lack federal training standards. Just 25% of states have a state-sponsored curriculum and/or require certification.<sup>43</sup> Most states leave determination of HCW competency to home care employers; for HCWs whose work is directed by the client, more than half of the states leave training responsibilities up to the client's discretion.<sup>43</sup>

Several researchers have advocated training that includes both the worker and the client and that fosters communication between them, in order to ensure safe performance of ADLs<sup>22</sup> and problem-solving barriers to care.<sup>11</sup> Worker-client training can also be a vehicle to promote client independence of movement, therefore potentially lowering the risk of MSDs to HCWs. In a pilot study with labor and management stakeholders in the Chicago area, HCWs demonstrated simple muscle-strengthening exercises to elderly clients and encouraged compliance through motivational interviewing techniques. This program, now under expansion, explicitly acknowledged the value of HCWs as part of the care team and promoted enhancement of their teaching skills as paraprofessionals.<sup>44</sup>

Continuing education for HCWs is also an issue. Requirements vary considerably in the states,<sup>45</sup> and the need to include and strengthen health and safety topics persists. To help address this gap, NIOSH has published a curriculum for trainers of HCWs, including ergonomics, slips and falls, and stress-related issues.<sup>46</sup> It is meant to be used as a course or to supplement employers' existing training.

### *Assistive Devices*

HCWs and their low-income clients have raised concerns about the lack of accessibility and affordability of assistive devices.<sup>14,47</sup> State-run assistive technology (AT) programs established under the federal Assistive Technology Act have partially addressed these issues through loaning equipment and renting recycled equipment to consumers with disabilities, but the types and supply of equipment available, eligibility requirements and lending periods vary. A survey of state programs found that the device inventory was chronically inadequate to meet demands.<sup>48</sup> State-sponsored AT programs also make financial loans available for purchasing equipment and modifying homes to accommodate assistive devices, but costs, particularly for high-tech devices, remain a barrier for low-income consumers. While nonprofit organizations in some states have tried to supplement AT programs, there are still gaps. Further research is warranted to identify financing mechanisms to address equipment accessibility, to identify best practices among the state AT equipment programs, and to elicit recommendations for improved service delivery from stakeholders (e.g., the Durable Medical Equipment Center of the Centers for Medicare & Medicaid Services, the Federal Administration on Aging's Home and Community Based Ombudsman program, nonprofit advocacy organizations for elderly consumers, Centers for Independent Living, private home care agencies, and labor unions representing HCWs).

### *Care Planning and Coordination*

Home care staffing agencies, state and federal licensing bodies, and nonprofit accrediting organizations have been encouraged to integrate HCW safety issues in client care planning.<sup>14</sup> User-friendly hazard evaluation tools of the home environment have been successfully tested with HCWs and could be incorporated into the client evaluation process prior to care assignments and as circumstances change. Such tools include checklists of safety issues that address some aspects of ergonomic hazards and related slip/fall hazards, e.g., lack of grab bars in shower/tub, loose carpet, inadequate lighting, uneven or slippery floors, clutter, and awkwardly placed furniture.<sup>49</sup> Another tool, *Caring for Yourself While Caring for Others*,<sup>26</sup> which has been included in the NIOSH curriculum discussed above, contains tips which HCWs can share with clients and family members to prevent injury.



## Conclusion

Ultimately, employers, government agencies, and accrediting bodies must do more to recognize HCWs as valued front-line care providers in the long-term caregiving team. This pilot study revealed that HCWs have important insights to share with professional team members (e.g., physical therapists and visiting nurses) about their clients' needs and abilities, and they also would benefit from direct instruction and information from professionals in implementing the day-to-day follow-up with clients when they are not present. Large employers in the home care industry, long-term care consumer organizations, and family caregiver associations have collaborated with the labor movement to promote an enhanced role in care coordination for HCWs, i.e., to include HCWs as team members in the care planning phase and establish better channels for ongoing communication between HCWs and other team members regarding care decisions once a case is opened.<sup>50</sup>

HCWs also need to be rewarded through career development programs and professionalization. In the last decade through union–employer HCW training initiatives, pilot projects, and apprenticeships,<sup>51–54</sup> there has been progress on training HCWs in some patient caregiving skills that have typically been absent from their job descriptions. And in a significant step towards codifying HCW skills, six states have established ten core competencies, curricula, and materials for HCWs through the HRSA-funded Personal and Home Care Aide State Training Program (PHCAST).<sup>54</sup> Such programs need to be standardized and established in every state.

Further, HCW wages must be substantially increased and labor standards must be strengthened and enforced. The home care industry, which often utilizes outsourcing, subcontracting, and franchising practices, has enabled many employers to sidestep labor standards by classifying HCWs as independent contractors.<sup>55</sup> To ensure basic employment rights for HCWs, states have been urged to “eliminate exemptions in wage and hour laws as well as unemployment insurance, provide workers’ compensation; raise minimum wages to a living wage; and require and monitor responsible contractor agreements for publicly funded home care programs.”<sup>55</sup> Campaigns by labor unions (e.g., SEIU), alt labor organizations (e.g., the National Domestic Workers Alliance) in coalition with consumer groups and allies (e.g., Caring Across Generations) have made inroads in these areas, resulting in the enactment in seven states of a bill of rights for domestic workers (which includes HCWs). At the federal level, labor–consumer coalitions successfully ended the decades-long practice of excluding HCWs from federal minimum wage and overtime protections.<sup>56</sup> Labor advocates and allies continue to press for living wages, e.g., the “Fight for 15” campaign (i.e., fifteen US dollars per hour) and beyond for HCWs, and for establishing certification and career pathways that build on the skills that HCWs bring to the health care profession.



## Author Contributions

JZ, MG, and ML designed this study. JZ and FT-M drafted the demographic survey. MG oversaw participant recruitment. JZ and DC conducted focus groups. MG and FT-M assisted in data collection. JZ, ML, FT-M, and JT conducted data analysis. ML wrote the manuscript, and all authors reviewed multiple drafts.

## Authors' Note

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