Received: 21 November 2021 | Accepted: 7 January 2022

DOI: 10.1002/jhm.12781

ORIGINAL RESEARCH

Journal of Hospital Medicine shm Society of Hospital Medicine

Forgotten frontline workers: Environmental health service employees' perspectives on working during the COVID-19 pandemic

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Funding information
Division of Hospital Medicine at the University of Colorado School of Medicine; Doris Duke Charitable Foundation, Grant/Award Number: 2015212

Abstract

Background: Environmental Health Service employees (EVS) sanitize healthcare facilities and are critical to preventing infection, but are under-resourced during the COVID-19 pandemic and at risk of burnout.

Objective: Understand demands on EVS' work and strain on resources during COVID-19.

Design: Qualitative descriptive study conducted in winter 2020–2021.

Setting: One quaternary care academic medical center in Colorado.

Participants: A convenience sample of 16 EVS out of 305 eligible at the medical center. Fifty percent identified as Black, 31% as Hispanic, 6% as Asian, and 6% as White (another 6% identified as mixed race). Sixty-nine percent were female, and half were born in a country outside the United States.

Measures: Semistructured telephone interviews. Interviews were audio-recorded and transcribed, and thematic analysis was used to identify key themes.

Results: Four themes illustrate EVS experiences with job strain and support during COVID-19: (1) Needs for ongoing training/education, (2) Emotional challenges of patient care, (3) Resource/staffing barriers, and (4) Lack of recognition as frontline responders. Despite feeling unrecognized during the pandemic, EVS identified structural supports with potential to mitigate job strain, including opportunities for increased communication with interdisciplinary colleagues, intentional acknowledgment, and education for those who speak languages other than English. Strategies that can increase physical and emotional resources and reduce job demands have potential to combat EVS burnout.

Conclusions: As the surge of COVID-19 cases continues to overwhelm healthcare facilities, healthcare systems and interdisciplinary colleagues can adopt policies and practices that ensure lower-wage healthcare workers have access to resources, education, and emotional support.

This work was previously presented at the 2021 Society of General Internal Medicine Annual Meeting.

INTRODUCTION

Environmental Health Service employees (EVS), or those in hospitals who clean and sanitize facilities and equipment, are essential in preventing hospital-based transmission of infectious disease,[1–3] yet up to two-thirds of EVS report working in chronically understaffed positions in the United States.[4] In addition, the average pay for the field is just $13 per hour in the United States.[5] Many also lack protections such as paid sick leave and health insurance.[4,6,7] Despite their critical role in preventing infection, EVS have also described feeling undervalued due to their perceived "low status" being positioned at the bottom of the hospital worker hierarchy in terms of education and pay (compared to nurses and doctors).[8,9] The impact of social hierarchies and stereotyping lower-earning workers can lead to poor health outcomes such as mental health disorders.[10,11]

The ongoing COVID-19 pandemic has only exacerbated inequities and occupational health risks EVS already face. In the early months of the COVID-19 response in the United States, EVS were among the last to be supplied with masks in some instances,[12] all while performing added cleaning tasks under increased time constraints given pressures on hospital capacity.[13,14] Although concerns during the COVID-19 response have been studied among other disciplines including physicians, nurses, advanced practice clinicians, and even home health aides,[15,16] little is known about the experiences of EVS. As turnover in the profession continues to be a concern,[17,18] during a time when all healthcare staff are already constrained, it is crucial to understand EVS experiences on the frontlines of COVID-19. This study utilizes interviews with EVS working during COVID-19 in one hospital to understand their perceptions of new job demands and strain on available resources during a public health crisis.

METHODS

Study design and conceptual framework

This study involved semi-structured interviews with EVS working at one quaternary care academic medical center in Colorado. Qualitative descriptive design allowed for data collection about EVS' real lived experiences, perceptions, and attitudes about their work.[19,20] Interviews were conducted between November 2020 and January 2021. This study was approved by the Colorado Multiple Institutional Review Board and informed consent was required.

This study is informed by the Job Demands-Resources Model, which we used as a lens to understand both demands on EVS as they worked through the COVID-19 response, and resources available to them (both physical and emotional).[21] The Job Demands-Resources model suggests that even when working in a high stress role (e.g., "high demand," in the form of workload or time pressure), workers who are provided physical, psychological, social, or organizational support (high resources) will experience less strain and burnout, regardless of occupation. This guiding framework provides the opportunity to identify structural factors that have potential to mitigate burnout for EVS.

Setting and participants

University of Colorado Health (UCHealth) is a quaternary care academic medical center located in Aurora, CO. Its urban location and catchment area of the surrounding tri-state region serves a wide range of patients across different regions and socioeconomic statuses. EVS at UCHealth are employed through an independent contractor and include 305 employees, all of whom were eligible to participate in this study. Translator services were offered for non-English speaking participants.

Data collection

The study team worked with EVS leadership at UCHealth to recruit employees and ensure their participation was voluntary and confidential. EVS leadership distributed information about the study in team meetings and posted flyers in common areas. EVS were invited to contact the research coordinator (S.R.J.) to arrange a time for a telephone interview.

Interviews were conducted from November 2020 to January 2021 with a convenience sample of EVS who responded to participate; some participants also referred other EVS colleagues through snowball sampling.[22] The guiding research question in this study explored how EVS experienced working on the frontlines of the COVID-19 pandemic, specifically related to job strain and support (see Appendix A for interview guide). Interviews lasted up to 1 hour and were conducted by the research coordinator (S.R.J.), an experienced qualitative researcher who did not have a direct connection to patient care or hospital operations. Interviews were de-identified, audio-recorded, and transcribed. Interviewees also completed a short demographic survey. Participants were compensated with $25 gift cards. Interviews were conducted with all participants who volunteered (after multiple reminders were sent), at which point it was determined thematic saturation was achieved, where no significantly new information emerged.[23]

Analysis

We used thematic analysis and a team-based approach to interpret the data including our perspectives from sociology, gerontology, and hospital medicine.[24] Two primary coders (S.R.J. and A.E.D.) inductively read interview transcripts and performed one round of open coding to establish agreement on a codebook. The coders then co-coded 30% of transcripts together and S.R.J. coded the remaining transcripts after intercoder reliability[23] had been established, where each coder applied codes consistently and any disagreements had been resolved either by refinement or addition of new codes. Coded

content was then organized into key themes, which were discussed among the study team. Following this open interpretation of all data to establish preliminary themes, a deductive lens was then applied[24] using domains from the Job Demands-Resources Model to guide the final interpretation of themes and situate findings in the context of job strain and available supports to EVS working during the pandemic. This mixed inductive and deductive approach informed the final arrangement of key themes which were then triangulated with other hospital medicine researchers to confirm the depth and breadth of findings. Involving multiple outside perspectives allowed for reflection on presentation of themes and implications for the field of hospital medicine.[25] ATLAS.ti qualitative coding software was used for data management.

RESULTS

Of the 305 EVS working at UCHealth at the time of this study, 16 responded for an interview (13 staff and three EVS supervisors). Of the 16 interviewees, 50% were born in a country other than the United States and the majority spoke multiple languages. One interview was conducted in Spanish with the help of an interpreter. Nearly 70% of participants identified as female and ages ranged from 33 to 69 years old. Fifty percent of interviewees identified as Black, 31% as Hispanic, 6% as Asian, 6% as White, and 6% as mixed race. Demographic data of participants are displayed in Table 1. Table 2 displays themes and additional illustrative quotations from the four key themes below.

TABLE 1 Demographic characteristics of interview sample (n = 16)

Demographic characteristic	*n* (%)
Female	11 (68.8)
Race	
Black	8 (50)
Hispanic	5 (31.3)
Asian	1 (6.3)
White	1 (6.3)
Mixed	1 (6.3)
Age (years) (SD)	51 (10.1)
Education	
Less than high school	2 (13)
Some high school	0 (0)
High school diploma or equivalent	8 (50)
Some college	4 (25)
Associate degree	0 (0)
Bachelor's degree	1 (6.3)
Master's degree	0 (0)
Doctoral degree	1 (6.3)
Born in a country other than the United States	8 (50)
African countries	5
Caribbean countries	1
Central American countries	1
Southeast Asian countries	1
Years working in EVS (SD)	7.65 (8.69)
EVS supervisor	3 (18.8)

Abbreviation: EVS, Environmental Health Service employees.

Theme 1. Needs for Training and Education Resources

The training EVS received from supervisors to prepare them to work during COVID-19 involved information on hospital protocols, personal protective equipment (PPE), and preventative behaviors like handwashing. EVS also received demonstrations from nurses on gowning up and down with PPE, which were highly valued. Some still desired more education on the disease and believed ongoing refresher sessions would be helpful, especially with fast-changing protocols. Others even took it upon themselves to stay abreast of the pandemic by subscribing to YouTube news channels or visiting libraries.

One salient need that emerged was the need for training and education delivered in languages other than English. Half of participants were born in a country other than the United States and for many, English was a second language. One participant described how they often took on the extra work of translating for coworkers:

> For some [EVS colleagues], I feel like they don't understand the safety part of it. There should be translations for other languages. I find myself having to translate a lot and explain it to them in Spanish. I don't mind translating, but it's important for them to know what's going on so they can take care of themselves, and that they don't get sick and risk other people getting sick because they didn't understand it. (#4)

Another described how several EVS struggled to interpret precaution signs on patients' doors due to language barriers, and hesitated to approach nurses or doctors for clarification due to self-consciousness. These examples support suggestions from EVS to hold ongoing refresher trainings and build resources, even if redundant:

> Continuous, everyday reminders… I know people are like "why do they keep telling us this? This is the same stuff we heard yesterday…" but this is important stuff. This is something we need every day—reminders from our bosses and all the posters and signs about PPE, how to properly do it. (#10)

Other suggestions for refresher trainings included having a nurse attend morning huddle every few weeks to discuss PPE protocol and answer questions about emerging recommendations.

Theme 2. Emotional Challenges and Demands of Patient Care

Several EVS described how even before the COVID-19 pandemic, interacting with patients brought them joy. Whether making small talk or exchanging jokes, stopping to say a prayer or sing together, or even taking time on their break to help a patient do their hair, interacting with patients was a meaningful part of their work. One participant described this unique role they filled:

> I think that interaction with somebody that doesn't have to do with treating them—it's different, and they appreciate [it]. For a minute, they forget why they're in the hospital. (#7)

Working during COVID-19 was especially challenging for EVS because of the absence of opportunities for patient-facing interaction amidst new precautions. Increased demands for PPE, especially masks, created a physical barrier to interactions with patients that felt dehumanizing and distant:

> I don't like going in and seeing them with their face covered up. You know how you look at people's face, eye to eye and face to face? When I can't see your lips moving when you talk to me, it's like they're less a human. (#1)

PPE was not the only isolating factor; others described how upsetting it was to see patients connected to supportive equipment and ventilators, and to view them through glass dividers in isolation. While some had previous exposure working in settings like the Intensive Care Unit, others were less familiar with sights like these and struggled to process emotions. Some interviewees described how despite working through HIV and H1N1, the COVID-19 response was even more devastating and taxing due to its high contagiousness, unpredictability, and emotional toll on those around them.

Theme 3. Resource and Staffing Barriers to Safe and Effective Work

Like many frontline responders working during the initial surge of COVID-19, EVS navigated a shortage of not only PPE but also staffing coverage across COVID-19 units. These shortages fed the burnout and turnover of even more EVS as the pandemic wore on. By the time these interviews took place in winter of 2020–2021, interviewees were able to reflect back on how stock of PPE had changed over time:

> I was really upset with that part of it earlier in the year, when they told me that we have to wear a mask for two days. It got much better; we have a free supply now of masks. (#8)

Some described their concerns about initially having to reuse PPE for fear of contaminating the floor they worked on or being unable to fully disinfect their equipment between shifts. Those concerns were exacerbated by difficulties staffing COVID-19 units and the added burden to EVS who volunteered to service COVID-19 rooms, in place of their colleagues who declined. One supervisor described the strain from turnover:

> We did lose some housekeepers that had been here the longest—older people who, out of concern, decided, "This is no longer for me." The percentage of applicants who wanted to work here did go down drastically. And for some time, we did struggle with housekeepers who didn't wanna come into work, or they quit and we were having to scramble into, "Well, who's gonna do what?" (#2)

Interviewees described feeling burnout from repeated high stress shifts with several patients passing away, limited resources, and high demands placed on all interdisciplinary colleagues.

Theme 4. Lack of Recognition as Frontline Workers

For EVS in this study, feeling a lack of recognition as frontline workers often manifested in two ways: feeling forgotten in mainstream media, and in their day-to-day interactions with interdisciplinary colleagues. One participant described:

> They would say in commercials to the frontline workers, "Thank you nurses, thank you doctors," but I think it was a whole team effort. (#7)

Even more often, participants described feeling forgotten in their own work environment, where hospital hierarchies shaped interactions EVS had with colleagues. One described how "it even feels like they can't see us." Another confirmed this feeling:

> You just got those who want to brush you aside because there is EVS staff. Nobody seems to really recognize the importance of EVS staff. And that is really bad in this pandemic. We need more social intervention; we need to really get everybody to come together as a team. (#8)

Importantly, this lack of recognition was sometimes tempered by mutual acknowledgment and collaboration between EVS and medical staff. Simple greetings, saying thank you, and even invitations to share free food in the breakroom were particularly meaningful gestures from doctors and nurses. During the COVID-19 response,

collaboration with interdisciplinary staff did not go unnoticed, as one described:

> During this virus outbreak, I can see everybody cleaning more, the nurses pulling trash, nurse's assistants pulling trash and cleaning rooms, everybody. We're doing the hard part, but they've been helping too. It made me feel good—that we are a big family right now. (#9)

EVS also reciprocated this support and described holding empathy for nurses who witnessed a family say goodbye to their loved one on an iPad, or doctors who were running low on energy, as one described while noting that they often kept small morale boosts like candy or jokes on hand to support interdisciplinary teammates.

Beyond these two primary examples of EVS feeling forgotten as frontline workers, several also expressed that they wished to be supported through provision of benefits including health insurance and paid sick time. One individual described, "It's my wish I can work for the hospital. Just to get the benefits—when you work for an affiliate, it's different from working direct for the hospital, with paid time off."

DISCUSSION

This study highlights the experiences of EVS during the COVID-19 pandemic at one hospital and describes how they navigated emotional challenges of their work, resource and staffing strain, and ongoing needs for training and education. This study also emphasizes how despite feeling unrecognized and underappreciated in their work during the pandemic, EVS found meaning in collaboration with interdisciplinary colleagues and identified structural supports that have potential to mitigate job strain, such as opportunities for increased communication and relationship building with interdisciplinary colleagues, intentional acknowledgment and appreciation, and support for those who speak languages other than English. Figure 1 offers additional strategies that connect key themes from EVS experiences in this study to the Job Demands-Resources Model. Targeted strategies that can simultaneously "fill up the resources buckets" (e.g., through providing native language education) and alleviate job demands (e.g., through emotional support) can work to combat burnout and turnover at the systems level.

Importantly, this study is situated within a broader context of low-wage healthcare work in the United States where EVS are frequently contracted with affiliate companies (outsourced by hospitals for cost savings) rather than employed directly by hospitals.[4] Some EVS in this study described how this limits their opportunities to access benefits like paid time off and retirement plans. In comparison, other countries like the United Kingdom have seen some success in undoing the outsourcing of hospital cleaners and addressing policies such as insufficient sick pay.[26] Thus, it is important to consider systematized, uniform policies and standardized operating procedures that can ensure lower-wage healthcare workers have access to benefits and resources similar to benefits other healthcare workers receive.[27] As one participant pointed out, to address workforce turnover and lessen demands on EVS, a potential solution could be to offer paid time off and health insurance, which would decrease the need for constant new hiring and training. This is especially pertinent given the staffing constraints experienced by many healthcare facilities.

Beyond structural and policy-level considerations, it is crucial to also acknowledge the everyday actions that colleagues can take to combat drivers of burnout and grow recognition for EVS. Previous research has shown that EVS can be hesitant to speak up to physician colleagues, even when rightfully activating their knowledge of

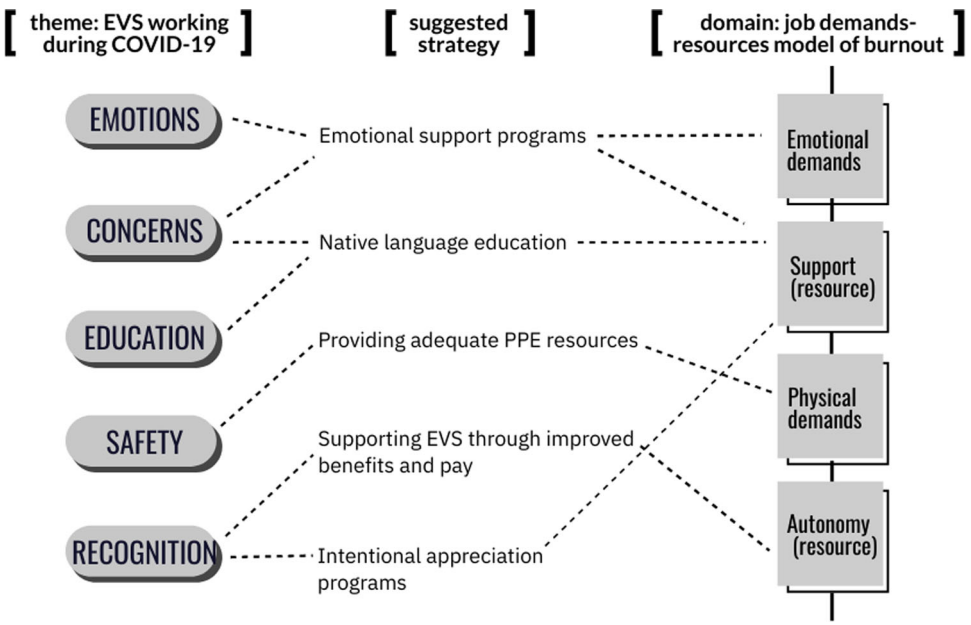

FIGURE 1 Key themes and suggested strategies related to the Job Demands-Resources Model

disease prevention to correct behavior like hand hygiene, and may shy away from asking for support such as more time cleaning rooms.[28] However, in one study, interprofessional healthcare educators and healthcare learners who viewed a documentary of stories and experiences from EVS reported greater intentions to increase their connection to and inclusion of EVS as part of care teams.[29] This underscores the importance of small, proactive gestures that colleagues can practice to increase trust across disciplines. To break down social hierarchies and dismantle stereotypes, interpersonal strategies to increase social and emotional resources can focus on fostering inclusiveness and recognition for EVS through intentional appreciation programs or even more commonplace interactions as participants in this study described (e.g., saying hello, inviting EVS for lunch in the breakroom, etc.).

Limitations

This study has several limitations. The relatively low participation rate is likely reflective of the timing and circumstances of this study, which involved some of the highest rates of COVID-19 infection statewide and nationwide, prior to the availability of vaccinations. This study utilized a convenience sample at one health system and findings may not be generalizable. A strength of this study is that despite a limited sample size, the gender and racial characteristics of the sample are representative of the broader lower-wage healthcare workforce in the United States.[7]

CONCLUSION

The experiences of EVS, essential but underrecognized workers, can help shed light on actionable insight for policy and procedural changes directly informed by their work during the COVID-19 response. As the surge of COVID-19 cases continues to overwhelm hospitals, healthcare systems and interdisciplinary colleagues should recognize resource, emotional, and staffing strain for EVS. Strategies can focus on fostering inclusiveness and recognition for EVS through emotional support, native language education, providing adequate PPE resources, and supporting EVS through improved benefits and pay.

TABLE 2 Key themes and illustrative quotations

Theme	Subtheme	Quotation
Theme 1. Needs for Training and Education Resources	Translation	What I would do differently is making sure—we currently have so many people from so many countries—that everyone gets the right training in their own language. Because lots of times, if our Spanish speakers come to me and say, "I didn't get it. I didn't understand," then that person's not ready to go out there and do their job. I need to make sure that they know what they're doing. So making sure that everything is translated in their own language. #2
		Most EVS are not properly educated in the precaution sign [on patient room doors]. You have to know the different colors that identify the different type of precaution. Some people ask—"is that COVID?" Sometimes you have to go to the nurse and ask the nurse… some of them are so shy, so scared because [they are] Africans, and Spanish [speaking] people. So most of them just shied away to go to the charge nurse to ask a question… because they're not feeling appreciated. They need to educate their nursing staff to really help to deal with the housekeepers, to give them more information. #8
	Refreshers on protocols	I think [EVS need] a type of refresher. When we first start housekeepers here, they get tested for situations like these. But I think a refresher on the testing, or a refresher on just making sure everybody's doing the proper things is what they really needed. #2
		A lot more education. Because since COVID, only one time I saw a lady come by and was talking about protecting yourself. But you need more people that can come to the huddle in the morning and really give some education. If they were seeing somebody from the nursing staff come down every other week or every Monday for instance—after the weekend you would come in and give them some more education on what is going on… give them some more encouragement, come and talk about the PPE, let them be aware more and understand more about COVID. #8

(Continued)

TABLE 2 (Continued)

Theme	Subtheme	Quotation
Theme 2. Emotional Challenges and Demands of Patient Care	Valuing interactions with patients	I'm not a doctor. I'm not a nurse. I can't tell you everything is going to be alright but I can try my best… just a few kind words might brighten your day. #11
		It's a scary thing… I had one patient, and he just knew he wasn't gonna make it, y'know? And I was like, "You never know what God got in store for us. I don't know what your faith is," I said, "but keep it up." And he was like he just lost all of it. I'm like, "Just hold on, you'll be all right." And then he didn't make it. So that made me feel sad, too. #1
	Barriers with COVID-19 patients	The hardest thing is when you see a person who is in a very serious condition, who is connected to all the machines, and all this equipment… it is hard seeing patients very sick. #5
		You see them in the glass in the room… it's a tough feeling… there are always tubes, and they cannot talk, they cannot move. #14
	Comparisons to working during past outbreaks	Emotionally, COVID has hit me more than the exposure to HIV, because with COVID, you can be right there near 'em, and there you are, exposed to it, y'know? So emotionally I'm here, but I'm not. #1
		We've been through the bird flu, H1N1… but none of us have been through what we're going through now because this is more devastating. This outbreak… I notice that people are a little more tired because this takes a lot out of you. This stuff spreads like a wildfire. I just think mentally and physically a lot of us are just tired but we're essential and we're needed at the hospital so we just keep chugging along. #10
Theme 3. Resource and Staffing Barriers to Safe and Effective Work	PPE	The demand became higher than the supply [with] the equipment. We had to reuse it for some time. Initially I was scared. Why should we reuse those gowns? That was my scare, that when we reuse it, maybe we can get the floor contaminated. #6
		Sometimes we've run out of N95s… and that was concerning, because we would have to use it again the next day. They said that they would get the UV rays [to clean it]—it was in the back of your mind like, "Is that really gonna clean it? Does it really disinfect?" #7
	Staffing and coverage	Just trying to get people into the [patient] room is hard. I sent someone home because they were refusing to go into the room [to service it]. I think that we need more housekeepers. That's the only thing that would help me right now. More staff. #9
	Turnover	EVS be hiring people, you just come for a few weeks or a month, and they are gone. There is no department in the hospital that hire people at that rate. Lots of turnover… to train each person it costs over $1,000. There is no proper way of keeping the people. You need a system that can really motivate the people to stay. #8
	Burnout	One day was so depressing. There was like four dead bodies on the floor already and the whole floor was a mess… everybody was just so frustrated and sad. Once it gets too over your head, it's hard to keep everybody on their feet like "C'mon, we got it… just keep going." It's hard to keep it positive but I try. #4
Theme 4. Lack of Recognition as Frontline Workers	In mainstream media	There was a lot of times that I felt like EVS was left out. They never really mentioned EVS. At times I felt like you don't appreciate housekeepers, or they look at housekeepers like less. But we were very close contact with COVID patients, and they needed to be more appreciated. #7
	In daily interactions with other medical staff	The doctors and nurses…some of their attitude has gotten better. They don't look down on other people—[they say] "thank you very much, we appreciate you being here"… and some of them have gotten

(Continued)

TABLE 2 (Continued)

Theme	Subtheme	Quotation
		worse like they're better than you are, like "I'm saving lives and you're mopping floors." I had one doctor ask me, "how did you end up in here in the COVID unit…" like I had pulled the shorter of two straws… and I told him actually I volunteered to come in here because I wanted to do my part as he wants to do his part… just because I'm mopping floors, it's just as important as any other position. #11
	Impact of hospital hierarchy, silos	The doctors are their group, the dietaries are their group and one of the things that has bothered me for years… housekeeping, we're like the low man on the totem pole. We don't get the respect… housekeeping is always the low man… they may say to your face, oh you're doing a great job, but behind your back you hear them telling the next person 'housekeeping is just lazy.' It just brings you down. And then no matter what you say, no matter what you do, you can't be a cohesive unit, you know? It's a question I ask myself all the time. What can I do to help them understand more of what I do as a person, as a housekeeper? #10
	Meaningful acknowledgment from colleagues	It feels good when one of the nurses say "hey, lunch is here. If you want something you can have something out of the breakroom…" it makes you feel like you're a part of that team… that makes you feel like they respect you—they're not looking down on you. Just basic thank you, excuse me… to me that carries a lot of weight. #11
	Mutual support from colleagues	The doctors and everybody would say hi, how are you doing? Initially, I thought I'm a housekeeper, so I was resent[ed]. Initially, I thought the doctors were higher, the nurses were higher, and I'm far behind, or I'm not even needed here. But they let me know that we are a team. They say no, without housekeepers, we cannot work. So, we are one. So, they see me as one of them when I come here, all because we respect each other. We are a team, we work together. Each of us, our work is important here. So, I know I'm also important here. #6
		There's a lot of nurses that help out the housekeepers, and they tell them, "Oh, don't go into that room. We'll pull out the trash for you, and we'll do everything." Most of the time they keep them informed of the precautions of going inside the room. And there was times that they provided our housekeepers with the face shields. #7
	Limitations of not working directly for the hospital	We've been brave to go into those rooms and clean them. We are front liners too. We don't feel that appreciated during this situation. We could have benefits… it would make a big difference. Nurses and everyone else in the hospital except EVS—they have the 401K, health insurance. #9

Abbreviations: EVS, Environmental Health Service employees; PPE, personal protective equipment.

ACKNOWLEDGMENTS

The authors would like to acknowledge and thank the editors at JHM for the inspiration that led to this study. We also wish to thank Erva Trotter and EVS leadership for their support of this work, as well as all EVS who participated in this study. This work was supported by Grant 2015212 from the Doris Duke Charitable Foundation and the Division of Hospital Medicine at the University of Colorado School of Medicine.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

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How to cite this article: Jordan SR, Daddato AE, Patel HP, Jones CD. Forgotten frontline workers: Environmental health service employees' perspectives on working during the COVID-19 pandemic. *J Hosp Med*. 2022;17:158-168. doi:10.1002/jhm.12781

APPENDIX A: INTERVIEW GUIDE

Environmental Health Services Perspectives on Working During COVID-19

Interview Guide

Work Experiences During COVID-19

1. What has it been like working in EVS during COVID-19?
   a. How did you feel when you were asked to care for patients with COVID-19?
   b. How has it felt to interact with/care for COVID-19 patients?
   c. What has been the hardest part about working during this time?

Training and Education

1. How were you trained to work with COVID-19 positive patients/rooms? Or what did management do to prepare you at work? (Training, meetings)

a. How sufficient did that feel to you?
b. What was missing in how you were prepared?
c. What would you still desire in the way of training or additional education about COVID-19?
d. What would you do differently next time, if you had to be trained or prepared again for something like this?

Resourcing and Supplies

2. Have you used any new cleaning supplies or equipment during COVID-19?
   a. How were you prepared to use those?
   b. What concerns do you have about using those?
3. How has the supply of PPE been this year?
   a. Has there been anything you needed that you could not get?
   b. Has this changed over the year? Has anything improved? Worsened?
   c. What resources/equipment are still missing for you?

Communication

4. How has the communication from leadership been for you when it comes to COVID-19?
   a. How are you being kept up to date on new information during this time? Is this enough?
   b. What is missing from the communication/what issues with communication have come up during this time?
5. How has communication with EVS coworkers been during this time?
   a. How do you support each other as co-workers during this time?
6. How has communication been with interdisciplinary/other teammates you work with, like doctors, pharmacists, social workers etc.?
   a. Are there set times where you are able to gather and meet with the interdisciplinary/bigger team you work with, like nurses, doctors, pharmacists, social workers, etc.? What are your thoughts about those times?
   b. How much do you feel a part of the larger healthcare team? In what ways?

Patient Care

7. How has COVID-19 affected the care that you see nurses and other providers (physicians, PA's, etc.) providing to patients?
   a. What have you noticed?
   b. How does this differ from how things usually are?
8. What has been an example of a time where something went well working through COVID-19?
9. What about a time something did not go well working during COVID-19?
10. What issues have you run into when servicing rooms/units with COVID-19 patients?
    a. How much/in what ways have you felt supported with those issues?

Pressures/Concerns and Support

11. What pressures have you felt during the COVID-19 response?
12. What are your biggest concerns when performing your work during COVID-19?
    a. How has safety been during this time? How safe have you felt?
    b. How much do you feel supported in those concerns? In what ways?
    c. What would help with that? What would you change?
    d. What concerns do you have outside of work during COVID-19? (Family, social distancing, etc.)
       i. How do you stay safe/think about safety when going home?
13. What has been set up to help support you during this time? How have you felt supported?
    a. What has made the biggest difference in making you feel supported during this time?
    b. What is missing in the way of support? What else in general would help you feel best supported in your work?
14. What changes do you notice in the workforce during the pandemic?
    a. How has staff burnout been during COVID-19?
    b. How has employee turnover been for EVS workers at the hospital this year?

Hospital System Response

15. What would you change about how the hospital system is responding to COVID-19? What do you wish could be different about how the hospital is working through the COVID-19 pandemic?

Closing Questions

16. Do you feel that there are things about your work in EVS that other people do not understand?
17. What gives you meaning in your work? What does it mean to you to have worked through this COVID-19 pandemic?
18. If you could tell the world anything you wanted about working in EVS during COVID-19, what would you want the world to know?
19. Is there anything else you'd like to add? Thank you.

APPENDIX

See Figure A1.

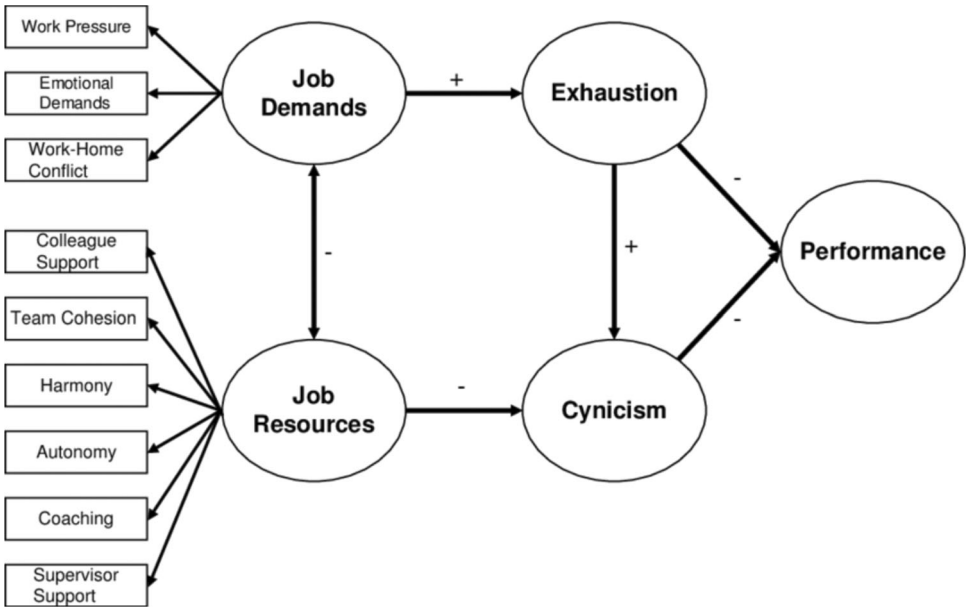

FIGURE A1 The Job Demands-Resources Model. From Bakker et al.[30]