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Protecting the healthcare workforce during COVID-19: a qualitative needs assessment of employee occupational health in the US national Veterans Health Administration

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ABSTRACT

Objective Early in the COVID-19 pandemic, US Veterans Health Administration (VHA) employee occupational health (EOH) providers were tasked with assuming a central role in coordinating employee COVID-19 screening and clearance for duty, representing entirely novel EOH responsibilities. In a rapid qualitative needs assessment, we aimed to identify learnings from the field to support the vastly expanding role of EOH providers in a national healthcare system.

Methods We employed rapid qualitative analysis of key informant interviews in a maximal variation sample on the parameters of job type, rural versus urban and provider gender. We interviewed 21 VHA EOH providers between July and December 2020. This sample represents 15 facilities from diverse regions of the USA (large, medium and small facilities in the Mid-Atlantic; medium sites in the South; large facilities in the West and Pacific Northwest).

Results Five interdependent needs included: (1) infrastructure to support employee population management, including tools that facilitate infection control measures such as contact tracing (eg, employee-facing electronic health records and coordinated databases); (2) mechanisms for information sharing across settings (eg, VHA listserv), especially for changing policy and protocols; (3) sufficiently resourced staffing using detailing to align EOH needs with human resource capital; (4) connected and resourced local and national leaders; and (5) strategies to support healthcare worker mental health.

Our identified facilitators for EOH assuming new challenging and dynamically changing roles during COVID-19 included: (A) training or access to expertise; (B) existing mechanisms for information sharing; (C) flexible and responsive staffing; and (D) leveraging other institutional expertise not previously affiliated with EOH (eg, chaplains to support bereavement).

Conclusions Our needs assessment highlights local and system level barriers and facilitators of EOH assuming expanded roles during COVID-19. Integrating changes both within and across systems and with alignment of human capital will enable EOH preparedness for future challenges.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This is one of the first studies to evaluate the expanding role of employee occupational health (EOH) in response to the COVID-19 pandemic.
⇒ The results of this study will help scale the dynamically changing job demands of EOH, improving preparedness in advance of future pandemics.
⇒ Our analysis reveals needs of frontline EOH employees to keep healthcare workers (HCWs) safe from COVID-19 as an occupational hazard. Ensuring the safety of HCWs will help ensure the safety of the community at large.
⇒ These lessons are generalisable both beyond the Veterans Health Administration and beyond COVID-19.
⇒ Due to the condensed timeline, we used rapid analytic techniques, which should surface similar themes to in-depth coding but may not reveal deeper theoretical constructs.

INTRODUCTION

In the USA, healthcare workers (HCWs) were heavily burdened by COVID-19 due to increased frontline demands and increased exposure to the COVID-19, at times representing up to 20% of cases reported statewide.[1 2] Beyond serious illness, HCWs were overworked during pandemic surges with worst case impacts extending even to suicide.[3 4] While every aspect of healthcare delivery was impacted by the COVID-19 pandemic, supporting and protecting HCWs from COVID-19 as an occupational hazard must be of paramount ongoing importance, particularly as COVID-19 evolves, and we manage other future pandemics.

Given the heightened vulnerability of HCWs during the pandemic, employee occupational health (EOH) providers were crucial

in ensuring the safety of HCWs and thus the continuous delivery of healthcare. As of 2021, the US Veterans Health Administration (VHA) EOH assumes responsibility for the 'safety and health' of over a half million HCWs, trainees and volunteers.[5] Representing a national healthcare system, the VHA serves over 9 million veterans, with 10000 in VHA community living center (CLC) nursing homes vulnerable to COVID-19.[5 6] Furthermore, VHA comprises 1255 healthcare facilities and employs at least 322030 full-time HCWs,[5] the majority of whom fall in the US Occupational Safety and Health Administration (OSHA) very high risk category for SARS-CoV-2 transmission.[7] VHA additionally interfaces with more than 73000 active volunteers, 15000 academic faculty and 127000 medical trainees.[5]

While VHA EOH has always been responsible for protecting this breadth of employees from workplace hazards, the COVID-19 pandemic required EOH to assume novel roles in managing the spread of infectious disease and to adapt as COVID-19 guidelines rapidly changed. On 15 March 2020, the US Deputy Under Secretary for Health for Operations and Management circulated guidance allowing asymptomatic HCWs exposed to COVID-19 to continue to work after consulting EOH and requiring HCWs to report to EOH if symptoms appeared at work, tasking EOH with a central role in COVID-19 management.[8] After that announcement, VHA EOH policies surrounding COVID-19 continuously evolved; online media and VHA forums suggest frontline clinicians struggled to keep up with emerging COVID-19 recommendations.[9] Other challenges stemmed from national personal protective equipment (PPE) shortages, which resulted in social media cries from HCWs to '#GetMePPE'.[9] Similarly, VHA EOH was not consistently equipped with appropriate PPE at nationwide facilities,[10] creating even more difficulties for EOH to fulfil new roles.

Our study leverages the perspectives of EOH to assess the barriers to and facilitators of EOH role expansion on the frontlines of supporting HCWs. In seeking to understand how best to support their expanding role, recent EOH publications on COVID-19 have relied on expert opinion[11] and literature review,[12] as well as a growing number of qualitative reports.[13 14] Major themes from the literature include potential negative impacts of employee anxiety about COVID-19[15] and downstream impacts of telework such as social isolation or physical/ergonomic issues.[12] EOH healthcare literature reinforces these more general predictions of anxiety (especially related to burn-out) and has additionally highlighted risk factors surrounding overwork (eg, documenting requirements for electronic health records - EHR) and the potential protective impact of positive leadership.[16]

We undertook a rapid needs assessment for EOH as it assumed new and dynamically changing roles during COVID-19. Understanding needs and facilitating role readiness continues to be particularly critical as understanding about COVID-19 changes, guidance evolves and EOH prepares for future healthcare disasters.

Table 1 Respondent and site characteristics

Providers (n=21)	
Type	
MD/DO	10
NP/PA	8
RN	3
Gender	
Women	14
Men	7
Site (n=15)	
Location	
Northeast	5
Mid-Atlantic	3
Midwest	2
South	1
Southwest	1
West	3
Size	
Small	6
Mid	3
Large	6
Rural/urban	
Rural	4
Urban	11

METHODS

Approach: We conducted 21 key informant qualitative interviews with EOH providers using a purposive sampling approach[17] seeking variation on the parameters of provider type (lead providers: MD/DO, mid-level providers: NP/PA, RNs), setting (size, rural/urban and geographic region) and provider gender to represent a wide experience of EOH from this national health system (see table 1).

Our qualitative research team (CB, MM and KG) developed the interview guide with input from two EOH subject matter experts (WT: physician, SG: nurse practitioner). The research advisory team (SS, KL and EY) reviewed interview questions and procedures. The interview protocol addressed factors that could support or undermine readiness of EOH providers for COVID-19 expanded roles, notably documentation, reporting, staffing, etc (see online supplemental appendix A for interview protocol). In our purposive sample, we used a snowball approach[17] starting with subject matter experts and then recruited with attention to sample variation in order to capitalise on diverse perspectives.

We sent potential participants an email including a study information sheet inviting them to interview, followed up by email twice and scheduled interviews with email respondents. During the phone interviews conducted by PhD trained qualitative research scientist (CB), investigators (CB and MM) obtained consent for audio recording. We

captured notes during interviews for rapid analysis and created verbatim transcripts from audio recordings.

Analysis: We used standard qualitative methods, including rapid content analysis[18 19] and member checking.[20] Within the VHA, rapid qualitative approaches have successfully been used to provide real-time insights backed by high-quality research methods.[19] Indeed, a VHA comparison of rapid versus in-depth qualitative methods found the analyses to be consistent.[21]

Step 1: templated case summaries and team debriefing discussion to create initial themes. Per rapid qualitative analysis methods, we created templated case summaries for each interview, which were reviewed by the following team members (CB andKG and discussed during weekly debriefing calls with the research team.[18] Initial themes were derived from these templated case summaries and debriefing calls (conducted with entire coauthor research team).

Step 2: creation and circulation of interim report for feedback (Lightning Report and modified member check). We used a Lightning Report approach—a rapid qualitative actionable product meant for wide distribution[18]—to create a preliminary report based on themes from case summaries and postinterview debriefing calls once we had collected half of the data sample (2 months from first interview: n=10; see online supplemental appendix B for interim report). We circulated this Lightning Report to study advisors, VHA EOH central leadership and participants for feedback, constituting a modified synthesised member check.[20]

Step 3: integration of member check feedback and additional interviews for thematic saturation. Informed by EOH leader feedback and step 1's templated case summaries and team debriefing for the additional subsequent interviews (n=11), CB and KG formalised a provisional final theme list. This theme list was reviewed with research advisors and subject matter experts and iteratively modified to five themes representing needs with theme definitions and examples. Mental health needs emerged as a new theme in step 3, originating from templated case studies of the additional interviews.

Step 4: verification/query of themes with final transcripts. CD transcribed interviews and identified exemplary quotes from transcripts to represent the major themes. CB also reviewed transcriptions to confirm/disconfirm emergent themes.

RESULTS

We invited 95 potential participants and conducted 21 interviews with EOH providers (response rate 22%). Interviews with MD/DO (n=10), NP/PA (n=8) and RN (n=3) participants were 30–60 min between July and December 2020. This sample represented 15 diverse VHA facilities from varied regions of the country, specifically large (>4000 employees), medium (2000<4000 employees) and small (<2000 employees) facilities in the Mid-Atlantic and Northeast, medium and large sites in South and Southwest and large facilities in the West and Pacific Northwest (see table 1 for sample demographics).

We report needs in five themes (see table 2 for exemplary quotes of each theme) organised around facilitators and barriers. Needs occurred within both systems and people. Systems needs included: (1) infrastructure to support population management locally and nationally and (2) mechanisms for information-sharing across the national system. People/human resources needs included: (3) sufficiently resourced staffing through detailing at the local level and (4) connected and resourced local and national leaders. A final theme around (5) mental health needs crossed both systems and people domains.

Theme 1: infrastructure to support employee population management

Across sites, respondents mentioned system needs locally and nationally (ie, at both the micro and macro levels) around population/infection management and tracking. Population health management needs revolved around tools and mechanisms that could prioritise employee privacy while facilitating infection control, for instance the need for employee-facing EHR or coordinated spreadsheet databases to support contact tracing. Infrastructure facilitators were tools (eg, EHR) and previous experience; barriers were lack of tools and lack of communication/coordination.

Facilitators

Facilitators for population management included creation of tools and previous EOH provider experience with database management (eg, influenza vaccination) and infectious disease outbreaks. At a local (micro) level, independent VHA facilities created Excel spreadsheets to track employee testing; these in-house solutions were important for reporting the volume of employees served. In October 2020, VHA instituted an employee EHR at the national (macro) level, but some EOH providers perceived it as 'too little, too late… lack of cohesive connective EHR keeps people from optimal clinical care' (MD). In contrast, facilitators included previous experience with infectious disease outbreaks, training in public health management and incident command system training. One site reporting successful tracking and management shared that the 'first thing I did was make a centralised database… [but this was] a personal clinical decision' (RN).

Barriers

Barriers for population management included local lack of EHR for EOH as well as previous national cutbacks to EOH tracking. Lack of communication at some sites was also a barrier.

A major barrier for supporting population management was the lack of electronic health record (EHR) tools. However, EOH providers suggested employee population management infrastructure needs that encompassed much more than EHR. These needs also

Table 2 Needs statement themes with exemplary quotes

Theme	Need statement	Exemplary quotes	Intervention examples (intervention point -system/people; level - macro/micro)
Theme 1: infrastructure to support employee population management	EOH providers reported 'drowning' without a complete electronic health record for employees: 'We need an electronic medical chart! Without this electronic health record (EHR), contact tracing was perceived to be highly challenging: 'any other corporation would have this – who works where and for whom'.	'There's many, many things that an electronic medical record, specifically designed for employee health, would do for us… that [could replace] a lot of the surveillance programs that we have to run. [The existing patient medical record] is of no use with respect to tracking flu vaccinations in employees, and so we have to set up separate databases for that. And databases are always a little messy. You know, accidents happen with databases, and data gets lost.' (MD)	▲ EHR for employee health (system intervention; macro level)
Theme 2: mechanisms for information sharing across settings	EOH providers found themselves constantly 'reinventing the wheel' and needed a 'more centralized clearing house for protocols and systems to 'lean' on.	'And of all things, the listserv has been a big advantage. [EOH providers] can ask a question and anybody can answer those questions. Whenever [EOH providers] ask a question, [we can] give the instruction that says what we're doing so that it's very clear this is what this instruction says we should be doing. And then [ideally] we'd standardise it across the way and through the entire VHA'. (MD) 'So I use our EOC. Our Emergency Operations Command was brought forth from the incident command system, and that has been the biggest help as far as knowing policy changes because as a nurse, I don't often get the memoranda whenever they're sent, and I don't get all of the nursing updates from a national level that are sent. And so I lean heavily on EOC and infection prevention. We're really close with our infection prevention team because we work so hard with them over COVID that they give us the updates that I don't always get, and they help us formulate a plan'. (clinician)	▲ Listserv moderated by experts (system intervention; macro level)
Theme 3: sufficiently resourced staffing through detailing	EOH providers felt challenged by the expectation that EOH 'maintain EOH duties [while] still having everything else to do'. Some providers believed: 'We still need more people but it's not a priority [to the organization]'.	'EOH staff has been putting in a lot of overtime because we don't have sufficient staff to take on all the tasks and keep people at their 40 hour weeks. We are tapping into the labor pool, but that unfortunately turns out to be transient, and while they may be very competent, we train them and then they have to go back'. (MD) 'The problem with the facility occ health…is when a facility does staffing, who do they need staffing for? Veteran Care. Occ health is an ancillary. It's [adequately staffed] when we have staff left over … It's not a priority, you know?' (MD)	▲ Cross-trained staff (people intervention; macro or micro level)
Theme 4: connected, resourced and supportive local and national leaders	'The leadership we need is [an] experienced MD. [We need] an MD in [national VHA] leadership who is experienced with occupational health, with mass testing, with policy, with infectious disease. And that leadership should be several people deep. Because one person cannot handle 400000 employees and all the policies that are around that'.	'I was the only person [in the EOH clinic] and I was trying to have a conversation with [local site leadership] and there were patients coming in to see me, so the leadership team got a first-hand look and said "hey, she needs some help in here" … And immediately they put together a plan to try to get me some support to help handle and manage the calls and manage and navigate through COVID-19'. (clinician) 'If you look at occ health, being at the VHA, it is pretty much fractured into the local levels. If you go from one VHA to another VHA facility, the programs will be different. There is no central leadership guidance that maintains that control or that maintains enough standards. And especially [not enough] to say, "are you following what we decided we're going to do?"' (MD) 'COVID doesn't live in a vacuum. It lives in the setting of our already busy full-time jobs. So, leadership needs more people and more experience and they should be highly trained. And we don't have that'. (MD)	▲ Additional staffing or full-time equivalent (FTE) for national leadership positions (people intervention; macro level)

Continued

include: additional clinical space that could adequately address or limit cross-contamination for persons under investigation; support opportunities for innovation such as the use of QR code readers for testing and COVID-19 vaccination; and integrated backend infrastructure with worker compensation programs. Participants also cited lack of resources and recent cut-backs in EOH as major barriers to better population management. For instance, the EHR instituted in October was a new version of an EHR system that had existed some years earlier as version '1.0' but had been dropped during a budget cut.

Finally, lack of communication/consultation was also a barrier at some sites for population management. Locally, EOH requested being consulted when sites set up new systems to manage COVID-19. In one worst-case scenario, no one consulted EOH in the set-up of summer outside COVID-19 testing. As a result, 'no one did risk assessment for heat stroke [in a parking lot] and there were no measures for shade… [They were] testing patients in plastic lawn chairs – unsafe for employees' (clinician).

Theme 2: mechanisms for information sharing across settings

Providers reflected a strong need for information sharing within and across VHA facilities. Facilitators to information flow included access to external information sources and experts, as well as an existing all-VHA-EOH listserv. Barriers to information sharing included the unmoderated status of the listserv and the high volume of new information.

Facilitators

Facilitators for information included external information sources, such as the US Centers for Disease Control and Prevention (CDC) website, and even more broadly the internet, which supported information flow: '… how I learned more and [tracked] the movement of the pandemic… [I] went to bed reading the CDC' (NP). Outside of state-sponsored information channels, strong connections with academic medicine facilitated information sharing. Providers reported benefitting from 'daily huddles with [academic infectious disease providers] when [the] knowledge base [was] exploding' (MD). A minority of providers reported closely reading and reviewing the VHA's Guidebook for Employee Health, which is 600 pages, but there was evidence that this resource was underused: 'questions on [the listserv] show that people don't use the Guidebook' (MD).

A listserv accessible to all VHA EOH was a major facilitator for information sharing. Many saw this peer-led listserv to be 'a big advantage' (RN). Providers reported the listserv, if adequately moderated by allocated experts, could support information sharing: 'ask a question [on the listserv], [experts] give the instruction… This is what we should be doing' (MD). Even in its unmoderated state in 2020, without the listserv some reported, 'we would all probably quit… [the listserv is] critical' (NP).

Table 2 Continued

Theme	Need statement	Exemplary quotes	Intervention examples (intervention point –system/people; level - macro/micro)
Theme 5: strategies to address HCW and EOH provider mental health concerns	'Mental health support is still a gap' for both frontline HCWs and EOH providers themselves.	'The first week in July, we had [more than 90] employees with confirmed positive. Those are confirmed positive. We had over 150 at one time I think, employees that were out with symptoms consistent with COVID or high-risk exposures at home or something. So that, that's a pretty big increase. I honestly, I got burnt out. The nurse practitioners and I got burnt out. I got pretty close to resigning because it wasn't working very well. But we did talk to people. People started understanding, particularly as the numbers went up. And we got some detailed help. So we brought in some nursing staff, administrative staff, PSAs, and some of the comp and pen docs [compensation and pension doctors] came over.' (clinician) 'Definitely the anxiety is the barrier, if people freak out… They're like "well, the face shield doesn't cover the whole face." Well, okay… You covered your mucus membranes, right? So, like what's the problem? There's no problem. But then I'm kind of telling you [the interviewer] that; I don't tell them [HCWs] that because, again, like I said, it's a little bit like this thing where we [EOH providers] have so much exposure that we kind of get a little bit desensitised, you know, but other people might not [be desensitised]'. (MD)	▲ External employee assistance programs (EAPs), so that HCWs do not have to access mental healthcare from in-house colleagues (system and people intervention; possible micro and macro levels)

quotes edited for clarity
EAP, employee assistance program; EHR, Electronic Health Record; EOC, Emergency Operations Command; EOH, employee occupational health; FTE, full-time equivalent; HCWs, healthcare workers.

Barriers

Barriers to information-sharing revolved around the extremely high volume of new information about COVID-19 and limitations of an unmoderated listserv. Due to the inexperience of temporary or untrained staff, the listserv could be perceived by more senior providers as 'extremely frustrating… every two weeks someone is asking that [same] question [due to] revolving door [staffing]' (MD). Indeed, some providers reflected a broader sense of discohesive information-sharing due to the listserv: 'Questions running rampant on the forum… there's no control' (NP).

Theme 3: sufficiently resourced staffing through detailing and cross-training

Not surprisingly, EOH providers reported that people, time and skills were needed to adequately resource EOH (eg, sufficient EOH employee full-time equivalent, or FTE, per HCW population) in the local site microenvironment. Alignment of human resource capital with EOH workforce needs was reported to facilitate new role requirements and protect the EOH workforce; lack of trained and consistent staff locally was a major barrier.

Facilitators

Additional staffing facilitators included creating standard EOH staffing ratios per employee (FTE), coverage/cross-training for flexible scale-up and scale-down and alignment with services who could cover or be detailed to EOH when needed. Furthermore, even with adequate people on hand, 'the biggest thing we wanted… is cross-train[ing]' in areas vital to population health: call center management, testing, follow-up, and positive case management (RN).

Barriers

For many EOH providers, a principle barrier to fulfilling EOH's new responsibilities was lack of staffing. Providers reported inconsistent staffing during the COVID-19 crisis: 'they would give us staff for only certain days and certain times'. Additionally, staffing needs doubled or tripled during surges, but numerous sites reported that training was lacking: these 'temporary folks who were detailed [were] slowly being pulled back into their own units' (NP), representing a major risk as the US met the 2020-21 winter COVID-19 surge. EOH providers wanted to be part of the conversation about staffing needs as they felt their site VHA executives might not always comprehend the scope of their expanded role or demands on their time.

EOH providers were also put in the position of managing employees' fear of COVID-19. Additional staffing was one strategy used to manage this employee anxiety. Multiple providers reported staff coming in early, staying late and working weekends to return calls: 'I put myself in their position. How would I feel [with no information]… My job is to protect them' (NP). Another provider ratified

spending extra hours at work to return calls, 'People get so scared' (NP).

Theme 4: connected and resourced local and national EOH leaders

Providers emphasised the importance of having coherent guidance from national EOH leaders and interdisciplinary facility level executives. Successes at the local level were perceived as facilitated by interdisciplinary connections and inclusion in 'incident command'. Lack of resources in national leadership was seen as a barrier.

Facilitators

Local leaders (at the micro level) who were well networked were able to connect with crisis response 'incident command' structures, facilitating better EOH support for HCWs. These incident command structures generally included site leaders and daily meetings/huddles within EOH. COVID-19 teams such as this were appropriately reported as focusing on the 'veterans' perspective' (NP). EOH providers were perceived to be the 'only' role at this level of local leaders representing employee interests, needs and concerns. Providers perceived specific staff at national VHA EOH leadership to be 'excellent… extremely dedicated', but the positions were understaffed compared with the amount of work to be done: 'There is just one of them [1.0 FTE]' (MD). One recommended approach to effective centralised leadership included having two to three full-time experts who could 'travel to places that need experts… like consultants' (MD).

Barriers

By contrast, the perception of a barrier with respect to lack of adequate resources for leaders at the national level may have contributed to the sense that 'there isn't a coherent union of all [the VHA centers across the country]' (MD). VHA macro-level EOH leadership was perceived to need 'more staffing, more presence, structure that helps with outreach to all VAs… Boots on the ground' (MD). EOH providers wanted national level leaders to direct with authority during COVID-19, 'What you'd like is occupational health [central office leaders] coming out with rules to say "This is what we need to do"' (MD).

Theme 5: strategies to address HCW mental health concerns

EOH providers, due to their role as a central point of contact with employees with a health-related workplace concern, found themselves in need of strategies to support HCW mental health during COVID-19. Both overwork and experiencing trauma (eg, excessive patient deaths or the death of a coworker) came up as examples which negatively impacted employee mental health. Outside of COVID-19 contagion, EOH providers recognised the impact on HCW mental health as the major impact of the pandemic on employee health: 'Anxiety is the barrier… Questions aren't just about work – "What about my toddlers and daycare and my 90-year-old grandmother?"' (MD). Incorporating external help (eg, employee

assistance programs or non-EOH provider help including chaplains) was seen as a facilitator to supporting HCW mental health. Barriers to accessing mental health support related to the volume of HCW need and lack of local support for EOH. Additionally, EOH providers at multiple sites described themselves as on the brink of burnout due to exceptional and stressful workplace demands.

Facilitators

In one site, where nearly 50% of older patients had died in a surge, HCWs were grieving, distressed and bereaved. Facing the scale of this loss, local EOH leadership incorporated chaplain assistance in addition to referring HCW to employee assistance programs (EAPs). Looking to the future, one provider expressed that their EOH group knew 'to expect a tsunami of depression, anxiety, etc.' based on reading reports coming out of Japan, but this provider still did not have specific approaches to address this need locally (NP).

Some sites noted referring employees to EAPs for issues like 'tensions at home' but perceived that 'mental health support is still a [gap]' (MD). EOH attempted a wide range of strategies to support mental health for their employees, from referring HCWs to overwhelmed EAPs to system solutions such as facilitating easy access to VHA-issued laptops for employees to be able to work from home while on quarantine.

Barriers

EOH provider burnout and distress was a mental health-related barrier for better EOH care of HCWs. EOH providers consistently reported that they themselves were overwhelmed, and some reported nearing burnout. Multiple providers reported considering quitting—'I got pretty close to resigning' (MD)—due to the volume of work and positive cases. Furthermore, brittle VHA protocols not related to COVID-19 could plague EOH providers and contribute to burnout and distress. For example, in one instance, an EOH provider was repeatedly asked to justify overtime hours, even as their office was reduced to a single staff member managing >3000 employees.

DISCUSSION

Understanding how best to rapidly expand roles and scale the dynamically changing job demands of EOH during an infectious outbreak is needed in advance of future pandemics, and disaster preparedness is particularly important for this setting, the US VHA, which identifies preparedness as its 'Fourth Mission'.[22] We took on this needs assessment when guidance in March 2020 from VHA national leadership forced EOH to the front and center of the organisation's response.[8] We were particularly concerned that in order to minimise staffing shortages, healthcare organisations might choose to encourage potentially contagious but asymptomatic health personnel to work. Having EOH

providers navigate this reality was complex, nuanced and something for which they had not prepared. EOH needed to learn, adapt and create new processes on the fly in a high-stakes setting.

Our identified facilitators of EOH assuming new challenging and dynamically changing roles during COVID-19 included: (A) training or access to expertise (in infectious diseases, public health management and disaster management); (B) existing mechanisms for information sharing (national reports from CDC and a VHA-specific listserv); (C) flexible and responsive staffing; and (D) leveraging other institutional expertise not previously affiliated with EOH (eg, chaplains to support mental health and bereavement).

In this qualitative systematic account of national EOH provider experiences, we found needs at the local and national level centered on systems/structure and people, similar to other international reports that identified preparedness, structures and physical/mental health as primary challenges.[14] Our study found primary barriers to EOH assuming expanded roles were related to funding for systems (eg, EHR implementation) and people, including limited staffing and leadership at both local and national levels.

In particular, the need for mental health and psychosocial support, identified in our fifth theme, has been documented to be a robust challenge for HCW internationally.[13 23–25] Other explorations of EOH needs during COVID-19 also identified EOH issues faced by medical health workers and overlapped with this study in terms of identifying work stressors and 'the need for supportive supervision' as major issues.[26] Support for HCW mental health may be facilitated by organisational support and may underpin the psychological safety needed to nimbly respond to disasters.[27] Rounding out the need for mental health support, recent reviews have identified frontline and non-physician HCWs as having the greatest mental health needs of HCWs during the COVID-19 pandemic.[24]

As COVID-19 persists and other pandemics emerge, the role of employee occupational health providers in national healthcare systems should not be undervalued. Though the role of EOH may be underestimated or unconsidered in healthcare settings, it is critical to the safety of the healthcare workforce. Furthermore, EOH's potential role in minimising COVID-19 spread among HCWs is directly relevant to the safety of employees and their families, vulnerable patients and the community at large.

Promising practices beyond VHA

Despite the fluctuation of recommendations from some national agencies (eg, CDC),[28] our EOH providers reported relying heavily on external agency standards to inform their local response. Ideally, national leadership could provide enough guidance that in times of crisis individual sites are not learning by themselves; intersite communication gave EOH providers a community to

engage in shared learning and to accelerate spread of learnings, processes and policy adaptations. Thinking beyond acute disasters, a high-functioning national EOH community in an integrated healthcare system could even potentially positively address long-standing health and civil wellness issues (eg, racism and racial inequality).

Promising practices beyond COVID-19

These lessons from the COVID-19 pandemic critically inform future EOH preparedness. Past healthcare crises have pointed to the demand for decisive leadership, collaborative networks and employee monitoring systems,[29] echoing the needs of VHA EOH. Although EOH providers felt the VHA piloted the employee EHR too late in response to COVID-19, this EHR system will likely prove useful in the future. In the wake of increasing epidemics and natural disasters, it is crucial that we recognise both the immediate and long-term benefits of equipping EOH with the tools to expand their role in managing HCW safety.

Limitations

To rapidly produce early insights for the field, we leveraged a rapid qualitative analytic approach instead of more in-depth qualitative methods. This approach optimised dissemination of frontline provider insights in preparation for the COVID-19 vaccine roll-out in December 2020. Previous reports have shown that rapid and in-depth qualitative analysis can produce the same results,[21] but we may have missed important theoretical insights as a result of rapid analysis, which we hope to remedy with future in-depth theoretical analyses. We were ultimately able to produce early results in just 2 months, and some recommendations originating from our participants are already being enacted by the VHA. Secondarily, our purposive snowball sample is a good snapshot of the experiences of EOH in the VHA, but ideally we might have talked to EOH providers from each major site, since pandemic progression varied greatly from location to location, even within the USA.

CONCLUSION

In our highly networked world, EOH will consistently be at the forefront of disaster management and will continue to be central in future pandemics. A systematic focus on EOH in healthcare settings will be a strong step towards truly honouring the effort HCWs put forward in the COVID-19 pandemic, keeping them safe in their places of work. As one of our participants highlighted, 'Employees are the key asset, [but] without [EOH] occupational health professionals… we are not able to support and optimize the health of employees'.

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