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Protecting the Healthcare Workforce During COVID-19: A Rapid Qualitative Needs Assessment of Employee Occupational Health in a National Healthcare System

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Abstract

Objective: Early in the pandemic, Veterans Health Administration (VHA) Employee Occupational Health (EOH) providers were tasked with assuming a central role in coordinating employee COVID 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 vs urban, and provider gender. We interviewed n=21 VHA EOH providers between July-December 2020. This sample represents 15 facilities from diverse regions of the United States (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 (e.g., employee-facing electronic health records, coordinated databases); 2) mechanisms for information-sharing across settings (e.g., 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; 5) strategies to support health care worker mental health.
Conclusions: Our needs assessment highlights local and system level barriers and facilitators of EOH assuming expanded roles during COVID. 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 the first study 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 health care 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 generalizable both beyond the Veterans Health Administration and beyond COVID-19.
- Due to the condensed timeline in this rapid analysis, we used transcripts in a more limited way for quote verification and validation/query of initial themes.

Introduction

In the United States, health care workers (HCWs) have been heavily burdened by COVID-19 due to increased frontline demands and increased exposure to the coronavirus, at times representing up to 20% of cases reported statewide.[1,2] Beyond serious illness, HCWs have been overworked during pandemic surges with worst-case impacts extending even to suicide.[3,4] While every aspect of healthcare delivery has been impacted by the COVID-19 pandemic, supporting and protecting HCWs from COVID-19 as an occupational hazard must be of paramount of importance.

Given the heightened vulnerability of HCWs during this pandemic, employee occupational health (EOH) providers have been crucial in ensuring the safety of HCWs and thus the continuous delivery of health care. In the American Veterans Health Administration (VHA), EOH assumes responsibility for the "safety and health" of over half-million HCWs, trainees, and volunteers.[5] Representing a national healthcare system, the VHA serves over 9 million veterans, with 10,000 in Community Living Centers, VA nursing homes vulnerable to COVID-19.[5,6] Furthermore, VHA comprises 1,255 healthcare facilities and employs at least 322,030 full-time HCWs,[5] the majority of whom fall in the OSHA very high risk category for SARS-CoV-2 transmission.[7] VHA additionally interfaces with more than 73,000 active volunteers, 15,000 academic faculty, and 127,000 medical trainees.[5]

While VHA EOH has always been responsible for protecting this breadth of employees from workplace hazards, the COVID-19 pandemic has required EOH to assume novel roles in managing the spread of infectious disease and to adapt as COVID-19 guidelines rapidly change. On March 15, 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 management.[8] Since then, VHA EOH policies surrounding COVID-19 have continuously evolved–online media and VHA forums suggest frontline clinicians have struggled to keep up with emerging COVID recommendations.[9,10] Other challenges stem from national PPE shortages, which resulted in social media cries from HCWs to "#GetMePPE."[11] Similarly, VHA EOH was not consistently equipped with appropriate PPE at nationwide facilities,[12,13] creating even more difficulties for EOH to fulfill 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 the their expanding role, recent EOH publications on COVID have relied on expert opinion,[14,15] literature review,[16] and theory-based modeling[17,18]–major themes include potential negative impacts of employee anxiety about COVID[17] and downstream impacts of telework such as social isolation or physical/ergonomic issues.[14] EOH healthcare literature reinforces these more general predictions of anxiety (especially related to burnout), and has additionally highlighted risk factors surrounding overwork (e.g., documenting requirements for electronic health records) and the potential protective impact of positive leadership.[19] Data-based reports of EOH applied to healthcare have targeted more narrow COVID issues such as provision of employee assistance programs (EAPs) for mental health support[20,21] or COVID screening.[22]

We undertook a rapid needs assessment for assuming new (and dynamically changing) EOH roles during COVID-19. Understanding needs and facilitating role readiness continues to be particularly critical as understanding about COVID changes and guidance evolves.[23]

Methods

Approach: We conducted 21 key informant qualitative interviews with EOH providers using a purposive sampling approach[24] 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 (CBJ, MM, KG) developed the interview guide with input from two EOH subject matter experts (WT - Physician, SG - nurse practitioner). The research advisory team (SS, KL, 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 Appendix A for interview protocol). In our purposive sample we used a snowball approach[24] starting from subject matter experts and attended to sample variation to capitalize 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 researcher CBJ, investigators (CBJ, MM) obtained consent for audio recording. We captured notes during interviews for rapid analysis and created verbatim transcripts from audio recordings.

Analysis: We used the Stanford Lightning Report approach, a rapid qualitative approach intended to create actionable products for wide distribution,[25] to identify primary themes from key informant interviews. Within VHA, rapid qualitative approaches have successfully been used to provide real-time insights backed by high-quality research methods.[26] We created a preliminary Lightning Report based on themes from research notes and post-interview debriefing calls (conducted with entire co-author research team) once we collected half of the intended data sample (2 months from first interview, n=10; see Appendix B for interim report). We circulated this Lightning Report to study advisors, VHA EOH central leadership, and participants for feedback, constituting a modified Synthesized Member Check.[27] Incorporating EOH leader feedback with the additional interviews, CBJ and KG formalized a final theme list. We continued debriefing interviews as a team in weekly meetings, working from initial Lightning Report themes to consolidate findings into five themes representing needs with theme definitions and examples. CD transcribed interviews and identified exemplary quotes from transcripts representing the major 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 minutes 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; 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) organized around systems and people at the local/micro (i.e., within VHA facilities) and national/macro (i.e., across the VHA system) level. Systems needs included: 1) infrastructure to support population management (local/micro and national/macro) and 2) mechanisms for information-sharing across the system (macro). People/human resources needs included: 3) sufficiently resourced staffing through detailing at the local level (micro) and 4) connected and resourced

local and national leaders (micro/macro). 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 at the micro and macro level by participants around population management. Previous EOH provider experience with database management (e.g., flu vaccination) facilitated population management, while lack of electronic health record (EHR) tools was a major barrier. Employee population management needs revolved around tools and mechanisms - for instance employee-facing EHR or coordinated spreadsheet databases - that could prioritize employee privacy while facilitating infection control measures such as contact tracing.

At a 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 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)

EOH providers suggested employee population management infrastructure needs encompassed much more than EHR. These needs also include: additional clinical space that can adequately address limit cross-contamination for persons under investigation (PUI); support opportunities for innovation such as the use of QR code readers for testing and COVID vaccination; and integrated backend infrastructure with workers compensation programs. Locally, EOH requested being consulted when sites set up new systems to manage COVID. In one worst-case scenario, no one consulted EOH in the set-up of summer outside COVID 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."(MD)

Participants 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. 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 centralized database… [but this was] a personal clinical decision."(RN)

Theme 2. Mechanisms for information-sharing across settings
Providers reflected a strong need for information-sharing within and across VHAs. 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.

External information sources, such as the US Centers for Disease Control (CDC) website, and even more broadly the internet, 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 VHAs Guidebook for Employee Health, which is 600

pages, but there was evidence that this resource was underutilized: “questions on [the listserv] show that people don’t use 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)

Barriers to information-sharing revolved around the extremely high volume of new information about COVID 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 (e.g., sufficient FTE per HCW population) in the local site micro-environment. 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.

For many EOH providers, a principle barrier to fulfilling EOH’s new responsibilities was lack of staffing. Additionally, staffing needs doubled or tripled during surges, but numerous sites reported that 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 winter COVID 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. 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)

Suggested strategies for additional staffing 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 bedtalied to EOH when needed. Providers reported inconsistent staffing during the COVID crisis: “they would give us staff for only certain days and certain times.” 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).

Theme 4. Connected and resourced local and national EOH leaders
Providers emphasized 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”. 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)

At a micro level, local leaders 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.

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) Providers perceived specific staff at national VHA EOH leadership to be "excellent…extremely dedicated," but the positions were understaffed compared to the amount of work to be done: "There is just one of them [1.0 FTE]" (MD). One recommended approach to effective centralized leadership included having 2-3 full time experts who could "travel to places that need experts…like consultants."(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. Barriers to accessing such tools 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.

Both overwork and experiencing trauma (e.g., excessive patient deaths or the death of a co-worker) came up as examples negatively impacted employee mental health. In one site, where nearly 50% of older patients had died in a COVID 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 EAPs. Looking to the future, one provider expressed that their EOH group knew "to expect tsunami of depression, anxiety, etc. from COVID" based on reading reports coming out of Japan, but this provider still did not have specific approaches to address this need locally (NP).

Outside of COVID contagion, EOH providers recognized 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) Some 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.

EOH provider burnout and distress was another mental health-related barrier for better EOH care. 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 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. We took on this needs assessment when guidance in March 2020 from VHA national leadership forced EOH to the front and center of the organization's response. Particularly we were concerned that in order to minimize staffing shortages, healthcare organizations may choose to encourage potentially contagious but asymptomatic health personnel to work. Having EOH providers navigate this reality is 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.

In this first systematic account of national EOH provider experiences, we found needs at the micro/local and macro/national level centered on both systems and people. Facilitators of EOH assuming new challenging and dynamically changes roles during COVID 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 (e.g., chaplains to support mental health and bereavement). Primary barriers to EOH assuming expanded roles were related to funding for systems (e.g., EHR implementation) and people including limited staffing and leadership at both local and national levels.

As the COVID pandemic persists, the role of employee occupational health providers in national healthcare systems should not be under-valued. Their role is likely underestimated or unconsidered in many settings though it may be critical to the safety of the healthcare workforce. Further, EOH's potential role in minimizing COVID 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 (e.g., CDC), 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; inter-site communication gave EOH providers a community to engage in shared learning and accelerate spread of learnings, processes, and policy adaptations. Thinking beyond acute disasters, a high-functioning national EOH community in an integrated system could potentially positively address long-standing health and civil wellness issues (e.g., 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,[28] echoing the needs of VHA EOH. Although EOH providers felt VHA piloted the employee EHR too late in response to COVID-19, this EHR system will likely prove useful in the future. As we sit in the wake of increasing epidemics and natural disasters,[29] it is crucial that we recognize both the immediate and long-term benefits of equipping EOH with the tools to expand their role in managing HCW safety.

Limitations. To rapidly get early insights to the field we leveraged a rapid qualitative analytic approach (over more traditional qualitative methods) to optimize for garnering in-depth frontline provider insights to prepare for dissemination of the COVID vaccine. Due to the condensed timeline of the project, the analytic team used transcripts in a more limited way for quote verification and validation/query of initial themes. We were ultimately able to get early results in two months, and some recommendations originating from our participants are already being enacted by VHA.

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

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Author contributions: KFG, SNG, and CBJ were responsible for the conception and design of this study. Research advisors, KAL, SS, and EY helped CBJ, KFG, MM, and CD design the interview protocol. SNG and WT facilitated recruitment of EOH providers. CBJ and MM conducted data collection, and CD transcribed interviews and flagged important quotations. CBJ and KFG drafted the manuscript, with substantial input and review from all authors. All authors approved the final manuscript.

COI: The authors have no COI to report. Wendy Thanassi and Susan Giannitrapani are VA occupational health employees; they facilitated recruitment and commented on synthesized results.

Patients and public involvement: Patients were not involved in this qualitative analysis exploring perspectives of EOH providers.

Data sharing: De-identified data can be made available upon reasonable request.

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Tables

Table 1. Respondent and site characteristics.

Providers (n=21)		
Type		
	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

Table 2. Need Statement with Exemplary Quotes

Theme	Need Statement	Exemplary Quotes	Intervention Examples
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 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 would be a lot of the surveillance programs that we have to run [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 EOH (system and macro level)
Theme 2: Mechanisms for information sharing across settings	EOH Providers found themselves constantly "reinventing the wheel" and need a "more centralized clearing house for protocols" and systems to "lean" on.	"And of all things the listserv has been a big advantage for that because the—they can ask a question and anybody can answer those questions, and online is very—whenever they ask a question, 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 we'd standardize it across the way and through the entire VA."-MD "So I use our EOC, so our emergency operations command was brought forth from the incident command system, and that has	• Listserv moderated by experts (system and macro level)

		been the biggest help as far as knowing policy changes because as a nurse, I don't often get the memorandums whenever they're sent, and I don't often 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 this COVID that they give us the updates that I don't always get, and they help us formulate a plan."-RN	
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]."	"We've been putting—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, as I said, 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 when we have staff left over, enough….we'll just have staffing come there [to EOH]. It's not a priority, you know?"-MD	• Cross-trained staff (people, and macro or micro level)

Theme 4: Connected, resourced, and supportive local and national leaders	"The leadership we need is experienced MD—an MD in 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 400,000 employees and all the policies that are around that."	"I was the only person there [in EOH clinic] and I was trying to have a conversation with him [local site leadership] and there were patients coming in to see me, so the leadership team, you know, got a first-hand look and said 'hey, she needs some help in here'... by then we'd just seen the volume of, or the increase in volume of workload, that I had in employee health. 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."-NP "If you look at occ health being the VA, it is pretty much fractured into the local levels. If you go from one VA to another VA facility, the programs will be different. There is no central leadership guidance that maintains that control or that maintains enough standards. And especially 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 FTE for national leadership positions (people and macro level)

Theme 5: Strategies to address HCW and EOH provider mental health concerns	"Mental health support is still a gap" for both frontline healthcare workers and EOH providers themselves.	"The first week in July we had 92 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 came over."-MD "Definitely the anxiety is the barrier. If people freak out, you know, it's kind of like, 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 that; I don't tell them that because, again, like I said, it's a little bit like this thing where if we have so much exposure that we kind of get a little bit desensitized, you know, but other people might not."-MD	• External EAPs, so that HCWs do not have to access mental health care from in-house colleagues (System and people, possible micro and macro levels)

INTERVIEW GUIDE

OCCUPATIONAL HEALTH'S ROLE IN COVID – NEEDS ASSESSMENT AND LESSONS LEARNED INTERVIEW GUIDE

BACKGROUND

What is your role?

[Appreciative Inquiry]

What did you like best about your job prior to COVID? Why did you go into occupational health?

CHANGE IN PRACTICES WITH COVID

[Forensic experiential trauma interview]

This has been a completely unexpected and transformative time. There was a VA policy announced in middle of March (the 15th) that put Occupational Health in the middle of employee healthcare and safety. Tell me about your experience since hearing about this policy.

What did you do first?

What would you have wanted to do differently?

IDEAL

What is your ideal approach to managing Occupational Health now that we have some experience with a global pandemic?

What helps you move towards this ideal?

What barriers keep you from this ideal?

INFORMATION

What resources do you use to keep up-to-date about new policies?

- Are you aware of the forum?

Where do you get your information about COVID?

- How about the VA's response to it nationally? and locally?
- How useful do you find these resources?

How have you been communicating new policies with stakeholders?

How are you integrating emerging evidence into practice?

POLICIES

What policies have you been able to use or adapt?

- What has been your process for adapting these policies?

What additional policies are needed at the national, VISN, and local levels?

STAFFING

What staffing model do you use?

What would be the appropriate staffing model for managing a pandemic like COVID?

SERVICE ALIGNMENT

What service is occupational health aligned with at your facility?

- Has this ever changed?

INTERVIEW GUIDE

Are changes in service disruptive?
What service should occupational health be aligned with?

FLU SEASON PREPAREDNESS
How are you planning to deal with flu and COVID-19 at the same time?
How, if at all, have you updated approaches for PPE and environmental safety related to flu season?

PPE and MASK N95
What are your local protocols for PPE and masks?
How have these changed over time? What triggered their change?

TELEWORK
How has telehealth impacted occupational health?
How, if at all, are you preparing for any mental and/or physical health changes from increased telework?

LIGHTNING REPORT
What's working about how your local occupational health group is managing new responsibilities with COVID?
What needs to change for you in order for you to provide better occupational health care?

SILVER LININGS
Have there been any benefits from COVID in your role or Occupational Health?

SNOWBALL
Who else should we talk to about the role of Occupational Health and COVID?

Ci2i CENTER FOR INNOVATION TO IMPLEMENTATION

Principal Investigator: Dr. Karleen Giannitrapani, PhD
VA HSR&D Project #: C19 20-207
September 30, 2020

VA OCCUPATIONAL HEALTH NEEDS ASSESSMENT

Problem Statement

In the United States, medical personnel carry a heavy burden regarding COVID-19 – in some states representing up to 20% of known coronavirus cases. Within the Veterans Health Administration (VHA), early involvement of Occupational Health (OH) may have protected employees, Veterans, and their families from even worse transmission rates. The roles and responsibilities of OH providers have greatly expanded and continue to evolve as the pandemic progresses.

Background

With the emergence of COVID-19, on March 15th, 2020, the Deputy Under Secretary of Health for Operations and Management sent out a memo to Department of Veterans Affairs Network Directors putting Occupational Health in the center of the organizational response. As OH providers and teams across the VHA mobilized for management of COVID-19 spread and employee health, investigators at the Center for Innovation to Implementation (Ci2i) undertook a rapid national needs assessment. The goal of this research was to identify best practices and gaps in order to support the expanding role of OH providers by documenting early learnings and needs in advance of additional COVID-19 waves and future infectious pandemics.

Executive Summary

1. VHA Occupational Health (OH) providers want standing policies for viral pandemics that include: standard chain-of-command; supply control; identified experts; protocols for delegating responsibilities; uniformity across sites
2. Gaps need to be addressed at the level of 1) structure (adequate staffing); 2) tools (EHR/community exposure communication); and 3) national-level leadership/communication
3. Opportunities exist to: leverage information-sharing via an existing national OH listserv; standardize and spread response through alignment with CDC and other federal protocols/agencies; develop an employee-focused electronic record to facilitate population management strategies

Approach

This Lightning Report approach (Brown-Johnson et al., 2019) leverages rapid qualitative analysis to present main ideas from key informant interviews in a maximal variation sample. Insights are drawn from the input of n=11 OH providers (MD=5, NP=4, RN=2) interviewed for 30-60 minutes between July 7TH and September 30th 2020. This sample is geographically diverse, representing 8 VHA facilities from diverse regions of the country (large, medium, and small facilities in the Mid-Atlantic; medium sites in South; large facilities in the West and Pacific Northwest). Key summary points are organized at the national and local level.

Results

National Insights	**Facilitators to the ability of Occupational Health to adapt and expand roles and responsibilities in the context of COVID-19** *Peer-to-peer* support • Occupational Health Forum listserv facilitated connection among OH providers across the country • Collegial spirit – sites willingly shared database tracking templates in Excel, Standard Operating Procedures (SOPs, i.e., policies), and information • Highly trained experts were available and accessible through the listserv. Ideally, funding would have been available to support expert time spent answering queries from across the VHA in this venue *CDC* seen as central information and source for policies

For more information please contact study PI – Dr. Karleen Giannitrapani karleen.giannitrapani@va.gov

Challenges/Gaps

Lack of centralized resources and policy, resulting in:

- OH providers' desire for regular communication from national OH leadership
- Lack of protocols leading to individual sites creating protocols and policies (SOP) out of urgency as opposed to well thought out strategy
- Provider overwhelm, an example of which was related to how frequently the CDC updated/changed policies and recommendations
- Recognition of the need to build a "deeper bench" for OH – more expertise or experience from OH-adjacent specialties (e.g. infectious disease, public health, etc.)

Tools needed

- Electronic health record (EHR) and tracking during outbreaks to look across care populations (employees, patients, veterans)
- Employee management: Population health infrastructure exists for patients, allowing for large-scale problem-solving during disasters. In an infectious disease outbreak, employees become a population that also needs management

Ideas from the field

- As a policy-making position, national OH leadership needs full-time resources and highly-networked leadership with expertise and interdisciplinary leadership support, eg. from occupational health, mass testing, policy, infectious disease. Leadership would benefit from being "several people deep" with policy experience
- Emphasize communication: a) Reinstate previous OH 1.0FTE divided among five national subject matter experts to answer Forum listserv questions ("incredibly valuable") to provide direction and clinical guidance; b) more frequent and bi-directional communication between national OH leadership and front-line OH providers and staff
- Ideal: SOPs delivered from National leadership to all VHAs
- TB policy has been useful (ie., blood-born pathogen policy), and especially experience with a live TB incident in the last few years, which included contact tracing. Suggestion for viral pandemic drills considering how valuable lived experience has been

Local Issues and Insights

Facilitators to the ability of OH to adapt and expand roles and responsibilities in the context of COVID-19

Staffing

- Successful strategies for local staffing included: shifting ("detailing") staff from other services or temporarily-closed clinics, accessing transient labor pool, engaging travel nurses

Local leadership and networks

- When OH local leadership was well-networked across specialties within the local site, there was success in raising OH-related employee concerns to incident command
- Local leadership involvement in OH (e.g. site level executive leadership volunteering to detail with OH during surges) directly resulted in additional resources and leadership understanding of OH problems and needs
- OH demonstrated their value through involvement with local COVID-specific incident command; some sites leveraged that perceived value to secure more permanent staffing

Challenges/Gaps

Staffing

- Inexperienced/temporary staff resulted in lack of continuity, skills, and OH "know-how"
- Temporary staff were removed too quickly from OH (after having been detailed during surges)
- OH departments were chronically understaffed prior to COVID, putting them at an initial deficit
- Providers articulated burnout risk: No one took a break- "Local OH worked every day from the start of COVID through July"
- Site OH leaders emphasized they need a way to quantify/ justify the need for higher staffing (e.g., FTE per employee population)

Electronic Health Record (EHR)

- OH needed proper tools for tracking, charting, reporting, calculating. Without tools (eg. EHR), OH unable to leverage modern and efficient standing infrastructure (eg. QR codes for vaccines)
- Limited ability to use population management strategies
- Some VAs lacked current databases of who their employees were or where they worked (need better integration with updates from human resources)

Ideas from the field

- For large sites (4000+), procure coordinators for major OH health tasks (call center, testing, tracking/reporting, etc.) to distribute responsibilities within OH
- Institute programs for cross-training to OH, which will be vital to recruit new talent to OH and prepare for future crises
- Set expectations for potential staff flexing with cross-training through OH; prepare to pool staff resources across specialties (primary care, hospital, OH, etc.)
- Standardize across sites to leverage the work individual sites have done, for example template Excel & Access databases for calls, testing, contact tracing, and testing scheduling
- Develop a whole-person health record that respects and prioritizes employee privacy
- Possible funding source: move funding from new employee physical exams to EHR – even without physical exams since March there were low to no instances of new-hires being unfit for work

Next steps

We will conduct additional interviews moving towards capturing the experience of OH providers that are located in smaller facilities and sites serving various regions of the country. We will also explicitly target sites serving rural populations.

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Lightning Report Method

For more information about this method, see: Brown-Johnson, C, Safaeinili, N, Zionts, D, et al. The Stanford Lightning Report Method: A comparison of rapid qualitative synthesis results across four implementation evaluations. Learn Health Sys. 2020; 4:e10210. https://doi.org/10.1002/lrh2.10210

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CENTER FOR INNOVATION
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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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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, Veterans Health Administration (VHA) Employee Occupational Health (EOH) providers were tasked with assuming a central role in coordinating employee COVID 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 vs urban, and provider gender. We interviewed n=21 VHA EOH providers between July-December 2020. This sample represents 15 facilities from diverse regions of the United States (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 (e.g., employee-facing electronic health records, coordinated databases); 2) mechanisms for information-sharing across settings (e.g., 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; 5) strategies to support health care worker mental health.
Our identified facilitators for EOH assuming new challenging and dynamically changes roles during COVID 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 (e.g., chaplains to support bereavement).
Conclusions: Our needs assessment highlights local and system level barriers and facilitators of EOH assuming expanded roles during COVID. 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 health care 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 generalizable 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 United States, health care workers (HCWs) were heavily burdened by COVID-19 due to increased frontline demands and increased exposure to the coronavirus, 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 health care. As of 2021, the US Veterans Health Administration (VHA) EOH assumes responsibility for the "safety and health" of over half-million HCWs, trainees, and volunteers.[5] Representing a national healthcare system, the VHA serves over 9 million veterans, with 10,000 in Community Living Centers, VHA nursing homes vulnerable to COVID-19.[5,6] Furthermore, VHA comprises 1,255 healthcare facilities and employs at least 322,030 full-time HCWs,[5] the majority of whom fall in the OSHA very high risk category for SARS-CoV-2 transmission.[7] VHA additionally interfaces with more than 73,000 active volunteers, 15,000 academic faculty, and 127,000 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 change. On March 15, 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 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 recommendations.[9] Other challenges stemmed from national 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 fulfill 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 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[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 burnout), and has additionally highlighted risk factors surrounding overwork (e.g., documenting requirements for electronic health records) and the potential protective impact of positive leadership.[16]

We undertook a rapid needs assessment for EOH as they 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 we prepare for future healthcare disasters.

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 (CBJ, MM, KG) developed the interview guide with input from two EOH subject matter experts (WT - Physician, SG - nurse practitioner). The research advisory team (SS, KL, 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 Appendix A for interview protocol). In our purposive sample we used a snowball approach[17] starting from subject matter experts and attended to sample variation to capitalize 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 (CBJ), investigators (CBJ, 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 vs. 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 at least two team members (CBJ and KG or N) 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 co-author 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 post-interview debriefing calls once we had collected half of the data sample (2 months from first interview, n=10; see Appendix B for interim report). We circulated this Lightning Report to study advisors, VHA EOH central leadership, and participants for feedback, constituting a modified Synthesized 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), CBJ and KG formalized 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. NS and CBJ 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 minutes 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; 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) organized around facilitators and barriers. Needs occurred at both in terms of 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 (at both the micro and macro level) around population/infection management and tracking. Employee population management needs revolved around tools and mechanisms - for instance employee-facing EHR or coordinated spreadsheet databases - that could prioritize employee privacy while facilitating infection control measures such as contact tracing. Infrastructure facilitators were tools (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 (e.g., flu vaccination) and infection 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 centralized 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 include: additional clinical space that could adequately address limit cross-contamination for persons under investigation (PUI); support opportunities for innovation such as the use of QR code readers for testing and COVID 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. In one worst-case scenario, no one consulted EOH in the set-up of summer outside COVID 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."(MD)

Theme 2. Mechanisms for information-sharing across settings
Providers reflected a strong need for information-sharing within and across VAs. Facilitators to information flow included access to external information sources and experts, as well as an existing all-VA-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 (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 VA's Guidebook for Employee Health, which is 600 pages, but there was evidence that this resource was underutilized: "questions on [the listserv] show that people don't use 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)

Barriers. Barriers to information-sharing revolved around the extremely high volume of new information about COVID 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 (e.g., sufficient FTE per HCW population) in the local site micro-environment. 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 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 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 winter COVID 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. 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 emphasized 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 to the amount of work to be done: "There is just one of them [1.0 FTE]."(MD) One recommended approach to effective centralized leadership included having 2-3 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. Both overwork and experiencing trauma (e.g., excessive patient deaths or the death of a co-worker) came up as examples negatively impacted employee mental health. Outside of COVID contagion, EOH providers recognized 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 COVID 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 EAPs. Looking to the future, one provider expressed that their EOH group knew “to expect tsunami of depression, anxiety, etc. from COVID” 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 VA-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. 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 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 Veterans Health Administration (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 organization's response.[8] We were particularly concerned that in order to minimize staffing shortages, healthcare organizations 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 changes roles during COVID 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 VA-specific listserv); c) flexible and responsive staffing; and d) leveraging other institutional expertise not previously affiliated with EOH (e.g., 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 (e.g., 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 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 organizational support and 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 greater mental health needs during the COVID-19 pandemic.[24]

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

Promising practices beyond VA. Despite the fluctuation of recommendations from some national agencies (e.g., 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; inter-site communication gave EOH providers a community to engage in shared learning and accelerate spread of learnings, processes, and policy adaptations. Thinking beyond acute disasters, a high-functioning national EOH community in an integrated healthcare system could event potentially positively address long-standing health and civil wellness issues (e.g., 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 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 recognize 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 optimized dissemination of frontline provider insights in preparation for the COVID-12 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 two months, and some recommendations

originating from our participants are already being enacted by VA. Secondarily, our purposive snowball sample is a good snapshot of the experiences of EOH in the VA, but ideally we might have talked to EOH providers from each major site, since pandemic progression varied greatly from location to location, even with the US.

Conclusion. In our highly-networked world, employee occupational health (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 honoring 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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Tables

Table 1. Respondent and site characteristics.

Providers (n=21)		
Type		
	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

Table 2. Need Statement with Exemplary Quotes

Theme	Need Statement	Exemplary Quotes	Intervention Examples
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 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 would be a lot of the surveillance programs that we have to run [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 EOH (system and macro level)
Theme 2: Mechanisms for information sharing across settings	EOH Providers found themselves constantly "reinventing the wheel" and need a "more centralized clearing house for protocols" and systems to "lean" on.	"And of all things the listserv has been a big advantage for that because the—they can ask a question and anybody can answer those questions, and online is very—whenever they ask a question, 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 we'd standardize it across the way and through the entire VA."-MD "So I use our EOC, so our emergency operations command was brought forth from the incident command system, and that has	• Listserv moderated by experts (system and macro level)

		been the biggest help as far as knowing policy changes because as a nurse, I don't often get the memorandums whenever they're sent, and I don't often 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 this COVID that they give us the updates that I don't always get, and they help us formulate a plan."-RN	
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]."	"We've been putting—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, as I said, 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 when we have staff left over, enough….we'll just have staffing come there [to EOH]. It's not a priority, you know?"-MD	• Cross-trained staff (people, and macro or micro level)

Theme 4: Connected, resourced, and supportive local and national leaders	"The leadership we need is experienced MD—an MD in 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 400,000 employees and all the policies that are around that."	"I was the only person there [in EOH clinic] and I was trying to have a conversation with him [local site leadership] and there were patients coming in to see me, so the leadership team, you know, got a first-hand look and said 'hey, she needs some help in here'... by then we'd just seen the volume of, or the increase in volume of workload, that I had in employee health. 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."-NP "If you look at occ health being the VA, 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 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 FTE for national leadership positions (people and macro level)

Theme 5: Strategies to address HCW and EOH provider mental health concerns	"Mental health support is still a gap" for both frontline healthcare workers and EOH providers themselves.	"The first week in July we had 92 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 came over."-MD "Definitely the anxiety is the barrier. If people freak out, you know, it's kind of like, 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 that; I don't tell them that because, again, like I said, it's a little bit like this thing where if we have so much exposure that we kind of get a little bit desensitized, you know, but other people might not."-MD	• External EAPs, so that HCWs do not have to access mental health care from in-house colleagues (System and people, possible micro and macro levels)

INTERVIEW GUIDE

OCCUPATIONAL HEALTH'S ROLE IN COVID – NEEDS ASSESSMENT AND LESSONS LEARNED INTERVIEW GUIDE

BACKGROUND

What is your role?

[Appreciative Inquiry]

What did you like best about your job prior to COVID? Why did you go into occupational health?

CHANGE IN PRACTICES WITH COVID

[Forensic experiential trauma interview]

This has been a completely unexpected and transformative time. There was a VA policy announced in middle of March (the 15th) that put Occupational Health in the middle of employee healthcare and safety. Tell me about your experience since hearing about this policy.

What did you do first?

What would you have wanted to do differently?

IDEAL

What is your ideal approach to managing Occupational Health now that we have some experience with a global pandemic?

What helps you move towards this ideal?

What barriers keep you from this ideal?

INFORMATION

What resources do you use to keep up-to-date about new policies?

- Are you aware of the forum?

Where do you get your information about COVID?

- How about the VA's response to it nationally? and locally?
- How useful do you find these resources?

How have you been communicating new policies with stakeholders?

How are you integrating emerging evidence into practice?

POLICIES

What policies have you been able to use or adapt?

- What has been your process for adapting these policies?

What additional policies are needed at the national, VISN, and local levels?

STAFFING

What staffing model do you use?

What would be the appropriate staffing model for managing a pandemic like COVID?

SERVICE ALIGNMENT

What service is occupational health aligned with at your facility?

- Has this ever changed?

INTERVIEW GUIDE

Are changes in service disruptive?
What service should occupational health be aligned with?

FLU SEASON PREPAREDNESS
How are you planning to deal with flu and COVID-19 at the same time?
How, if at all, have you updated approaches for PPE and environmental safety related to flu season?

PPE and MASK N95
What are your local protocols for PPE and masks?
How have these changed over time? What triggered their change?

TELEWORK
How has telehealth impacted occupational health?
How, if at all, are you preparing for any mental and/or physical health changes from increased telework?

LIGHTNING REPORT
What's working about how your local occupational health group is managing new responsibilities with COVID?
What needs to change for you in order for you to provide better occupational health care?

SILVER LININGS
Have there been any benefits from COVID in your role or Occupational Health?

SNOWBALL
Who else should we talk to about the role of Occupational Health and COVID?

Ci2i
CENTER FOR INNOVATION
TO IMPLEMENTATION

Principal Investigator: Dr. Karleen Giannitrapani, PhD
VA HSR&D Project #: C19 20-207
September 30, 2020

VA OCCUPATIONAL HEALTH NEEDS ASSESSMENT

Problem Statement

In the United States, medical personnel carry a heavy burden regarding COVID-19 – in some states representing up to 20% of known coronavirus cases. Within the Veterans Health Administration (VHA), early involvement of Occupational Health (OH) may have protected employees, Veterans, and their families from even worse transmission rates. The roles and responsibilities of OH providers have greatly expanded and continue to evolve as the pandemic progresses.

Background

With the emergence of COVID-19, on March 15th, 2020, the Deputy Under Secretary of Health for Operations and Management sent out a memo to Department of Veterans Affairs Network Directors putting Occupational Health in the center of the organizational response. As OH providers and teams across the VHA mobilized for management of COVID-19 spread and employee health, investigators at the Center for Innovation to Implementation (Ci2i) undertook a rapid national needs assessment. The goal of this research was to identify best practices and gaps in order to support the expanding role of OH providers by documenting early learnings and needs in advance of additional COVID-19 waves and future infectious pandemics.

Executive Summary

1. VHA Occupational Health (OH) providers want standing policies for viral pandemics that include: standard chain-of-command; supply control; identified experts; protocols for delegating responsibilities; uniformity across sites
2. Gaps need to be addressed at the level of 1) structure (adequate staffing); 2) tools (EHR/community exposure communication); and 3) national-level leadership/communication
3. Opportunities exist to: leverage information-sharing via an existing national OH listserv; standardize and spread response through alignment with CDC and other federal protocols/agencies; develop an employee-focused electronic record to facilitate population management strategies

Approach

This Lightning Report approach (Brown-Johnson et al., 2019) leverages rapid qualitative analysis to present main ideas from key informant interviews in a maximal variation sample. Insights are drawn from the input of n=11 OH providers (MD=5, NP=4, RN=2) interviewed for 30-60 minutes between July 7TH and September 30th 2020. This sample is geographically diverse, representing 8 VHA facilities from diverse regions of the country (large, medium, and small facilities in the Mid-Atlantic; medium sites in South; large facilities in the West and Pacific Northwest). Key summary points are organized at the national and local level.

Results

National Insights	**Facilitators to the ability of Occupational Health to adapt and expand roles and responsibilities in the context of COVID-19** *Peer-to-peer* support • Occupational Health Forum listserv facilitated connection among OH providers across the country • Collegial spirit – sites willingly shared database tracking templates in Excel, Standard Operating Procedures (SOPs, i.e., policies), and information • Highly trained experts were available and accessible through the listserv. Ideally, funding would have been available to support expert time spent answering queries from across the VHA in this venue *CDC* seen as central information and source for policies

For more information please contact study PI – Dr. Karleen Giannitrapani karleen.giannitrapani@va.gov

Challenges/Gaps

Lack of centralized resources and policy, resulting in:

- OH providers' desire for regular communication from national OH leadership
- Lack of protocols leading to individual sites creating protocols and policies (SOP) out of urgency as opposed to well thought out strategy
- Provider overwhelm, an example of which was related to how frequently the CDC updated/changed policies and recommendations
- Recognition of the need to build a "deeper bench" for OH – more expertise or experience from OH-adjacent specialties (e.g. infectious disease, public health, etc.)

Tools needed

- Electronic health record (EHR) and tracking during outbreaks to look across care populations (employees, patients, veterans)
- Employee management: Population health infrastructure exists for patients, allowing for large-scale problem-solving during disasters. In an infectious disease outbreak, employees become a population that also needs management

Ideas from the field

- As a policy-making position, national OH leadership needs full-time resources and highly-networked leadership with expertise and interdisciplinary leadership support, eg. from occupational health, mass testing, policy, infectious disease. Leadership would benefit from being "several people deep" with policy experience
- Emphasize communication: a) Reinstate previous OH 1.0FTE divided among five national subject matter experts to answer Forum listserv questions ("incredibly valuable") to provide direction and clinical guidance; b) more frequent and bi-directional communication between national OH leadership and front-line OH providers and staff
- Ideal: SOPs delivered from National leadership to all VHAs
- TB policy has been useful (ie., blood-born pathogen policy), and especially experience with a live TB incident in the last few years, which included contact tracing. Suggestion for viral pandemic drills considering how valuable lived experience has been

Local Issues and Insights

Facilitators to the ability of OH to adapt and expand roles and responsibilities in the context of COVID-19

Staffing

- Successful strategies for local staffing included: shifting ("detailing") staff from other services or temporarily-closed clinics, accessing transient labor pool, engaging travel nurses

Local leadership and networks

- When OH local leadership was well-networked across specialties within the local site, there was success in raising OH-related employee concerns to incident command
- Local leadership involvement in OH (e.g. site level executive leadership volunteering to detail with OH during surges) directly resulted in additional resources and leadership understanding of OH problems and needs
- OH demonstrated their value through involvement with local COVID-specific incident command; some sites leveraged that perceived value to secure more permanent staffing

Challenges/Gaps

Staffing

- Inexperienced/temporary staff resulted in lack of continuity, skills, and OH "know-how"
- Temporary staff were removed too quickly from OH (after having been detailed during surges)
- OH departments were chronically understaffed prior to COVID, putting them at an initial deficit
- Providers articulated burnout risk: No one took a break- "Local OH worked every day from the start of COVID through July"
- Site OH leaders emphasized they need a way to quantify/ justify the need for higher staffing (e.g., FTE per employee population)

Electronic Health Record (EHR)

- OH needed proper tools for tracking, charting, reporting, calculating. Without tools (eg. EHR), OH unable to leverage modern and efficient standing infrastructure (eg. QR codes for vaccines)
- Limited ability to use population management strategies
- Some VAs lacked current databases of who their employees were or where they worked (need better integration with updates from human resources)

Ideas from the field

- For large sites (4000+), procure coordinators for major OH health tasks (call center, testing, tracking/reporting, etc.) to distribute responsibilities within OH
- Institute programs for cross-training to OH, which will be vital to recruit new talent to OH and prepare for future crises
- Set expectations for potential staff flexing with cross-training through OH; prepare to pool staff resources across specialties (primary care, hospital, OH, etc.)
- Standardize across sites to leverage the work individual sites have done, for example template Excel & Access databases for calls, testing, contact tracing, and testing scheduling
- Develop a whole-person health record that respects and prioritizes employee privacy
- Possible funding source: move funding from new employee physical exams to EHR – even without physical exams since March there were low to no instances of new-hires being unfit for work

Next steps

We will conduct additional interviews moving towards capturing the experience of OH providers that are located in smaller facilities and sites serving various regions of the country. We will also explicitly target sites serving rural populations.

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Lightning Report Method

For more information about this method, see: Brown-Johnson, C, Safaeinili, N, Zionts, D, et al. The Stanford Lightning Report Method: A comparison of rapid qualitative synthesis results across four implementation evaluations. Learn Health Sys. 2020; 4:e10210. https://doi.org/10.1002/lrh2.10210

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