Occupational Burnout

Florida Public Health Workforce During the COVID-19 Pandemic

Tracy Gates, MPH, Blake Scott, PhD, Kelsey Merlo, PhD, Dannelle Charles, MPH, Elizabeth Dunn, MPH, Christopher Miklaszewski, BS, and Jennifer Marshall, PhD

Objective: Florida's public health workforce faced unprecedented challenges during the compounding COVID-19 pandemic and record-setting hurricane seasons. The objective of this study was to understand burnout within this essential workforce and identify strategies to better support them. **Methods:** A cross-sectional survey addressing burnout, job satisfaction, turnover intention, job demands, job resources, and organizational support in 2021 was completed by 891 Florida Department of Health workers and analyzed by the research team. **Results:** Approximately half of the respondents reported experiencing burnout, which is linked to job dissatisfaction and turnover intention. Strategies to effectively support and retain this essential workforce include improving staffing, salaries, flexibility, trainings, resources, and leadership. **Conclusions:** As infectious disease outbreaks and extreme weather events continue to occur, effectively supporting the public health workforce is critical to protecting and promoting the health and well-being of all Floridians.

Keywords: burnout, COVID-19, public health workforce, satisfaction, support

LEARNING OUTCOMES

Upon completion of this article, the reader will be able to:

- Describe the prevalence and significance of occupational burnout in the Florida public health workforce during the intersecting COVID-19 pandemic and record-setting hurricane seasons.
- Identify at least three strategies to improve support of this essential workforce to reduce burnout, job dissatisfaction, and turnover intention.

The COVID-19 pandemic, compounded by a record-setting Atlantic hurricane season and escalating racial and social justice movements in the United States, contributed to 2020 and 2021 being unprecedented times for the public health workforce in Florida. The spread of COVID-19, a novel flu-like disease caused by the SARS-CoV-2 virus, impacted nations worldwide within a matter of months.[1] The pandemic has not only affected millions of people who fell ill or died due to complications, but first responders, frontline medical workers, and public health personnel dedicated to protecting the health and well-being of the public were impacted by the surge in demand for health and medical support.[2–8] In addition to the pandemic, the public health workforce responded to a record-setting hurricane season, with 30 named storms and five executive orders issued in 2020 in Florida.[9,10] Subsequently, 2021 was also an above-average hurricane season characterized by 21 named storms, two of which led to emergency executive orders being issued in Florida. In addition to local emergency response efforts underway within the state, personnel were deployed to aid both Mississippi and Louisiana in response to Hurricane Ida.[11,12] The national Public Health Workforce Interests and Needs Surveys (PH WINS) found that nearly half of the state and local government public health workforce left their positions between 2017 and 2021, Florida not excluded.[13,14]

The disaster preparedness and response roles for the public health workforce vary by state and even counties across the United States. For Florida, all County Health Departments are housed within the state-level agency of the Florida Department of Health (FDOH). Regarding hurricane preparedness and response, FDOH supports public health needs at the local and state levels before, during, and after a hurricane, including operating special needs shelters (SpNSs). These specialty shelters have a smaller capacity, require predisaster registration for approval, and are intended only for those requiring physical, mental, or cognitive assistance beyond what can be provided at a general population shelter.[15]

Additionally, public health professionals conduct critical disease investigations and provide control measure guidance after a hurricane. Outbreak control measures are of particular concern in congregate sheltering situations. Even before the COVID-19 pandemic, acute infectious disease surveillance and research showed the havoc postdisaster outbreaks can have on a community while trying to recover. Some of the most notable pre-COVID-19 examples of this are the numerous cases of dermatological (methicillin-resistant *Staphylococcus aureus*, *Vibrio vulnificus*), gastrointestinal (norovirus, *Salmonella*, and *Vibrio cholerae*), and respiratory (including pertussis and tuberculosis) disease in the first weeks after Hurricane Katrina.[16] Furthermore, disasters pose a greater risk to socially vulnerable populations including those with financial or educational inequities, disabilities, language barriers, or lack of access to transportation. Individuals with chronic health conditions could experience exacerbated effects and never recover after the

impact of a hurricane. Without an adequately staffed public health workforce, an increase in deaths, injuries, and other adverse health outcomes would be inevitable after a hurricane, increasing the morbidity and mortality rates attributed to the storm that could have been prevented.

A confluence of public health threats jeopardizes the occupational health and safety of an overwhelmed public health workforce. Occupational burnout is a phenomenon that occurs when persistent emotional or interpersonal pressure in the workplace is unsuccessfully managed, resulting in chronic workplace stress.[2,4,5] Burnout is an important occupational hazard to investigate because it can have significant negative personal and organizational consequences.[2,8,17] When employees experience occupational burnout, their quality of work and personal well-being suffer, as does the health and well-being of the general public in the case of the public health workforce. Occupational burnout, strongly linked with these factors and job dissatisfaction, has been seen to be highly predictive of turnover intention; the more burnt out a person is, the more likely they are to leave their job.[4,5,14,17]

Prior to the COVID-19 pandemic, the US public health workforce had been experiencing a negative trajectory for over a decade following the 2007–2008 financial crisis. The public health workforce suffered significant stress, overload, burnout, and declination during the financial crisis (2007–2008) and was further exacerbated from 2014 to 2017 due to various contributing factors.[3,6,8] From 2008–2019, the public health sector experienced a 20% reduction in personnel, and 62% of local health departments had reduced funding and spending averages.[3,8] As a result, the public health workforce was not sufficiently prepared and equipped to address the compounding pandemic and hurricane emergencies, resulting in concerning levels of occupational burnout, job dissatisfaction, and turnover intentions.[3,8,18]

From national surveys conducted in 2018 and 2022, the Centers for Disease Control and Prevention (CDC) found that, while there were preexisting crisis levels of health worker burnout in 2018, there were significant increases in poor mental health days, burnout, and turnover intention in 2022 due to the heightened burdens of COVID-19; nearly half of the sampled workforce reported feeling burnout often or very often.[19] Burnout was one of the most reported influential factors contributing to nearly half of the state and local governmental public health workforce leaving their positions between 2017 and 2021; other contributing factors included inadequate pay, lack of opportunities for advancement, low job satisfaction, and stress.[14] This essential workforce must be better supported and equipped to address compounding emergencies to more effectively protect and promote the health and well-being of individuals visiting and residing in the state of Florida, and across the nation.

The COVID-19 pandemic and hurricane seasons have significantly increased job demands on the public health workforce, requiring job resources to increase comparatively to support these workforce members and protect against burnout and turnover. The goal of supporting this workforce requires minimizing job demands while maximizing job resources; however, this was largely the opposite of what occurred during the pandemic. Heightened job demands on the public health workforce included disease transmission and role ambiguity, role reassignment, being understaffed and underfunded, working more hours, an increased risk of mental health issues, and experiencing secondary trauma.[3–8,18]

Though much research has been conducted on the response and occupational burnout of the medical workforce during the pandemic, significantly less research has focused on the well-being and occupational burnout of the public health workforce who are essential to promoting and protecting the health of individuals and communities with an emphasis on prevention.[2,6,8] However, Stone et al[8] found that public health workers experienced higher levels of burnout than frontline healthcare workers during the pandemic, and similar or higher levels of mental and physical health issues. Previous studies have identified various work-related factors as influential in occupational burnout, including job demand, emotional demand, role clarity, organizational

justice, and job satisfaction.[2,4,5] Role ambiguity and reassignment were prevalent among public health workers as efforts were redirected from normal operations to respond to the pandemic. The majority of public health personnel were working more hours and days per week, and more than half of the public health content expertise and programmatic function were reassigned.[3] Even after nearly half of the state and local governmental public health workforce left between 2017 and 2021, more than a quarter of the nearly 45,000 personnel surveyed between September 2021 and January 2022 were considering leaving their organization within the next year; the most often cited reasons being inadequate pay, work overload, lack of advancement opportunities, organizational culture, and occupational stress.[14,20,21]

This study aimed to assess the relationship between the stressors of COVID-19 and unprecedented Atlantic hurricane seasons on the Florida public health workforce and their levels of occupational burnout, job satisfaction, and turnover intentions. The research questions addressed in this study include (1) an assessment of occupational burnout and turnover intention among the public health workforce in Florida, and (2) how this essential workforce can be better supported in the future to protect against occupational burnout. The research hypothesis was that the public health employees experienced significant levels of occupational burnout during the COVID-19 pandemic, contributing to concerningly high levels of turnover intentions and the need to strengthen support mechanisms for this workforce.

METHODS

Recruitment Strategies and Respondents

This study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines (see Supplementary Digital Content, http://links.lww.com/JOM/B728). An anonymous survey was disseminated digitally using the Qualtrics platform and administered between September 22, 2021, and October 8, 2021. A targeted convenience sampling approach was utilized to purposefully recruit individuals in the public health workforce who were currently employed with the FDOH across all 67 counties in the state. The focus was to recruit FDOH employees currently working on the COVID-19 response at the time who could be activated to assist in setting up or operating an SpNS during an evacuation. Respondents were invited to complete an online survey and share it with their colleagues at the local level. Developing a partnership with staff in Public Health Preparedness at the FDOH and the Statewide Special Needs Shelter program provided a collaborative effort for targeted outreach across the state of Florida through the health department listserv. Collaborating with the FDOH at the state level ensured that the survey respondents were in the public health workforce that would potentially activate during a disaster declaration. A technical data report summarizing the preliminary survey results was provided to the FDOH shortly after the data collection process to ensure public health managers and planners had information to begin addressing needs across the workforce prior to the 2022 hurricane season.

Assessment Measures

Respondents completed a survey addressing their levels of burnout, job satisfaction, and turnover intentions using psychometrically sound measures, including their level of satisfaction with their job in general, coworkers, supervision, and the work itself, as well as their level of feeling supported and prepared to deploy. The satisfaction questions were scored as a 0 (no), 1 (unsure), or 3 (yes); the scale for satisfaction with the job in general had eight items, while the scales for satisfaction with coworkers, the work itself, and supervisors had six items each. In addition to these quantitative measures, respondents provided qualitative responses related to the job demands, job resources, and organizational support they received. Demographic

information was also collected to understand characteristics of survey respondents.

Burnout

The Maslach Burnout Inventory–General Survey,[22] a 16-item measure of burnout, consists of three subscales: emotional exhaustion (5 items, $\alpha = 0.90$), cynicism (5 items, $\alpha = 0.79$), and professional efficacy (6 items, $\alpha = 0.71$).[4,5,23] Each item ranges from 0 (never) to 6 (everyday). Emotional exhaustion occurs when a person has depleted their emotional resources, leaving nothing left to be given at a physiological level. Cynicism is a negative attitude or perception of the work a person is doing or the people they work with. Professional efficacy is a person's belief in their ability to do their work effectively.[22]

Analysis

For quantitative responses, descriptive statistics, correlations, and Cronbach α reliability estimates were calculated for the survey responses addressing burnout, job satisfaction, turnover intentions, and feelings of being supported and being prepared to deploy to an emergency situation. A series of one-sample t tests were conducted to determine if levels of burnout in the current sample were significantly higher than expected levels of burnout compared with previously normed population data.[23]

Thematic analysis was used for open-ended qualitative questions addressing job demands, job resources, and organizational support mechanisms based on the job demands-resources model of burnout. The job demands-resources model of burnout identifies job demands as negative occupational influencers requiring sustained mental or physical effort and job resources as positive occupational influencers supporting the achievement of work goals.[24]

A deductive approach was employed to explore the data utilizing concept-driven coding to develop emergent codes. The coding system was refined throughout the analysis with the final agreed on parent codes to include (1) work environment, (2) pay and accommodations, (3) personal development, and (4) training and education. Consensus coding and constant comparison were used between two coders to achieve an 85% interrater reliability for the first 100 survey responses. The remaining 791 open-ended responses were then equally distributed among coders for independent coding in Microsoft Excel. All discrepancies were discussed, and agreements reached between the coders. To aid in understanding the frequency and significance of the identified themes, their prevalence within the job demands, job resources, and organizational support categories was quantified.

RESULTS

Respondent Characteristics

A total of 891 public health preparedness, SpNS, and disaster response workers participated in the survey (Table 1). Respondents were primarily female (83.3%), non-Hispanic/Latino/Spanish Origin (84.2%), and White (79.5%), followed by Black (12.4%) and other (8.1%). The sample had a mean age of 46.7 years with a standard deviation of 12.6. The mean number of years of experience working in their field was 14.0 years, with a standard deviation of 11.2 years, ranging from zero to 50 years.

Quantitative Results

As shown in Table 2, respondents reported higher levels of emotional exhaustion, $t(777) = 16.919$, $P < 0.001$, higher levels of cynicism, $t(775) = 9.110$, $P < 0.001$, and higher levels of personal efficacy, $t(775) = 16.467$, $P < 0.001$, compared with available norms (Table 3). Respondents collected in 2021 were also compared with previously published data collected from a similar sample in 2020.[4,5] Independent sample t tests comparing these two groups reveal no significant differences for emotional exhaustion, $t(113.11) = -1.115$, $P = 0.267$, cynicism, $t(141.93) = -0.5996$, $P = 0.550$, or personal efficacy, $t(138.63) = 1.204$, $P = 0.231$. Results from the one sample and independent sample t tests are reported in Table 3.

Burned-Out Versus Engaged Workers

A k-means cluster analysis was also conducted, revealing two overarching clusters for this sample of public health workers: a burned out and an engaged cluster. The burned-out cluster contained $n = 364$

TABLE 1. Sample Characteristics

	x̄	SD
Age (range 19–79)	46.7	12.6
Number of years working in the field (range 0–50)	14	11.2
	#	%
Gender		
Female	717	83.3
Male	127	14.8
Other	17	2
Race		
White	677	79.5
Black of African American	106	12.4
Asian	19	2.2
White, other	13	1.5
Native America, Alaskan, Hawaiian, or Pacific Islander	3	0.4
Black, other	1	0.1
Ethnicity		
Not Hispanic or Latino or Spanish Origin	720	84.2
Hispanic or Latino or Spanish Origin	135	15.8
Organization jurisdiction		
County	655	79.1
Statewide	162	19.6
City/Town/Village	2	0.2
Federal/Military*	2	0.2
Other	7	0.8
Organization makeup		
All career	602	73.2
Combination career and volunteer	219	26.6
All volunteer	1	0.1
Current status		
Paid full-time	782	94.4
Paid part-time	43	5.2
Volunteer	2	0.2
Disaster reservist	1	0.1
Primary responsibility		
Health	350	42.4
Management	176	21.3
Investigation	61	7.4
Program/Activity	51	6.2
Emergency preparedness	48	5.8
Training/education	17	2.1
Public works	12	1.5
Disaster response/recovery	10	1.2
Scientific/engineering	3	0.4
Emergency medical service	1	0.1
Other	97	11.7
Business type		
Health care	483	58.6
Government	287	34.8
Public works	23	2.8
Education	21	2.5
Emergency management	10	1.2
Department size		
1–5 people	167	20.3
6–10 people	191	23.2
11–21 people	142	17.2
21–30 people	90	10.9
31–40 people	52	6.3
40+ people	182	22.1

TABLE 2. Descriptive Statistics for Burnout, Satisfaction, Turnover, and Support Measures

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Emotional exhaustion (0–6)	3.21	1.79	0.94								
2. Cynicism (0–6)	2.34	1.89	0.76**	0.92							
3. Personal efficacy (0–6)	4.88	1.00	−0.25**	−0.40**	0.76						
4. Satisfaction with job in general (0–24)	11.00	6.73	−0.43**	−0.53**	0.28**	0.83					
5. Satisfaction with coworkers (0–18)	11.74	6.71	−0.25**	−0.26**	0.09**	0.71**	0.80				
6. Satisfaction with work itself (0–18)	10.25	6.57	−0.42**	−0.52**	0.32**	0.83**	0.68**	0.82			
7. Satisfaction with supervision (0–18)	11.23	6.99	−0.33**	−0.35**	0.14**	0.76**	0.71**	0.70**	0.84		
8. Turnover intentions (0–3)	1.64	0.72	0.53**	0.63**	−0.30**	−0.61**	−0.31**	−0.52**	−0.45**	0.84	
9. Feel supported (0–5)	3.76	1.25	−0.31**	−0.34**	0.18**	0.40**	0.22**	0.32**	0.36**	−0.31**	—
10. Feel prepared to deployed (1–5)	3.63	1.40	−0.19**	−0.23**	0.10**	0.25**	0.12**	0.23**	0.17**	−0.18**	0.45**

Note: M and SD are used to represent mean and standard deviation, respectively. Cronbach α reliability on the diagonal.

*P < 0.05.

respondents and was characterized by high levels of emotional exhaustion (M = 4.61, SD = 1.07), high levels of cynicism (M = 4.00, SD = 1.27), and moderate levels of efficacy (M = 4.4, SD = 0.995). The engaged cluster contained $n = 411$ respondents and was characterized by low levels of emotional exhaustion (M = 1.97, SD = 1.33), low levels of cynicism (M = 0.865, SD = 0.823), and high levels of efficacy (M = 5.31, SD = 0.798). A visualization of responses by cluster is depicted in Figure 1 (an interactive 3D model is available at http://rpubs.com/kmerlo/burnoutclusters).

Burnout, Job Satisfaction, and Turnover Intentions

Levels of burnout were also compared with self-reported ratings of job satisfaction and turnover intentions (Table 4). A series of multiple regressions were conducted to examine the unique impact of each facet of burnout on satisfaction with the individuals' job in general and on facets of job satisfaction (eg, satisfaction with people, work, and supervisor). Each facet of burnout was significantly related to the individuals' satisfaction with their job in general; emotional exhaustion was related to less satisfaction, cynicism was related to less satisfaction, and personal efficacy was related to increased satisfaction. Satisfaction with the people at their work was significantly associated with emotional exhaustion and cynicism but was not related to personal efficacy. Satisfaction with the work was significantly related to cynicism and personal efficacy; satisfaction with the work was marginally significantly related to emotional exhaustion. Satisfaction with their supervisor was significantly related to emotional exhaustion and cynicism but was not significantly related to personal efficacy. Finally, burnout was related to increased turnover intentions. Higher turnover intentions were significantly related to increased emotional exhaustion and cynicism. Higher turnover intentions exhibited a marginally significant relationship with personal efficacy. A summary of these results is included in Table 4.

Burnout and Support

Finally, respondents were also asked to describe how supported they felt by their organization and how prepared they felt to deploy to a shelter environment. Feeling supported by their program/organization was related to lower levels of burnout; specifically, feeling supported was related to lower emotional exhaustion, lower cynicism, and higher personal efficacy. Feeling prepared to deploy to a shelter environment was also related to lower levels of burnout. Individuals who felt prepared to deploy reported lower levels of emotional exhaustion, lower cynicism, and higher personal efficacy (Table 5).

Qualitative Results

Out of the 891 total respondents, 499 (56%) answered at least one open-ended question, whereas 392 (44%) respondents answered NA (not applicable) for all qualitative questions. Qualitative analysis of responses to the open-ended questions addressing job demands, job resources, and organizational support mechanisms yielded four overarching themes: work environment, accommodation/benefits, personal development, and training and education (Figs. 2, 3) (Table 6). Furthermore, respondents' responses provided insight into relationships between job benefits and demands (the work environment, employee benefits, available training and education, and personal development opportunities) with burnout, job satisfaction, feeling supported in their work, and turnover intentions.

Though most respondents in this study did not indicate that they were thinking about, or planning on, leaving their job, almost 20% did, citing their work environment as the most common driver in the exploratory qualitative questions. More than half of the 295 respondents who answered the qualitative question indicating that they were thinking about, or planning on, leaving their job identified some aspect of their work environment as the driver. Common factors contributing to this negative work environment included being overworked, their department being understaffed, and having to perform responsibilities outside of what they were hired for. Other common factors related to turnover intentions included respondents not feeling appreciated or valued by their supervisors or department, not being supported in their immediate work environment by leadership or policies, and not being supported in their mission and work by state

TABLE 3. Current, Generalized, and Recent Emotional Exhaustion, Cynicism, and Personal Efficacy Estimates

	Current Data	Schaufeli Data		Merlo et al, 2021 Data	
	M	M	t	M	t
Emotional exhaustion	3.21	2.12	16.92*	3.01	−1.11
Cynicism	2.34	1.72	9.11*	2.23	−0.60
Personal efficacy	4.88	4.29	16.47*	5.00	1.20

Note: One-sample t test comparisons for the current data to the Schaufeli dataset. Independent sample t test comparisons for the current data to the Merlo et al 2021 dataset.

*P < 0.01.
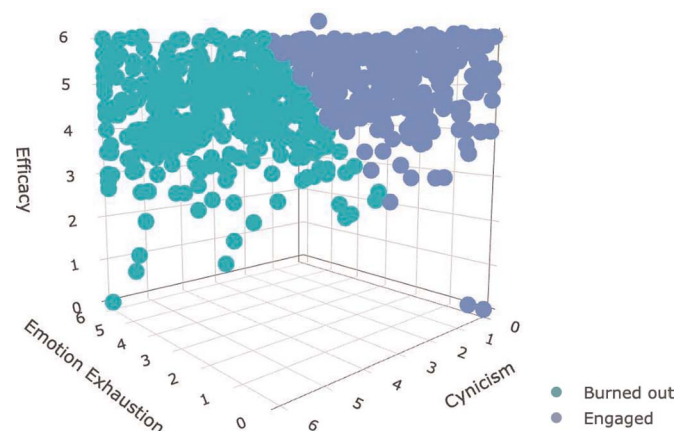
FIGURE 1. K-means cluster analysis of burnout responses.

leadership and politics at a higher level ("Don't feel supported by the agency or state leadership." [respondent 559]) (Table 7).

Though the most common, the work environment was not the only influencer causing respondents to consider leaving their job; a significant number of respondents indicated that low pay or benefits was a determining factor, and many indicated personal or professional development reasons. Many respondents expressed frustration that their pay during the pandemic did not reflect their increased responsibilities or time demands. Respondents indicated that they could have been paid more for doing the same work at another institution, "Better opportunities for salary and career advancement outside DOH (other state agencies and private sector)." (respondent 85). Common personal development factors influencing respondents' turnover intention included desiring to advance in their career but not having that opportunity in their department, not having work responsibilities they were originally hired for or passionate about doing, issues with their work-life balance, and seeking to retire.

In the context of work environments, it is important to note that more than a quarter (46/162) of respondents who indicated their work environment as a contributor to why they were considering leaving their job also made positive comments about their work environment. When respondents were asked, "How has your organization supported your work experience during the past year?," most (72.4%) specifically alluded to an aspect of their work environment, such as flexibility in workspace and time, encouragement and affirmation from leadership ("My administrator recognizes my skills and abilities and gives positive feedback." [respondent 124]), and not micromanaging employees. Another common response (33.2%) from those who noted supportive job resources was the importance of training and education opportunities such as webinars, workshops, and continuing education. A few respondents also identified personal development and forward trajectory in their careers as positive support factors.

Similarly, when asked about what ways their organization could be more supportive of employees in the future, more than 75% of the 335 respondents (38% of the total sample) indicated aspects of the work environment as key. Recommended improvements included increasing staffing, augmenting funding for staff and programs, ensuring enough time to complete trainings and tasks, improving communication and consistency, technological improvements, and providing mentorship opportunities. Respondents also recommended supporting employees by having more supportive and approachable leadership, appreciating hard-working employees, listening to employees and giving them a voice, and strengthening support from leaders and influencers at higher political levels. One respondent indicated several of these factors saying, "hiring more qualified individuals; paying those that we have; effective training; communication of changes and expectations" (respondent 78).

A large proportion (43%) of respondents who suggested organizational supports mentioned the need for training and education specific to their job roles, in leadership development, and specifically for managers and supervisors. Respondents sought in-person and hands-on trainings as well as virtual trainings, opportunities to train (and work) in different areas of the department, and opportunities to attend conferences and symposiums. A few respondents noted that their organization could better support them through improving pay, benefits, and advancement opportunities. One respondent shared suggestions that crossed several themes: (1) listen to the ideas and needs of the staff; (2) for emergency response, give us a schedule a head of time (not the night before, day of, or over the weekend, then yell at us because we did not check our emails overnight; we are not on call); (3) train staff before the event takes place; (4) communicate by having daily meetings to update of the multitude of changes that happen each day; (5) allow staff time to actually do their work; and (6) appreciate the staff; do not expect them or demand anything; we are people and

TABLE 4. Regression Results of Burnout Predicting Satisfaction and Turnover

Predictor	Satisfaction With Job in General		Satisfaction With People		Satisfaction With Work		Satisfaction With Supervisor		Turnover Intentions	
	b	95% CI	b	95% CI	b	b	95% CI	95% CI	b	95% CI
(Intercept)	13.64**	[11.47, 15.82]	15.52**	[13.12, 17.91]	11.23**	1.24**	[0.99, 1.49]	[9.07, 13.39]	15.73**	[13.22, 18.24]
Emotional exhaustion	−0.32*	[−0.63, −0.02]	−0.38*	[−0.71, −0.04]	−0.27	0.05**	[0.02, 0.09]	[−0.57, 0.04]	−0.52**	[−0.87, −0.16]
Cynicism	−1.31**	[−1.62, −1.00]	−0.51**	[−0.85, −0.17]	−1.27**	0.19**	[0.15, 0.23]	[−1.58, −0.96]	−0.79**	[−1.14, −0.43]
Personal efficacy	0.55**	[0.16, 0.93]	−0.02	[−0.44, 0.41]	0.82**	−0.04	[−0.09, 0.00]	[0.43, 1.20]	0.05	[−0.40, 0.50]

Note: b represents unstandardized regression weights. 95% CI contains the lower and upper limits of a confidence interval, respectively.

*$P < 0.05$.

**$P < 0.01$.

TABLE 5. Regression Results of Feeling Prepared to Deploy to a Shelter Environment on Burnout

Predictor	Emotional Exhaustion		Cynicism		Personal Efficacy	
	b	95% CI	*b*	95% CI	*b*	95% CI
(Intercept)	4.07**	[3.70, 4.43]	3.41**	[3.03, 3.79]	4.62**	[4.42, 4.83]
Feeling prepared to deploy	−0.24**	[−0.34, −0.15]	−0.31**	[−0.40, −0.21]	0.07**	[0.02, 0.13]

Note: *b* represents unstandardized regression weights. 95% CI contains the lower and upper limits of a confidence interval, respectively.
*$P < 0.05$.
**$P < 0.01$.

deserve to be treated kindly; listen to them and try to be flexible and work with them (respondent 601).

DISCUSSION

In 2021, Florida's public health workforce continued to face heightened occupational stressors due to the COVID-19 pandemic and consecutive above-average hurricane seasons, in addition to their routine responsibilities, leading to increased levels of burnout and turnover intentions compared with normalized workforce levels. The heightened burden on this workforce in 2020, due to the novelty of the COVID-19 pandemic and record-breaking Atlantic hurricane season, was maintained through 2021 as well, indicating a dangerous persistence of job demands and insufficiency of job resources and organizational support to uphold this critically important workforce.[13] The 2021 PH WINS survey found that, while over 90% of respondents were highly committed to their work, more than half reported at least one symptom of posttraumatic stress disorder, and many had experienced bullying, threats, or harassment on the job.[13,25] Across settings and job roles, 22% reported their mental health as "fair" or "poor," and nearly a third were considering resigning within the next year due to reasons such as overload/burnout, stress, negative organizational climate, lack of opportunity for advancement, and low pay.[25]

Similar to findings from previous studies, this study found that many of Florida's public health workforce members had high levels of emotional exhaustion and cynicism, which are negatively correlated with job satisfaction, and positively correlated with burnout and turnover intentions. Conversely, this study also found that numerous workforce members reported high levels of personal efficacy, which acts as

a protective factor positively correlated with job satisfaction and negatively correlated with burnout and turnover intentions. Overall job satisfaction, satisfaction with people at work, and satisfaction with supervisors were significantly related to high personal efficacy and low emotional exhaustion and cynicism. To support this workforce and protect against burnout and high turnover intentions, which are directly related to high turnover rates, further measures must be taken to reduce emotional exhaustion and cynicism while increasing personal efficacy.

This study revealed heterogeneous results on burnout and job satisfaction levels among members of this workforce, with nearly half being engaged in their work and nearly half being burnt out. Respondents who reported feeling supported by their organization, and feeling prepared to deploy to shelter environments, had lower levels of emotional exhaustion and cynicism, and higher levels of personal efficacy, leading to higher levels of job satisfaction and lower levels of burnout and turnover intentions. This is significant because it directly highlights the importance of effectively supporting and preparing these workforce members.

Respondents revealed many ways in which they felt, or did not feel, supported in their work (many but not all of which were similar to previous findings) and gave recommendations for improving organizational support, providing valuable insight into adaptations that can be made in these organizations to make workforce members feel more supported and more satisfied in their roles (Fig. 2). The environment in which people work has a significant impact on whether or not they felt supported in their roles. Specific aspects of the work environment identified by respondents as weaknesses can be addressed and turned into strengths by ensuring adequate staffing; reasonable workloads;
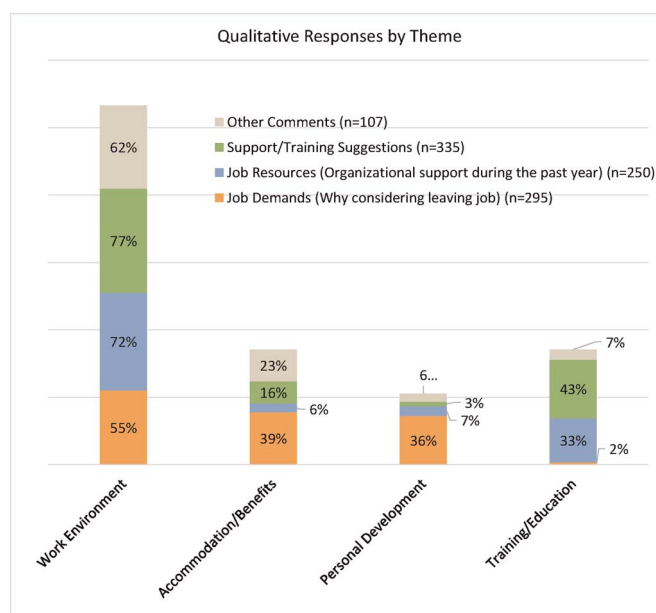
FIGURE 2. Qualitative responses by theme (number and percent of coded segments).
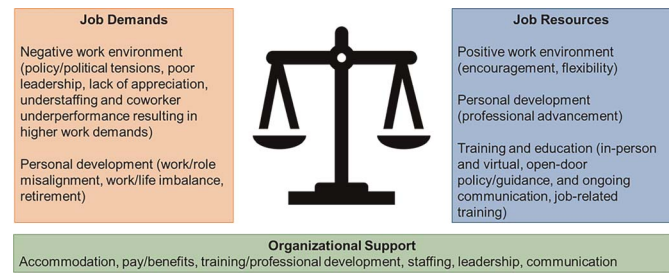
FIGURE 3. Job demands, resources, and organizational support for the public health workforce.

flexibility in scheduling and working remotely; competitive salaries and benefits; sufficient training and education opportunities; various technological improvements; enhanced career advancement opportunities; and supportive, appreciative, and communicative leadership. Additionally, respondents stressed the importance of having their voices heard, and the need for stronger support from leadership at higher political levels. These findings are in alignment with those from the qualitative responses in the PH WINS survey, which revealed that most respondents were proud to work in public health, but often felt overworked and underappreciated.[21]

Data from PH WINS for Health and Human Services' Region 4, which includes Florida and seven other Southeastern US states, revealed interesting similarities to this study's national findings. Both Region 4 and results from the rest of the nation were significant for work overload or burnout, stress, lack of flexibility, and retirement. However, for pay being the reason for leaving, Region 4 was significant while the rest of the nation was not.[13,20] These findings from PH WINS support the results of this study that many public health

TABLE 6. Qualitative Themes Sum Scores

Category and Response Item	*n*	%
Job demands		
If you are thinking about, or planning on leaving your job, please describe why.		
Total respondents = 295		
Work environment	162	54.91%
Accommodation/benefits	115	38.98%
Training and education	5	1.69%
Personal development	107	36.27%
Job resources		
How has your organization supported your work experience during the past year?		
Total respondents = 250		
Work environment	181	72.40%
Accommodation/benefits	16	6.40%
Training and education	82	32.80%
Personal development	18	7.20%
No response or N/A	83	33.20%
Organizational support/what's needed		
In what ways could your organization be more helpful during the next year? What training/resources would be most helpful for you in your work role?		
Total respondents = 335		
Work environment	259	77.31%
Accommodation/benefits	55	16.42%
Training and education	145	43.28%
Personal development	11	3.28%
Additional feedback/comments		
Total respondents = 107		
Work environment	66	61.68%
Accommodation/benefits	25	23.36%
Personal development	8	7.48%
Training and education	6	5.61%

Note: Totals equal > 100% as respondents could indicate multiple themes.

workers were burnout, emotionally exhausted, and did not feel support. Additionally, the PH WINS findings on pay being a significant reason for Region 4 workers to leave were corroborated by the qualitative findings of this study where competitive salaries were noted by respondents as an influential factor.

It is important to note that many respondents identified both positive and negative aspects of their work environment. Work environments are complex situations made up of many different factors that need to be considered and addressed holistically. Though workforce members may be supported in some areas of their work environment, other areas may need improvement. It is essential to assess and address needs in each individual organization in order to support workforce members effectively through tailored accommodations and support.

FDOH was one of the first integrated state health agencies in the United States to receive accreditation from the Public Health Accreditation Board (PHAB) in 2016.[26,27] The review process for such accreditation includes a workforce development plan that integrated training or exercises where disaster preparedness, including response role and surge capacity, is at least part of the focus. PHAB reaccreditation occurs every 5 years. According to PHAB records, Florida's last reaccreditation occurred in September 2020, using the 2016 reaccreditation process and requirements. The Department's next reaccreditation should occur in 2025 using the updated 2022 process and requirements.[27] It would be advantageous to incorporate the supportive factors identified in this study during the accreditation process to protect the Florida public health workforce against the concerningly high turnover rates that are projected to continue. In 2022, the CDC found that almost half of the health workforce was somewhat likely or very likely to look for a new job within the next year, and PH WINS found that if the 2017–2021 rate of separations continued, more than half of the state and local governmental public health workforce would leave or retire by 2025.[14,19]

Limitations and Future Directions

Though this study analyzed a state-wide, representative sample, a limitation is that it was a convenience sample collected using preexisting networks. Neither a roster nor estimated total number of public health workers in the state was unavailable so response rates were unable to be calculated. Responses were self-reported, enabling people to choose whether to participate and to respond to all the questions. Through utilizing this data collection methodology, selection bias is a potential limitation of this study due to more burnt-out workforce members being more or less likely to complete the survey than those not burnt out.

It is critical to utilize the findings of this research to implement strategies addressing the abundance of job demands and insufficiency of job resources and organizational support mechanisms among this public health workforce. Further research should be conducted on implementing identified support mechanisms and their effects on workforce members' levels of emotional exhaustion, cynicism, personal efficacy, burnout, job satisfaction, and turnover intentions. Additionally, more targeted research should be conducted assessing and analyzing

TABLE 7. Selected Quotes

Job demands	I feel over worked, underpaid, and unappreciated (respondent 601).
	Underpaid and undervalued for the type of work we do. We are grossly understaffed. A few of us have to do multiple jobs because there isn't enough of us to do the work (Respondent 195).
	I work, sometimes 50 hours a week. I am a backup for all of my staff, but there is no back up for me (respondent 517).
	Under paid, underappreciated, over worked with multiple jobs given on top of the jobs you have and can't do accurately do to time, supervisor and director are lazy and do not listen to concerns (respondent 217).
	Don't feel supported by the agency or state leadership (respondent 559).
	Lack of administrative support and involvement. Disunity and lack of engagement among all the areas. Poor employee morale especially since hurricane and pandemic (respondent 302).
	Current leadership is poor and ineffective at providing inspiration or vision for future or local office (respondent 787).
	Lack of effective leadership, lack of direction, lack of purpose, lack of clarity, lack of accountability, not hiring strong leaders—too much nepotism, lack of training, lack of staff development (respondent 66).
	Mentally draining with low pay and no benefits. Experience and education have well out grown the job with no care or advancement from my higher up supervisor (respondent 4).
	I am a nurse, I did not sign up to sit behind a desk every day, that is not nursing. On top of that the stat sent in contract nurses making 39 dollars an hour to vaccinate but will only pay us 22.00–25.00 an hour (respondent 168).
Job resources	Allowed creativity, some autonomy, expressed appreciation, promotion, decent salary (respondent 317)
	Allowed teleworking until March 2021, time off approved whenever requested, redistributed workload to make it more even among staff, promoted me and gave me a raise (respondent 155).
	I have been given the opportunity to telework 2 days a week which helps me focus on my work without distractions from others in the office. I have a good supervisor who listens and responds to my concerns (respondent 84).
	They have allowed me to work from home. Trainings are always readily available (respondent 192).
	Provided training and leadership have been very supportive (respondent 699).
	Ongoing training/learning opportunities; positive words of encouragement (respondent 98).
	My administrator recognizes my skills and abilities and gives positive feedback (respondent 124).
	Provided weekly/biweekly guidance and direction, supplied resources that somewhat help to meet local needs, always takes time to listen and help if able, funding sources, coordination (respondent 108).
	My organization has been very supportive, with training, hand on experience, and providing tools needed to preform my daily tasks (respondent 505).
	My organization has provided me with numerous opportunities and responsibilities allowing me to grow both professionally and personally while being of service to the community at large (respondent 211).
Organizational support	Hiring more qualified individuals; Paying those that we have; Effective training; Communication of changes and expectations (respondent 76).
	Need to offer competitive salaries for professional staff based on market (respondent 263).
	More could be done for my salary. If all I had to do was work at one job, I feel like I could contribute more emotionally and mentally to my work. An employee that feels like their years of experience means something will have a deeper sense of appreciation and will be more productive (respondent 38).
	Share more information, more often. Pay attention to the potential butterfly effect (the phenomenon whereby a minute localized change in a complex system can have large effects elsewhere) of changes that you make, and inform and then seek input/feedback from those impacted. Recognize efforts not with a "thank you to all of our staff," but with a personal note, pat on the back; heck, just stop and talk to people to touch base so they feel heard (respondent 102).
	Positive reinforcement (respondent 96).
	Balance acknowledgment of effort and recognition of good work done, with critical feedback. Mental and emotional health care, interpersonal dynamics education, leadership training, communication training (respondent 738).
	Training managers and supervisors—this is an urgent need (respondent 110).
	I recently changed positions and very grateful for the opportunity. However, the training could have been much better when switching from my former position to my current position (respondent 245).
	Asking for our input; considering the information given and following through with whatever the matter/issue was (respondent 297).
	More empathy and trust from state leadership all the way down to local leadership. Adherence to our mission to be the healthiest state in the nation. Integrity (respondent 207).
	More mental health and resiliency resources. More flexibility within reason (respondent 172).
	Providing more ways for advancement (respondent 271).

the emotional exhaustion, cynicism, personal efficacy, burnout, job satisfaction, and turnover intentions over time among specific subsets of the public health workforce to inform more targeted and effective support mechanisms and accommodations.[14] It would also be advantageous to further analyze job demands and burnout trends among those in leadership positions versus those not, in the interest of implementing more adequate support mechanisms. Continued research on the burnout, job satisfaction, turnover intentions, and qualitative feedback of the public health workforce is essential to understanding and addressing their occupational needs so that they can feel supported and competent in their roles and effectively protect and promote the health of the public.

CONCLUSIONS

The public health workforce in Florida plays a critical role in protecting and promoting the health and well-being of people and communities. This traditionally overstretched workforce has experienced increased stressors due to the COVID-19 pandemic and busy 2020 and 2021 hurricane seasons. Response to these incidents is contributing to heightened job demands and insufficient job resources and organizational support, leading to decreased job satisfaction and heightened levels of burnout and turnover intentions. A significant portion of the public health workforce is experiencing concerningly high levels of emotional exhaustion, cynicism, and burnout. However, many workforce members have felt supported in their roles and have high perceptions of their personal efficacy, which acts as a protective factor against burnout. Workforce members who reported feeling supported by their organization were significantly less burnt out, more satisfied with their work, and less likely to turn over than those who did not feel supported.

As the pandemic continues, hurricane seasons occur annually, and new threats emerge, it is critical to support the public health workforce, increasing job satisfaction and decreasing burnout and turnover intentions, to effectively protect and promote the health of Florida's population. Targeted supportive measures must be implemented to lighten the workload, allow flexibility, show appreciation, improve communication, enhance leadership, accommodate career advancement, and support capacity building among this workforce in their respective organizations. Reducing burnout and turnover intentions by adequately supporting this workforce is essential to effectively addressing the continuing COVID-19 pandemic, upcoming hurricane seasons, routine health affairs, and emergent issues.

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