Burnout Among Primary Care Healthcare Workers During the COVID-19 Pandemic

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Objective: To measure the prevalence of burnout among healthcare workers (HCWs) in primary care during the COVID-19 pandemic and to understand the association between burnout, job-person fit, and perceptions of the pandemic. **Methods:** We surveyed 147 HCWs (73% response rate) in two clinics in the summer of 2020 on their burnout, job-person fit, perceptions of the pandemic, and demographic/job characteristics. Logistic regression analyses were conducted to explore relationships between these variables. **Results:** Forty-three percent of HCWs reported burnout. Lower HCW burnout was associated with better job-person fit in the areas of recognition or appreciation at work (odds ratio [OR] 0.26, 95% confidence interval [CI] 0.10 to 0.67) and congruent worker-organization goals and values (OR 0.30, 95% CI 0.11 to 0.76). **Conclusions:** Working environments with better job-person fit may be key to reducing HCW burnout even after the current crisis.

Keywords: burnout, COVID-19, healthcare organizations, healthcare workforce, primary care

Learning Objectives

- Summarize the new findings on the prevalence of burnout among primary care healthcare workers (HCWs) at VA clinics during the COVID-19 pandemic.
- Discuss the findings on work environment factors associated with HCW burnout, including job-person fit.
- Discuss the implications for improvements in the working environment that could reduce HCW burnout, even after the pandemic.

Burnout is a prevalent occupational phenomenon among healthcare workers (HCWs) in all healthcare specialties the United States (US), including those who work in primary care.[1–3] The spread of the SARS-CoV-2 virus and the resulting COVID-19 pandemic have been associated with burnout,[4] depression, and anxiety[5] among HCWs, but not all HCWs respond to COVID-19-related stressors in the same ways. Positive working environments can act as a buffer against burnout,[6] even when stressors inherent to one's work can drive the phenomenon.

Job-person fit is one way of measuring a positive working environment. Maslach and Leiter have theorized that mismatches between worker expectations and workplace realities (ie, a lack of job-person fit) can lead to burnout.[7] They have also theorized that job-person fit can be measured in terms of six domains or areas of worklife: sustainable workload (workload), control over work (control), recognition and appreciation at work (reward), support and community at work (community), workplace fairness with fair access to resources and opportunities (fairness), and congruent worker-organization goals and values (values).[8] These six worklife domains are inversely related to all three components of burnout (emotional exhaustion, depersonalization, and reduced personal accomplishment) in pooled analyses of almost 7000 workers across 17 studies.[9]

Workers who report job-person fit are less likely to be burned out, but this relationship has not been well studied during times of crisis. To examine associations between burnout and the working environment during a disaster, we surveyed HCWs in two primary care clinics in one regional healthcare network during COVID-19 pandemic in the summer of 2020.

METHODS

We constructed a survey instrument containing an abbreviated version of the Maslach Burnout Inventory (aMBI; as previously described[10]), Areas of Worklife Survey – Short Form (AWS-SF), a subset of items from the Pandemic Experiences & Perceptions Survey (PEPS), and demographic characteristics.

Participants

All 209 core primary care HCWs (providers, nurses, and medical support assistants/clerks) in two clinics in one Veterans Health Administration (VA) regional healthcare network were invited by email to complete the survey during July and August 2020. One hundred fifty-two HCWs completed the survey (73% response rate).

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Clinical significance: During the first summer of the COVID-19 pandemic, over 40% of healthcare workers (HCWs) in two primary care clinics were burned out, but burnout was less likely when they reported job-person fit. Improving aspects of the working environment like job-person fit could reduce HCW burnout even after the pandemic.

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Main Outcome

Main outcome: Burnout was measured via frequency (0: never; 1: a few times a year or less; 2: once a month or less; 3: a few times a month; 4: once a week; 5: a few times a week; 6: every day) of emotional exhaustion (EE), depersonalization (DP), and reduced personal accomplishment (PA) symptoms using three three-item aMBI subscales (Cronbach's alpha = 0.79 to 0.85).[10] Burnout was operationalized as reporting symptoms at least once a week or more on average (≥12 points on three items) on either the EE or DP subscale, as previously described.[1] Evidence of validity of the full MBI has been established by the consistent relationship of drivers (eg, job demands) and outcomes (eg, turnover) of burnout to the scale in a meta-analysis of 213 studies.[11]

Predictors

Job-person fit with working environment was measured via the AWS-SF by HCW agreement (1: strongly disagree; 2: disagree; 3: hard to decide; 4: agree; 5: strongly agree) with six three-item domains (Cronbach's alpha = 0.48 to 0.76): sustainable workload

TABLE 1. Demographic Characteristics and Survey Responses of the Sample ($n = 152$)

Characteristic	*n*	%
Gender		
Male	34	19.7
Female	113	80.2
Race		
White	110	74.3
Black or African-American	2	1.4
American Indian or Alaska Native	9	6.2
Asian	6	4.1
Native Hawaiian or other Pacific Islander	3	2.1
Other	16	11.0
Ethnicity		
Hispanic or Latino	29	19.7
Not Hispanic or Latino	118	80.2
Age		
18–24 years old	1	0.7
25–34 years old	20	13.4
35–44 years old	33	22.2
45–54 years old	49	32.9
55–64 years old	37	24.8
65–74 years old	8	5.4
75+ years old	1	0.7
Work schedule		
Full-time	140	94.6
Part-time	8	5.4
Job type		
Provider (MD/DO; NP; PA)	46	30.2
RN	56	36.8
LPN/LVN/CNA	26	17.1
MSA/clerk	24	15.8
PACT type		
Primary care PACT	127	83.6
Other special population PACT	23	15.1
Do not know/not sure	2	1.3
Tenure		
Less than 1 year	26	17.1
1–5 years	84	55.3
6–10 years	27	17.8
11–20 years	10	6.6
More than 20 years	5	3.3
Overall burnout (EE ≥ 12 or DP ≥ 12)		
Yes	66	43.4
No	86	56.6
Emotional exhaustion (EE ≥ 12)		
Yes	65	42.8
No	87	57.2
Depersonalization (DP ≥ 12)		
Yes	8	5.3
No	144	94.7
Reduced personal accomplishment (reverse PA ≥ 12)		
Yes	19	12.5
No	133	87.5
Areas of worklife domains	**M (SD)**	***n***
Workload	2.73 (1.06)	147
Control	3.03 (0.97)	146
Reward	3.28 (1.10)	151
Community	3.59 (1.01)	148
Fairness	2.77 (0.94)	148
Values	3.52 (0.86)	149
Areas of worklife domains (job-person fit; score ≥ 4)	***n***	**%**
Workload		
Yes	35	23.0
No	117	77.0
Control		
Yes	42	27.6
No	110	72.4
Reward		
Yes	61	40.1
No	91	59.9
Community		
Yes	73	48.0
No	79	52.0
Fairness		
Yes	20	13.2
No	132	86.8
Values		
Yes	63	41.5
No	89	58.6
Pandemic experiences and perceptions survey items	***n***	**%**
Frequency of contact with virus		
Never	48	32.4
Occasionally	71	48.0
Regularly	15	10.1
Often	9	6.1
Every day	5	3.4
Control over virus with training, equipment, and support		
No control	9	6.0
Minimal control	19	13.4
Some control	52	36.6
A lot of control	56	39.4
Complete control	15	10.6
Personal danger from virus		
No danger to me	18	12.1
Mild potential for harm	59	39.6
Usual potential for harm	33	22.2
Greater than usual potential for harm	30	20.1
Life-threatening danger	9	6.0

CNA, certified nursing assistant; DO, Doctor of Osteopathy; DP, depersonalization; EE, emotional exhaustion; LPN, licensed practical nurse; LVN, licensed vocational nurse; M, mean; MD, Doctor of Medicine; MSA, medical support assistant; NP, nurse practitioner; PA, physician assistant, personal accomplishment; PACT, patient-aligned care team; RN, registered nurse; SD, standard deviation.

(workload), control over work (control), recognition and appreciation at work (reward), support and community at work (community), workplace fairness with fair access to resources and opportunities (fairness), and congruent worker-organization goals and values (values). Domains that respondents rated as 4 or above on average were scored as having ''job-person fit,'' a more stringent cutoff than the survey manual recommendation of average scores of greater than 3.[8] The full AWS scale was validated by a study of 1443 hospital workers that matched themes in free-text comment cards to AWS survey responses.[8]

The PEPS items measured aspects of HCW's workplace experiences in a pandemic using ordinal scales, including perceptions of contact with, control over, and personal danger from the virus.[12] These items were scored according to their response option, as shown in Table 1. The PEPS was created for the COVID-19 pandemic and has not been evaluated for validity or reliability.

Controls

Demographic and job characteristic measures included respondent gender (male or female); age (18 to 24 years old; 25 to 34 years old; 35 to 44 years old; 45 to 54 years old; 55 to 64 years old; 65 to 74 years old; 75+ years old); race (White; Black or African-American; American Indian or Alaska Native; Asian; Native Hawaiian or other Pacific Islander; other); ethnicity (Hispanic or Latino or not Hispanic or Latino); job tenure (less than 1 year; 1 to 5 years; 6 to 10 years; 11 to 20 years; more than 20 years); job type (providers [physicians, nurse practitioners, and physician assistants]; registered nurses; licensed vocational nurses, licensed practical nurses and certified nursing assistants; medical support assistants/clerks), work schedule (full-time or part-time); patient-centered medical home type (primary care patient-aligned care team or other special population patient-aligned care team).

Multivariate analysis involved regressing burnout on AWS-SF areas and PEPS items, controlling for job tenure and site. No other demographic characteristics were associated with burnout in bivariate analyses.

RESULTS

Over 40% of all respondents reported burnout and emotional exhaustion (43% in each category; Table 1). Only 5% and 13% of respondents reported depersonalization and reduced personal accomplishment, respectively. At least 40% of respondents indicated job-person fit for reward (40.1%), community (48.0%), and values (41.5%), but not for workload, control or fairness. Job-person fit scores were above average for control (mean [M] 3.03, standard deviation [SD] 0.97), reward (M 3.28, SD 1.10), community (M 3.59, SD 1.01), and values (M 3.52, SD 0.86), but not for the other two domains. Most respondents reported no (32.4%) or only occasional (48.0%) contact with the virus, a lot of (39.4%) or complete (10.6%) control over the virus, and no danger (12.1%) or mild potential for harm (39.6%) from the virus (Table 1).

The sample was mostly female (80.2%), white (74.3%), not Hispanic or Latino (80.2%), 45 years or older (63.8%). Most respondents worked full-time (94.6%), in primary care PACTs (83.6%), and had 5 years or less tenure at their current job (72.4%). Registered nurses (36.8%) and providers (30.2%) were the most prevalent respondents, but nearly a third of the sample was composed of vocational nurses (17.1%) and medical support assistants or clerks (15.8%).

Respondents who reported job-person fit for reward (odds ratio [OR] 0.26, 95% confidence interval [CI] 0.10 to 0.67; $P < 0.05$) or values (OR 0.30, 95% CI 0.11 to 0.76; $P < 0.05$) were less likely to be burned out (Table 2). HCWs with 11 to 20 years of job tenure were more likely to be burned out (OR 12.43, 95% CI 1.13 to 136.72; $P < 0.05$) than those with less than 1 year of tenure. Frequency of contact with, control over, or personal danger from the virus was not significantly related to burnout. Site was also unrelated to the outcome.

TABLE 2. Odds of Burnout by Perceptions of the COVID-19 Pandemic and the Working Environment ($n = 147$)

Survey Item	OR	95% CI
Frequency of contact with virus		
Never/occasionally/regularly	Ref	
Often/every day	0.35	0.09–1.35
Control over virus with training, equipment, and support		
No/minimal/some control	Ref	
A lot of/complete control	1.10	0.46–2.62
Personal danger from virus		
No danger to me or mild/usual potential for harm	Ref	
Greater than usual potential for harm/life-threatening danger	1.24	0.47–3.25
Areas of worklife		
Workload		
No job-person fit	Ref	
Job-person fit	0.57	0.19–1.67
Control		
No job-person fit	Ref	
Job-person fit	1.06	0.36–3.13
Reward		
No job-person fit	Ref	
Job-person fit	0.26[a]	0.10–0.67
Community		
No job-person fit	Ref	
Job-person fit	0.79	0.34–1.83
Fairness		
No job-person fit	Ref	
Job-person fit	0.25	0.05–1.41
Values		
No job-person fit	Ref	
Job-person fit	0.30[a]	0.11–0.76
Job tenure		
Less than 1 year	Ref	
1–5 years	2.07	0.64–6.74
6–10 years	1.25	0.29–5.41
11–20 years	12.43[a]	1.13–136.72
More than 20 years	1.13	0.10–13.29
Site		
Site 1	Ref	
Site 2	0.51	0.22–1.21

All models control for clinic tenure and site. CI, confidence interval; OR, odds ratio; Ref, reference category.
[a] $P < 0.05$.

DISCUSSION

Over 40% of the primary care HCWs we surveyed reported burnout during the first summer of the COVID-19 pandemic. Emotional exhaustion among these HCWs was much higher than depersonalization or reduced personal accomplishment. Job-person fit in terms of reward and values was linked to lower burnout. Increased job tenure was additionally associated with increased burnout.

Burnout in our sample was actually lower than the ~50% average burnout among VA primary care providers from 2013 to 2017.[1] Mid-, but not late-, career HCWs were more likely to be burned out than those early in their career, as previously described in non-VA contexts.[13] In addition, a positive working environment may have helped HCWs in our sample avoid burnout during the pandemic. HCWs in our sample were less likely to be burned out if they perceived job-person fit for reward and values in their workplace. Workplace reward and burnout have been previously examined among primary care HCWs in the Midwest, but no link

was found.[14] Personal value-alignment with one's workplace and considering one's career in medicine a ''calling'' have been previously linked to lower burnout in primary care.[15] Workplace reward and values may be especially important to HCWs during the current pandemic, as healthcare leaders are forced to make decisions that involve tradeoffs in terms of resources, risk, and staffing as to avoid overwhelming their healthcare systems. A workplace that provides rewards and value-alignment may act as a buffer against burnout, even during a crisis as unprecedented as the COVID-19 pandemic.

This study has strengths in its unique data, use of validated survey instruments, and timely analysis. However it also has several limitations: (1) small sample size, which precluded the building of a more robust analytical model, (2) few sampled clinics, which reduced the generalizability of the findings, and (3) use of survey items from the unvalidated COVID-related PEPS instrument, which reduced the validity of the COVID-related results.

Future research should evaluate burnout and the protective factors of the primary care working environment during times of normalcy. Qualitative research could aid in the discovery of specific protective factors in primary care that cannot be measured by a conceptual survey like the AWS instrument. As other authors have suggested, strategies to implement evidence-based interventions to improve the working environment[16] may be key to reducing HCW burnout after the COVID-19 pandemic. Research on specific interventions and implementation strategies that complement particular protective factors, or substitute for a lack of these factors, could facilitate the future reduction of HCW burnout in primary care.

A high quality working environment may be a powerful tool to reduce HCW burnout. While the current pandemic will end, future crises will appear, and primary care will always be a stressful environment. Creating and maintaining high quality workplaces could reduce HCW burnout in primary care for years to come.

REFERENCES

1. Rinne ST, Mohr DC, Swamy L, Blok AC, Wong ES, Charns MP. National burnout trends among physicians working in the department of veterans affairs. *J Gen Intern Med*. 2020;35:1382–1388.
2. Rotenstein LS, Torre M, Ramos MA, et al. Prevalence of burnout among physicians: a systematic review. *JAMA*. 2018;320:1131–1150.
3. Dyrbye LN, Shanafelt TD, Sinsky CA, et al. Burnout among health care professionals: a call to explore and address this underrecognized threat to safe. *High Qual Care NAM Perspect*. 2017;7:1–11.
4. Matsuo T, Kobayashi D, Taki F, et al. Prevalence of health care worker burnout during the coronavirus disease 2019 (COVID-19) pandemic in Japan. *JAMA Netw Open*. 2020;3:e2017271.
5. Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open*. 2020;3:e203976.
6. Leiter M, Maslach C. Areas of worklife: a structured approach to organizational predictors of job burnout. In: Perrewe PL, Ganster DC, editors. *Emotional and Physiological Processes and Positive Intervention Strategies*. Emerald Publishing Limited; 2003. p. 91–134.
7. Leiter M, Maslach C. Six areas of worklife: a model of the organizational context of burnout. *J Health Hum Serv Adm*. 1999;21:472–489.
8. Leiter M, Maslach C. *Areas of Worklife Survey Manual and Sampler Set.* 5th ed. Mind Garden, Inc; 2011.
9. Leiter MP, Maslach C. Areas of worklife: a structured approach to organizational predictors of job burnout. In: Perrewe PL, Ganster DC, editors. *Emotional and Physiological Processes and Positive Intervention Strategies: Research in Occupational Stress and Well Being*. Elsevier; 2003. p. 91–134.
10. Riley MR, Mohr DC, Waddimba AC. The reliability and validity of three-item screening measures for burnout: evidence from group-employed health care practitioners in upstate New York. *Stress Health*. 2018;34:187–193.
11. Alarcon GM. A meta-analysis of burnout with job demands, resources, and attitudes. *J Vocat Behav*. 2011;79:549–562.
12. Pandemic Experiences & Perceptions Survey. https://www.mindgarden.com/346-pandemic-experiences-perceptions-survey.
13. Dyrbye LN, Varkey P, Boone SL, Satele DV, Sloan JA, Shanafelt TD. Physician satisfaction and burnout at different career stages. *Mayo Clin Proc*. 2013;88:1358–1367.
14. Spinelli WM, Fernstrom KM, Galos DL, Britt HR. Extending our understanding of burnout and its associated factors: providers and staff in primary care clinics. *Eval Health Prof*. 2016;39:282–298.
15. Abraham CM, Zheng K, Poghosyan L. Predictors and outcomes of burnout among primary care providers in the United States: a systematic review. *Med Care Res Rev*. 2020;77:387–401.
16. DeChant PF, Acs A, Rhee KB, et al. Effect of organization-directed workplace interventions on physician burnout: a systematic review. *Mayo Clin Proc Innov Qual Outcomes*. 2019;3:384–408.

