

Telemedicine During COVID-19 Response: A Welcome Shift for Younger Female Healthcare Workers



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BACKGROUND: Healthcare workers, especially female employees, have historically been at an increased risk for occupational stress. During the early stages of the COVID-19 pandemic, many healthcare workers shifted to a telework model of care and started working from home (WFH). It is unclear how WFH impacted female healthcare employees' job satisfaction and stress levels.

OBJECTIVE: To further understand the impact of WFH on job satisfaction and stress among female healthcare employees.

DESIGN: An exploratory survey was utilized. Data was evaluated with generalized linear models and logistic regression. Data was collected March to April 2021, between the third and fourth COVID waves in the U.S.A.

PARTICIPANTS: All employees (approximately 1050) within the Veterans Affairs Central Western Massachusetts (VACWM) Healthcare System were invited to participate. We received 220 responses with most (78.6%) respondents identifying as female.

MAIN MEASURES: A Work-from-Home Satisfaction Scale and the Professional Quality of Life (ProQOL) Compassion Satisfaction and Burnout Scales.

KEY RESULTS: A majority of our participants (> 60%) strongly agreed that WFH during COVID-19 increased their work satisfaction and their ability to feel safe and reduced overall stress levels. Female respondents reported that WFH increased their ability to feel safe, reduced overall stress, and did not interfere with work efficiency when compared to male respondents. Overall, reported burnout was low, with only 32.7% of respondents scoring in the moderate category on the PROQOL burnout scale and no respondents scoring in the high burnout category.

CONCLUSIONS: Employees at this VA medical center who had the ability to work from home during the COVID-19 pandemic, particularly younger women, reported less stress, less burnout, and more satisfaction, while maintaining work efficiency and team cohesion. Providing permission to WFH may decrease the added burden that female healthcare workers often experience as they strive to overcome gender gaps and inequalities in the workplace.

KEY WORDS: burnout; provider satisfaction; telework; women's careers.

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BACKGROUND

Healthcare workers are often at risk for occupational stress for a number of reasons, including time pressure, limited support from their colleagues and managers, work overload, or difficult patient interactions.¹ Occupational stress can lead to burnout and reduced compassion satisfaction,² which in turn can lead to a lower quality of patient care, employee exhaustion, feelings of disconnectedness,^{3,4} and negative economic consequences such as turnover and higher absenteeism.⁵ Women healthcare employees, who now make up 75% of the overall health care workforce,⁶ in particular face challenges which may impact their quality of life at home and at work. These challenges include balancing work and family responsibilities, a lack of supportive policies (e.g., maternity leave, flexible hours), gender inequality (e.g., wages), and stereotyping of working women (e.g., emotional, sensitive, and lacking in leadership skills), which may lead to stress, low productivity, and overall low life satisfaction.⁷ Women in healthcare are more likely to experience burnout compared to men and managing work home conflict/responsibility is a large contributor.^{8,9}

During the COVID-19 pandemic, healthcare workers have experienced anxiety, depressive symptoms, insomnia, burnout, and distress,¹⁰⁻¹² with female healthcare workers often more vulnerable to burnout and mental health concerns.^{11,13,14} A review investigating healthcare workers found that younger women with children were more likely to experience occupational stress, burnout, and depression during COVID-19.¹⁵ Furthermore, working women spent a disproportionate amount of time dedicated to increased household chores and childcare compared to their partners.¹⁶ On average, women engaged in 10 more hours a week of childcare burden than male partners during the COVID-19 pandemic.¹⁷ Women with younger children (aged 0–5) and single mothers were particularly impacted by the increased time needed in the home.¹⁶ Women were also more likely to have stopped working during the pandemic due to increased childcare needs.^{17,18} One study found that women with children preferred to telework as they saved time from not commuting and were able to put that time into child or household care. However, working from home (WFH), especially during the pandemic, was found to blur work and family responsibilities leading to difficulty in work-life balance and overall professional advancement.¹⁹

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Having the opportunity to choose a WFH format may be important. Growing evidence suggests that for jobs in all sectors that translate well to a WFH format, employees who are given the permission to WFH report greater work satisfaction than those who are not granted permission by their employers.²⁰ The permission to work from home during the COVID-19 pandemic may play a role in satisfaction for healthcare workers. While some healthcare roles do not allow for WFH capability (those roles that provide in-person-only services), others do (providers of telehealth services); however, little is known about the impact of WFH ability on job satisfaction. One study of Bolivian healthcare workers found that the greater number of days in the office predicted less satisfaction and more turnover for younger employees, while having the opposite impact for older staff.²¹

More information is needed to determine how WFH permission impacts employee satisfaction and job abilities, specifically for women working in a healthcare setting who may be at most risk for burnout and mental health concerns related to work stress. To further understand the impact of WFH on job satisfaction during COVID-19 among healthcare employees, we conducted an exploratory survey of employees at the Veterans Affairs Central Western Massachusetts (VACWM) Healthcare System. VACWM provides medical care to a Veteran population of more than 120,000 men and women in central and western Massachusetts and is part of the largest integrated healthcare system in the U.S.A.

METHODS

All employees (approximately 1050) at the VA Central Western Massachusetts Health Care System were invited through email to voluntarily participate in a survey aimed to gather information on employee adjustment a year into the COVID-19 pandemic. The survey was developed and data were collected and managed using REDCap Research Electronic Data Capture, a secure, web-based application designed to support data capture for research studies.²² The survey was accessed by a secure, anonymous link sent to all employees; data was sent back to the REDCap database in real time. Responses were collected from March to April 2021, between the third and fourth COVID waves in the U.S.A.

The survey included items that queried participants on demographics, telework experience, telehealth satisfaction, and staff satisfaction during COVID-19. Demographics included age (dichotomized to 18–49 vs. 50+), gender (male; female; other; prefer not to answer), tenure within the VA years worked in the Veterans Affairs system (< 3 years; 3–5 years; 6–10 years; 11+ years), current work department, and administrative workload 0%, 50%, or less, 51% or more). We had a diverse range of job positions represented by our respondents (Appendix A, Table A1). Of note, while our survey gave respondents the option to specify gender, we did not receive any responses other than male or female. Additionally,

we asked respondents about the average number of days they currently worked from home, and the average number of days they worked from home prior to COVID-19.

Next, we assessed responses to three scales that examined WFH satisfaction and professional quality of life. The Work-from-Home Satisfaction Scale collected responses to the question “*Working from home during COVID-19 has...*” on a 5-point Likert Scale (strongly agree, agree, neutral, disagree, strongly disagree) for five items: (1) increased my work satisfaction; (2) increased my ability to feel safe; (3) reduced my overall stress level; (4) interfered with my ability to complete work-related tasks or work efficiency; and (5) interfered with work team cohesion. Responses to items were summed with lower summed scores indicating greater satisfaction with working from home. Additionally, we examined each of the five items as separate predictors in our models to better understand the effect of COVID-19 on specific components of work by participant characteristics, further detailed below. As working from home was a newer phenomenon for many healthcare workers during COVID-19, we did not find any existing scales that measured satisfaction in working from home. Therefore, we developed this pilot five-item scale for this study.

The ProQOL Professional Quality of Life Scale Compassion Satisfaction Scale was developed to measure the positive effects of working with those who have experienced traumatic stress, such as Veterans.⁴ The Compassion Satisfaction Scale includes 10 items: (1) I get satisfaction from being able to help people; (2) I feel invigorated after working with those I help; (3) I like my work as a helper; (4) I am pleased with how I am able to keep up with helping techniques and protocols; (5) My work makes me feel satisfied; (6) I have happy thoughts and feelings about those I help and how I could help them; (7) I believe I can make a difference through my work; (8) I am proud of what I can do to help; (9) I have thoughts that I am a success as a helper; and (10) I am happy that I chose to do this work. Responses were scored as instructed in the development literature to define “Low,” “Moderate,” and “High” compassion satisfaction levels, with higher scores indicating a greater satisfaction related to being an effective caregiver in one’s job.

The ProQOL Burnout Scale was used to assess the negative effects of working with those who have experienced traumatic stress.⁴ The Burnout Scale includes 10 items: (1) I am happy; (2) I feel connected to others; (3) I am not as productive at work because I am losing sleep over traumatic experiences of a person I help; (4) I feel trapped by my job as a helper; (5) I have beliefs that sustain me; (6) I am the person I always wanted to be; (7) I feel worn out because of my work as a helper; (8) I feel overwhelmed because my case load seems endless; (9) I feel “boggled down” by the system; and (10) I am a very caring person. Responses were scored as instructed in the development literature, including reverse scoring items (1, 2, 5, 6, 10, and), to define “Low,” “Moderate,” and “High” burnout levels, with higher scores indicating a greater risk of burnout.

ANALYSIS

We examined responses to the survey using descriptive statistics n , %, mean, and standard deviation as appropriate based on data type. To examine scale reliability, we calculated Cronbach's alpha at each time point and found high levels of reliability for all five scales utilized and found acceptable reliability for all scales at $\alpha = 0.75$ or higher. Additionally, we examined correlations between our pilot WFH scale and the ProQOL scales, which were shown to be moderately correlated (Appendix A, Table A2). Next, to compare scale responses with demographics and work characteristics (age, gender, administrative workload), we used generalized linear models for the WFH Satisfaction Scale and the individual WFH items (for continuous outcomes) and logistic regression for the ProQOL Burnout and Compassion Satisfaction Scales (for dichotomous outcomes). We chose to use parametric models for the WFH scale and its individual items based on previous evidence in favor of measuring Likert-type items as interval data.^{23,24} Each scale or item was modeled separately with age, gender, and administrative workload included as independent variables in the model. Additionally, we ran separate models with age and gender as independent variables to examine if adjusting for these factors influenced our findings. We did not include tenure in our adjusted models due to the variables collinearity with age. To further examine the relationship between age and gender, we ran models that included age, gender, and an age-by-gender interaction term. Finally, in a sensitivity analysis, we reran our models among the youngest age group (ages 18–49) to examine any potential impact on our main results. Given the exploratory nature of our analysis, we did not adjust for multiple comparisons, as recommended by Rothman.²⁵ All analyses were run in SAS v.9.2 (SAS Institute, Inc., Cary, NC).

RESULTS

We received 220 responses to our survey. Most (78.6%) respondents were female, worked in mental health (28.2%), and had at least some administrative workload (84.5%). Age was distributed evenly between the 18–49 (50.9%) and 50+ (49.1%) age groups. Tenure of 3–5 years was the least common category (15%), with a quarter or more of respondents reporting tenure of < 3 years (25%), 6–10 years (25.9%), or 11+ years (34.1%). Reported burnout was low, with only 32.7% of respondents scoring in the moderate category on the PROQOL burnout scale and no respondents scoring in the high burnout category (Table 1).

Table 2 shows the overall descriptive statistics for the WFH scale items. A majority of our participants (> 60%) strongly agreed that WFH during COVID-19 increased their work satisfaction and their ability to feel safe and reduced overall stress levels. More than 40% of our respondents strongly

Table 1 Characteristics of Survey Respondents (n = 220)

	n	%
Age		
18–49	112	50.9%
50+	108	49.1%
Gender		
Male	43	19.5%
Female	173	78.6%
Tenure		
< 3 years	55	25.0%
3–5 years	33	15.0%
6–10 years	57	25.9%
11+ years	75	34.1%
Administrative workload		
0%	34	15.5%
50% or less	81	36.8%
51% or more	105	47.7%
Work department		
Mental health	62	28.2%
Primary care	31	14.1%
Health administrative services	22	10.0%
Specialty care	18	8.2%
Care in the community	15	6.8%
Geriatrics	11	5.0%
Rehab medicine	11	5.0%
Pharmacy services	10	4.5%
Research	7	3.2%
Nutrition	7	3.2%
Other	24	10.9%
PROQOL Burnout*		
Low 22 or less	148	67.3%
Moderate 23–41	72	32.7%
PROQOL Compassion Satisfaction*		
Low/moderate 41 or less	88	40.0%
High 42 or more	132	60.0%
Mean	SD	
WFH days per week prior to COVID-19	0.6	1.3
WFH days per week during/after COVID-19	3.4	1.7
Change in WFH days per week from prior to COVID-19	2.8	1.9

Note: On the PROQOL Burnout Scale, no participants scored above 42 (the “high burnout” category). On the Compassion Satisfaction Scale, only 1 participant scored lower than 41 (the “low compassion satisfaction” category).

disagreed that WFH during COVID-19 interfered with their ability to complete work-related tasks or interfered with work team cohesion.

Table 3 results from our adjusted generalized linear models examining scale responses by respondent characteristics. When examining specific components of the work-from-home scale, female respondents reported that WFH increased their ability to feel safe, reduced overall stress, and did not interfere with work efficiency when compared to male respondents and after adjustment for age (increased ability to feel safe: $\beta = -0.28$, SE = 0.13, $p = 0.02$; reduced stress: $\beta = -0.36$, SE = 0.17, $p = 0.03$; did not interfere with work efficiency: $\beta = -0.39$, SE = 0.17, $p = 0.02$). Neither PROQOL Burnout nor Compassion Satisfaction scales were significantly associated with any of the factors we examined, nor were results significant in interaction (age*gender) models (data not shown). In our sensitivity analysis examining models only in the youngest age group (18–49), results remained consistent with our main analysis (Table A3).

Table 2 Overall Statistics for WFH Scale Items

Working from home during COVID-19 has...	...increased my work satisfaction.		...increased my ability to feel safe.		...reduced my overall stress level.		...interfered with my ability to complete work-related tasks.*		...interfered with work team cohesion.*	
	n	%	n	%	n	%	n	%	n	%
Strongly agree	140	63.6%	159	72.3%	133	60.5%	4	1.8%	7	3.2%
Agree	34	15.5%	26	11.8%	34	15.5%	6	2.7%	17	7.7%
Neutral	14	6.4%	8	3.6%	21	9.5%	15	6.8%	29	13.2%
Disagree	4	1.8%	3	1.4%	6	2.7%	39	17.7%	48	21.8%
Strongly disagree	3	1.4%	1	0.5%	2	0.9%	131	59.5%	97	44.1%
Missing	25	11.4%	23	10.5%	24	10.9%	25	11.4%	22	10.0%

*Responses were reverse scored in models

DISCUSSION

This study showed that having the ability to work from home during COVID-19 allowed female healthcare workers to experience less stress and feel safer, without impacting their work quality or efficiency. Further, younger employees did not feel that teleworking negatively impacted team cohesion or reduce productivity. In light of these results, remote work could be a viable option even after pandemic responses discontinue.

Providing permission to WFH may decrease the added burden that female healthcare workers often experience as they strive to overcome gender gaps and inequalities in the workplace. We hypothesize that increased WFH flexibility allowed younger females more time to juggle childcare and household responsibilities, which in turn increased their satisfaction levels. Multiple studies have found that women took over more of the childcare duties than their male partners during the COVID-19 pandemic.^{16,17} WFH flexibility allows more women to attend to family responsibilities while also

staying in the work force. This is consistent with the budding pandemic literature. One study found that Italian women with young children (aged 0–5) who continued to work outside the home during COVID-19 had lower work-life balance satisfaction than those working mothers who were able to WFH during the pandemic.¹⁶ For those roles that translate well to a WFH format, having permission from employers to work outside the office may also provide a buffering effect from occupational stress.

If WFH is not available, organizations should consider family-friendly workplace supports including policies (e.g., flexible work hours), services (e.g., resources for dependent care), and benefits (e.g., childcare subsidies) in order to maintain the female labor supply in fields where WFH is not practical or possible,²⁶ including in healthcare. Employees who use workplace supports are more satisfied on the job²⁷ and positive outcomes for organizations have also been linked to family positive policies and workplace support.²⁸

Table 3 Associations Between WFH Scale Items and Respondent Age and Gender Characteristics, Adjusted for Administrative Workload

Variable	Adj. mean score	β	SE	t value	p value*
Work-from-home satisfaction: overall scores					
<i>Lower scores indicate greater satisfaction</i>					
Age, 18–49 vs. 50+	7.68	– 0.85	0.44	– 1.91	0.06
Gender, female vs. male	7.47	– 1.25	0.58	– 2.16	0.03
Work-from-home satisfaction: increased work satisfaction					
<i>Lower scores indicate greater satisfaction</i>					
Age, 18–49 vs. 50+	1.46	– 0.25	0.12	– 2.10	0.04
Gender, female vs. male	1.45	– 0.26	0.16	– 1.68	0.09
Work-from-home satisfaction: increased ability to feel safe					
<i>Lower scores indicate greater feelings of safety</i>					
Age, 18–49 vs. 50+	1.35	0.01	0.09	– 0.11	0.91
Gender, female vs. male	1.21	– 0.28	0.13	– 2.27	0.02
Work-from-home satisfaction: reduced overall stress					
<i>Lower scores indicate lower overall stress</i>					
Age, 18–49 vs. 50+	1.52	– 0.30	0.12	– 2.39	0.02
Gender, female vs. male	1.48	– 0.36	0.17	– 2.19	0.03
Work-from-home satisfaction: interfered with work efficiency					
<i>Reverse scored: lower scores indicate less interference with work efficiency</i>					
Age, 18–49 vs. 50+	1.65	– 0.20	0.13	– 1.60	0.11
Gender, female vs. male	1.56	– 0.39	0.17	– 2.31	0.02
Work-from-home satisfaction: interfered with work team cohesion					
<i>Reverse scored: lower scores indicate less interference with team cohesion</i>					
Age, 18–49 vs. 50+	1.95	– 0.35	0.16	– 2.15	0.03
Gender, female vs. male	1.95	– 0.34	0.21	– 1.61	0.11

*Bold rows indicate p < 0.05

In addition to increased satisfaction, our results suggest that WFH flexibility and telehealth allowed employees to feel safer. The COVID-19 pandemic has forced employers to look at work re-design from an occupational health and safety perspective and to reimagine how tasks are completed to create safe and attractive work environments.^{29,30} These changes and care delivery re-design will ultimately improve care and make it more convenient (e.g., with telehealth appointments) for patients.³¹

Telehealth services are a cost-effective and efficacious treatment modality for a wide range of clinical presentations, including those treated within mental health and specialty care. As the VA often faces shortages of space and other brick-and-mortar resources, allowing more employees to work from home may increase access to healthcare services for Veterans, without depleting employee resources. More tele-access to applicable mental health and specialty care may reduce referrals to community providers and potentially overall costs. Prior to COVID-19, the VA was successfully distributing video telehealth tablets to rural/isolated Veterans and those with complex medical and mental health needs.³² There continue to be some barriers (e.g., those who cannot hear well or speak well, or do not want to learn a new technology) with telehealth,³³ but this modality has become even more widespread over the last 2 years. Within the VA, Veterans have had overall positive views of telehealth care during COVID-19.³⁴ More data and research are needed to determine the exact financial impact of increased remote work for healthcare workers and access to telehealth for patients.

The COVID-19 pandemic also highlighted the need for attention to stress-relieving options for healthcare workers, particularly options that provide a sense of support, relaxation, and community, which are especially important for employees without WFH capability. Healthcare worker stress may be mitigated through organizational interventions and increased coping resources.³⁵ Stress reduction programs at the worksite can reduce overall stress, increase healthy behaviors, and improve overall quality of life for employees.³⁶ Particularly, workplace wellness programs that include mindfulness techniques, relaxation training, yoga, and cognitive behavioral strategies have been found to successfully promote staff wellness and reduce stress.^{37–39} Though many organizations are now offering wellness programming, there is often low utilization of these programs.⁴⁰ To have successful work wellness programming, research suggests there needs to be strong organizational support as well as immediate supervisory support.⁴¹

We acknowledge that our findings are limited by several factors. While we attempted to contact all staff through email, we may have been more likely to receive responses from staff that had regular access to email during their work shifts. While we attempted to mitigate this by leaving our survey open for two months, we potentially missed employees or departments that use email on a less regular basis. Similarly, surveying all employees within one large healthcare system led to a diverse

pool of respondents; while this benefits our understanding of employees across many clinical and non-clinical roles, the way certain variables (e.g., administrative time) are defined by one role may differ from another. We also cannot be certain that the demographics of our respondents are representative of all employees within the VACWM healthcare system. We did not find substantial high burnout rates among those we surveyed. It is unclear why this may be but could be due to our specific facility characteristics (e.g., not having an urgent care/emergency room and not having inpatient medical floors). The methods and survey approach may be used as a model for understanding WFH changes within other VA healthcare systems or professional settings. Finally, our results are not generalizable outside of the VACWM healthcare system.

In summary, this study showed that employees at one VA medical center who had the ability to work from home during the COVID-19 pandemic, particularly younger women, reported less stress, less burnout, and more satisfaction, while maintaining work efficiency and team cohesion. More research is needed to further investigate the long-term effects of WFH beyond the COVID-19 pandemic, as well as offering stress reduction options or other wellness programs for those unable to WFH, particularly for women within the healthcare workforce.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11606-022-07785-x>.

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