ORIGINAL RESEARCH

COVID-19 Impact on Veterans Health Administration Nurses: A Retrospective Survey

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Background: Nurses from Sierra Pacific Network Veterans Health Administration (VHA) facilities assembled a research team to chronicle the impact the COVID-19 pandemic had on VHA nurses within the network. This study sought to include nurses who worked in outpatient areas that were not captured in previous research and nurses who work in inpatient areas.
Methods: After reviewing current literature examining the initial effects of the COVID-19 pandemic on health care workers and possible measurement tools, the team adapted and formatted an electronic survey to measure nurses' experiences related to job satisfaction, burnout, moral distress, depression, and intent to stay in the workplace.

Results: A total of 860 registered and licensed practical/vocational nurses completed the survey in March 2023. Survey results indicated that VHA nurses experienced loss of patients (58%) and colleagues (30%) from COVID-19, overwhelming workload (57%), stress from short staffing (81%), lack of supplies (51%), burnout (50%), and moral injury (30%).
Conclusions: A high percentage of VHA nurses reported they were satisfied with their jobs and the care they provided to veterans despite experiencing personal and professional challenges stemming from COVID-19. We have identified strategies for leaders to support nurses during and after pandemics as well as plan and prepare for future pandemics.

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On March 11, 2020, the World Health Organization designated COVID-19 as a pandemic.[1] Pandemics have historically impacted physical and mental health across all populations, but especially health care workers (HCWs).[2] Nurses and other HCWs were profoundly impacted by the pandemic.[3-8]

Throughout the pandemic, nurses continued to provide care while working in short-staffed workplaces, facing increased exposure to COVID-19, and witnessing COVID-19–related morbidity and mortality.[9] Many nurses were mandated to cross-train in unfamiliar clinical settings and adjust to new and prolonged shift schedules. Physical and emotional exhaustion associated with managing care for individuals with COVID-19, shortage of personal protective equipment (PPE), risk of infection, fear of secondary transmission to family members, feelings of being rejected by others, and social isolation, led to HCWs' increased vulnerability to psychological impacts of the pandemic.[8,10]

A meta-analysis of 65 studies with > 79,000 participants found HCWs experienced significant levels of anxiety, depression, stress, insomnia, and other mental health issues, such as posttraumatic stress disorder (PTSD). Female HCWs, nurses, and frontline responders experienced a higher incidence of psychological impact.[11] Other meta-analyses revealed that nurses' compassion satisfaction, compassion fatigue, and burnout levels were significantly impacted with increased levels of burnout among nurses who had a friend or family member diagnosed with COVID-19 or experienced prolonged threat of exposure to the virus.[12,13] A study of 350 nurses found high rates of perceived transgressions by others, and betrayal.[8] Nurse leaders and staff nurses had to persevere as moral distress became pervasive among nursing staff, which led to complex and often unsustainable circumstances.[14] The themes identified in the literature about the pandemic's impact as well as witnessing nurse colleagues' distress with patient mortality and death of coworkers during the early phase of the COVID-19 pandemic compelled a group of Veterans Health Administration (VHA) nurses to form a research team to understand the scope of impact and identify possible solutions.

Since published studies on the impact of pandemics on HCWs, including nurses, primarily focused on inpatient settings, the investigators of this study sought to capture the experiences of outpatient and inpatient

TABLE 1. Job Satisfaction Reported by Inpatient and Outpatient Nurses

Prompt	Endorsed or strongly endorsed, No. (%) (N = 860)	Inpatient nurses with divergent responses, No. (%) (n = 344)
Were satisfied/very satisfied with their job	688 (80)	–
Felt happy about the care they provided to veterans	645 (75)	227 (66)
Could rely on work colleagues	636 (74)	–
Believed facility management considered workplace health and safety	533 (62)	172 (50)
Believed supervisor was concerned about staff welfare	516 (60)	182 (53)

nurses providing care in the US Department of Veterans Affairs (VA) Sierra Pacific Network (Veterans Integrated Service Network [VISN] 21), which has facilities in northern California, Hawaii, and Nevada.[15-19] The purpose of this study was to identify the impact of COVID-19 on nurses caring for veterans in both outpatient and inpatient settings at VISN 21 facilities from March 2020 to September 2022, to inform leadership about the extent the virus affected nurses, and identify strategies that address current and future impacts of pandemics.

METHODS

This retrospective descriptive survey adapted the Pandemic Impact Survey by Purcell et al, which included the Moral Injury Events Scale, Primary Care PTSD Screener, the Patient Health Questionnaire-2 for depression, and a modified burnout scale.[20-24] The survey of 70 Likert-scale questions was intended to measure nurses' needs, burnout, moral distress, depression and stress symptoms, work-related factors, and intent to remain working in their current position. A nurse was defined broadly and included those employed as licensed vocational nurses (LVN), licensed practical nurses (LPN), registered nurses (RN), nurses with advanced degrees, advanced practice registered nurses (APRNs), and nurses with other certifications or licenses.

The VA Pacific Islands Research and Development Committee reviewed and approved the institutional review board-exempted study. The VISN 21 union was notified; only limited demographic information and broad VA tenure categories were collected to protect privacy. The principal investigator redacted facility identifier data after each facility had participated.

The survey was placed in REDCAP and a confidential link was emailed to all VISN 21 inpatient and outpatient nurses during March 2023. Because a comprehensive VISN 21 list of nurse email addresses was unavailable, the email was distributed by nursing leadership at each facility. Nurses received an email reminder at the 2-week halfway point, prompting them to complete the survey. The email indicated the purpose and voluntary nature of the study and cautioned nurses that they might experience stress while answering survey questions. Stress management resources were provided.

Descriptive statistics were used to report the results. Data were aggregated for analyzing and reporting purposes.

RESULTS

In March 2023, 860 of 5586 nurses (15%) responded to the survey. Respondents included 344 clinical inpatient nurses (40%) and 516 clinical outpatient nurses (60%); 688 (80%) were RNs, 129 (15%) were LPNs/LVNs, and 43 (5%) were APRNs. Of 849 respondents to provide their age, 15 (2%) were < 30 years, 163 (19%) were 30 to 39 years, 232 (27%) were 40 to 49 years, 259 (30%) were 50 to 59 years, and 180 (21%) were ≥ 60 years.

The survey found that 688 nurses reported job satisfaction (80%) and 75% of all respondents (66% among inpatient nurses) reported feeling happy with the care they delivered. Both inpatient and outpatient nurses indicated they could rely on staff. Sixty percent (n = 516) of the nurses indicated that facility management considered workplace health and safety and supervisors showed

TABLE 2. COVID-19 Impacts on Nurses

Impact	Endorsed or strongly endorsed, No. (%) (N = 860)	Inpatient nurses with divergent responses, No. (%) (n = 344)
Nurse colleagues deaths Any ≥ 3	258 (30) 52 (6)	– –
Patient deaths Any ≥ 3	499 (58) 292 (34)	– 148 (43)
Significant person in their life die	232 (27)	–
Denied others to be with family	464 (54)	–
Concerned about health and well-being of colleagues	783 (91)	–
Frighten they would bring COVID-19 home to family	705 (82)	–
Stayed away from family during pandemic	482 (56)	–

TABLE 3. Workplace Stressors for Nurses

Stressor	Endorsed or strongly endorsed, No. (%) (N = 860)	Inpatient nurses with divergent responses, No. (%) (n = 344)
Overwhelmed with additional/multiple roles	593 (69)	–
Role changes	490 (57)	–
Short staffing	447 (52)	–
Coping with coworker absenteeism	697 (81)	–
Floated/detailed to different areas ≥ 3 mo	327 (38)	158 (46)

concern for subordinates, although inpatient nurses reported a lower percentage (Table 1).

Two hundred fifty-eight nurses (30%) reported having nurse colleagues who died and 52 (6%) had ≥ 3 colleagues who died. Among respondents, 292 had ≥ 3 patients who died after contracting COVID-19 and 232 (27%) had a significant person in their life die. More than one-half (54%; n = 464) of nurses had to limit contact with a family member who had COVID-19. Most nurses reported concerns about their colleagues (91%), were concerned about bringing COVID-19 home (82%), and stayed away from family during the pandemic (56%) (Table 2).

A total of 593 nurses (69%) reported feeling overwhelmed from the workload associated with the pandemic, 490 (57%) felt frustrated with role changes, 447 (52%) were stressed because of short staffing, and 327 (38%) felt stressed because of being assigned or floated to different patient care areas. Among inpatient nurses, 158 (46%) reported stress related to being floated. Coworker absenteeism caused challenges for 697 nurses (81%) (Table 3).

Nurses suggested a number of changes that could improve working conditions, including flexible scheduling (54%) and more hours of leave, which was requested by 43% of outpatient/inpatient nurses and 53% of inpatient alone nurses. Access to COVID-19 testing and PPE was endorsed as a workplace need by 439 nurses; the need for access to PPE was reported by 43% of inpatient-only nurses vs 29% of outpatient/inpatient nurses. The need for adequate staffing was reported by 54% of nurses although the rate was higher among those working inpatient settings (66%) (Table 4).

Four hundred sixty-four nurses (54%) felt tense and irritable at home because of work and 447 had ≥ 1 symptoms of burnout (Table 5). In terms of moral distress, > 30% of nurses witnessed morally incongruent situations, 10% felt their own moral code was violated, and > 30% felt betrayed by others (Table 6). Among respondents, 16% to 21% of nurses reported depressive symptoms (eAppendix, available at doi:10.12788/fp.0555). About 50% of nurses intended to stay in their current position while 20% indicated an intention to leave for another VA position.

DISCUSSION

This study identified the impact of COVID-19 on nurses who work in VISN 21. The survey included a significant number of nurses who work in outpatient settings, which differed from most other published studies to date.[15-19] This study found that inpatient and outpatient nurses were similarly impacted by the COVID-19 pandemic, although there were differences. A high percentage of nurses reported job satisfaction despite the personal and professional impact of the pandemic.

Caring for veterans can result in a therapeutic relationship with a deep appreciation of veterans' service and sensitivity to their needs.[25] Some nurses reported that they feel it is a privilege to care for veterans.

Most nurses who participated in this study felt they could rely on their colleagues and were concerned about their health and well-being. Kissel et al explored protective factors for nurses during the pandemic and found participants often reported that their coworkers were positive safeguards.[17] At least 50% of respondents reported that management considered workplace safety and was concerned about their welfare. Previous research has found that a positive working organization that promoted safety and concern for staff were protective factors against stress among HCWs.[26] A literature review of 3 coronavirus outbreaks illustrated the support from supervisors and colleagues promoted resiliency and reduced stress disorders.[3]

Similar to other studies, study respondents experienced profound losses, including the deaths of colleagues, patients, and family. In 2021 Howell reported that HCWs experienced increased stress, fear, anxiety, and other negative emotions following news of colleagues' deaths from COVID-19.[27] Kissel et al reported that nurses frequently described pandemic-related physical and psychological harm and witnessing distress that they had not been previously exposed to.[17]

Our findings illustrate the tightrope nurses walked while caring for patients and concerns about the health of their colleagues and family. Consistent with our findings, Howell found that HCWs were afraid of contracting the infection at work and then unknowingly giving it to others such as patients, coworkers, and household members.[27] Murat et al reported that some nurses chose to live separately during the pandemic to avoid spreading COVID-19 to relatives.[19] Several researchers found that concerns about family and children were prevalent and led to fear, anxiety, and burnout among nurses.[18,28,29] Shah et al suggested that nurses experiencing death in the workplace and within their family may have resulted in fear and anxiety about returning to work.[29] Garcia and Calvo argued that nurses may have been stigmatized as carriers of COVID-19.[16] In addition, the loss of prepandemic workplace rituals may have impacted performance, team connection, and functioning, and led to increased turnover and decreased attachment to the organization.[30]

TABLE 4. Workplace Need Identified

Need	Endorsed or strongly endorsed, No. (%) (N = 860)	Inpatient nurses with divergent responses, No. (%) (n = 344)
Flexible scheduling	464 (54)	–
Hours of leave	370 (43)	182 (53)
Access to COVID-19 testing	35 (41)	189 (55)
Access to personal protective equipment	439 (51)	–
Adequate supplies	249 (29)	148 (43)
Adequate staffing for patient care	464 (54)	227 (66)

TABLE 5. Reported Burnout Experiences (N = 860)

Experience	Endorsed or strongly endorsed, No. (%)
Felt tense and irritable at home because of work (often or most of the time)	464 (54)
Enjoy work with no symptoms of burnout	112 (13)
Occasionally under stress, don't always have as much energy, but not burned out	318 (37)
Are definitely burning out and have ≥ 1 symptoms of burnout, such as physical and emotional exhaustion	258 (30)
Symptoms of burnout won't go away and are frustrated at work a lot	120 (14)
Felt completely burned out and often wondered if they can go on; need some changes or might need to seek help	69 (8)

This study described the significant workplace issues nurses endured during the pandemic, including being overwhelmed with additional and/or multiple roles and frustrated and stressed with role changes and short staffing. Nurses endorsed workplace challenges in the context of coworker absenteeism and reassignments to different areas, such as intensive care units (ICUs).[17] Researchers also reported that displaced team members experienced loneliness and isolation when they were removed from their usual place of work and experienced distress caring for patients beyond their perceived competency or comfort.[17,31] Nurses also experienced rapid organizational changes, resource scarcity, high patient-to-nurse ratios, inconsistent or limited communications, and the absence of protocols for prolonged mass

TABLE 6. Moral Distress Reported by Inpatient and Outpatient Nurses

Distress	Endorsed or strongly endorsed, No. (%) (N = 860)	Inpatient nurses with divergent responses, No. (%) (n = 344)
Witnessing		
Saw things morally wrong	301 (35)	144 (42)
Troubled by witnessing others' immoral acts	275 (32)	127 (37)
Perpetration		
Acted in ways that violated own morals or values	120 (14)	–
Violated own morals or values by failing to do something	86 (10)	–
Betrayal		
By leaders they once trusted	301 (35)	144 (42)
By fellow health care workers they once trusted	206 (24)	155 (45)
By others outside the profession they once trusted	310 (36)	141 (41)
Troubled by limitations on family or caregiver visitation	267 (31)	–

casualty events.[17] These challenges, such as significant uncertainty and rapidly changing working conditions, were shared experiences suggested to be similar to "tumbling into chaos," and likened to the overwhelming situations faced during patient surges to a medical "war zone."[17]

Study respondents indicated that nurses wanted better access to critical supplies, PPE, and COVID-19 testing; more flexible scheduling; longer leave times; and staffing that was appropriate to the patient volumes. These findings aligned with previous research. Howell found that HCWs, especially nurses, worried about childcare because of school closures and increased work hours.[27] Nurses felt that hospital support was inaccessible or inadequate and worried about access to essential resources.[17-19,27] Studies also found excessive workloads, and many nurses needed mental or financial assistance from the hospital in addition to more rest and less work.[18,28] An editorial highlighted the potential adverse effects that a lack of PPE could have on staff's mental health because of perceptions of institutional betrayal, which occurs when trusted and powerful organizations seemingly act in ways that can harm those dependent on them for safety and well-being.[32]

Consistent with other research, this study found that a majority of nurses experienced significant burnout symptoms. The number of nurses reporting symptoms of burnout increased during the pandemic with ICU nurses reporting the highest levels.[17,33] Soto-Rubio et al emphasized that working conditions experienced by nurses, such as interpersonal conflict, lack of trust in administration, workload, and role conflict, contributed to burnout during COVID-19.[34] Other studies found that nurses experienced burnout caused by uncertainty, intense work, and extra duties contributed to higher burnout scores.[18,19] It is not surprising that researchers have indicated that nurses experiencing burnout might display depressive and stress-related symptoms, insomnia, and concentration and memory problems.[19]

The results of this study indicate that one-third of participating nurses were experiencing moral distress. Burton et al described COVID-19 as an environment in which nurses witnessed, experienced, and at times had to participate in acts that involved ethical violations in care, institutional betrayal, and traumatic strain.[9] Of note, our findings revealed that both inpatient and outpatient nurses experienced moral distress. Interestingly, Mantri et al found that COVID-19 increased moral injury but not burnout among health professionals, which differed from the results of this study.[35]

The findings of this study indicate that many nurses experienced depressive symptoms. A systematic review found a similar percentage of HCWs experienced depression while caring for patients with COVID-19, though a Chinese study found a higher percentage.[36,37] Previous research also found that the most difficult aspect of the COVID-19 pandemic for nurses was coping with mental disorders such as depression, and that many experienced difficulty sleeping/had poor sleep quality, believed a similar disaster would occur in the future, were irritated or angered easily, and experienced

emotional exhaustion.[15,19] The long-term mental and physical ramifications of caring for individuals with COVID-19 remain unknown. However, previous research suggests a high prevalence of depression, insomnia, anxiety, and distress, which could impair nurses' professional performance.[29]

This study reported that a majority of nurses intended to stay in their current position and about 20% intended to leave for another position within the VA. Similar findings conducted early in the pandemic indicated that most participants did not intend to quit nursing.[19]

This study's findings suggest the COVID-19 pandemic had an adverse impact on VISN 21 nurses. It is critical to develop, implement, and adopt adequate measures as early as possible to support the health care system, especially nurses.[18]

Implications

Before the COVID-19 pandemic, discussing burnout and moral anguish was common, primarily in critical care.[14] However, these experiences became more widespread throughout nursing settings during the pandemic. Nurse leaders have been identified as responsible for ensuring the environmental safety and personal well-being of their colleagues during and after pandemics.[14]

Studies of HCW experiences during COVID-19 provide many insights into future preparedness, strategies to best handle another pandemic during its acute stage, and techniques to address issues that might persist. This study and others suggest that comprehensive interventions in preparation for, during, and after a pandemic are needed. We break down strategies into pandemic and postpandemic interventions based on a synthesis of the literature and the research team's knowledge and expertise.[3,14-16,27,29,36,38-44]

Pandemic interventions. During a pandemic, it is important that nurses are adequately cared for to ensure they can continue to provide quality care for others. Resources supporting emotional well-being and addressing moral distress offered during a pandemic are essential. Implementing meaningful strategies could enhance nurses' health and well-being. It is essential that leaders provide nurses a safe work environment/experience during a pandemic by instituting meaningful resources. In addition, developing best practices for leadership are critical.

Postpandemic interventions. Personal experiences of depression, burnout, and moral distress have not spontaneously resolved as the pandemic receded. Providing postpandemic interventions to lessen ongoing and lingering depressive, burnout, and moral distress symptoms experienced by frontline workers are critical. These interventions might prevent long-term health issues and the exodus of nurses.

Postpandemic interventions should include the integration of pandemic planning into new or existing educational or training programs for staff. Promotion and support of mental health services by health system leadership for nursing personnel implemented as a usual service will play an important role in preparing for future pandemics. A key role in preparation is developing and maintaining cooperation and ongoing mutual understanding, respect, and communication between leadership and nursing staff.

Future Research

This study's findings inform VHA leadership and society about how a large group of nurses were impacted by COVID-19 while caring for patients in inpatient and outpatient settings and could provide a basis for extending this research to other groups of nurses or health care personnel. Future research might be helpful in identifying the impact of COVID-19 on nursing leadership. During conversations with nursing leadership, a common theme identified was that nurses did not feel that leadership was fully prepared for the level of emergency the pandemic created both personally and professionally; leadership expressed experiences similar to nurses providing direct care and felt powerless to help their nursing staff. Other areas of research could include identifying underlying factors contributing to burnout and moral distress and describing nurses' expectations of or needs from leadership to best manage burnout and moral distress.

Limitations

Experiences of nurses who stopped working were not captured and information about

their experiences might have different results. The survey distribution was limited to 2 emails (an initial email and a second at midpoint) sent at the discretion of the nurse executive of each facility. The study timeline was long because of complex regulatory protective processes inherent in the VHA system for researchers to include initial institutional review board review process, union notifications, and each facility's response to the survey. Although 860 nurses participated, this was 15% of the 5586 VISN 21 nurses at the time of the study. Many clinical inpatient nurses do not have regular access to email, which might have impacted participation rate.

CONCLUSIONS

This study identified the impact COVID-19 had on nurses who worked in a large hospital system. The research team outlined strategies to be employed during and after the pandemic, such as preplanning for future pandemics to provide a framework for a comprehensive pandemic response protocol.

This study adds to generalized knowledge because it captured voices of inpatient and outpatient nurses, the latter had not been previously studied. As nurses and health care organizations move beyond the pandemic with a significant number of nurses continuing to experience effects, there is a need to institute interventions to assist nurses in healing and begin preparations for future pandemics.

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Ethics and consent
The Veterans Affairs Pacific Islands Health Care System Institutional Review Board determined this study to be exempt and the Research and Development Committee reviewed and approved the study (#: 2022-02-JMC-Promise 0004).

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eAPPENDIX. Depressive Symptoms Reported (N = 860)

Symptoms	Endorsed or strongly endorsed, No. (%)
Little interest or pleasure in doing things (> .5 d/, nearly every d)	181 (21)
Feeling down, depressed, or hopeless (> .5 d/, nearly every d)	163 (19)
Unable to control important things in life (Fairly often/very often)	181 (21)

Feel confident about their ability to handle their personal problems
  Never/almost never
  Sometimes
	138 (16)
	198 (23)

Never/almost never feel that things were going their way and other 38% indicated only sometimes things were	138 (16)
Fairly often/very often had difficulties piling up so high they could not overcome them	155 (18)