Impact of the COVID-19 Pandemic on the Hawai‘i Nursing Workforce: A Cross-sectional Survey

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Abstract

The coronavirus disease (COVID-19) pandemic has placed extraordinary strain on health care systems. This has led to increased stress among health care workers, and nurses in particular, which has had a negative impact on their physical and psychosocial wellbeing. This is likely to negatively impact the nursing workforce at the state and national levels as the pandemic continues. The purpose of this study was to assess whether nurses licensed in Hawai‘i have considered leaving the workforce. A cross-sectional online survey was conducted among Hawai‘i nurses at all levels of licensure, with 421 responding. Of these nurses, 97 (23.0%) reported considering leaving the workforce, with safety (39.2%) and family/caregiver strain (32.0%) being the most common reasons. Reconsidering whether they should stay employed in their current roles (Odds ratio [OR] 2.05; 95% CI 1.56 - 2.69) and fear to continue providing direct patient care (OR 1.97; 95% CI 1.54 - 2.54) were associated with increased odds of having considered leaving the workforce. Based on these results, the State of Hawai‘i and local health care organizations need to adjust their nursing workforce estimates and address how to alleviate nurses' stressors and safety concerns to mitigate a potential workforce shortage. Research is needed to develop interventions to support and empower nurses in their current roles but also address future emergency preparedness.

Keywords

COVID-19; pandemic; nursing workforce; nurse

Abbreviations

ANA = American Nursing Association
APRN= Advanced Practice Registered Nurse
CI= Confidence Interval
COVID-19= Coronavirus Disease 2019
HCP= Health Care Provider
LPN= Licensed Practical Nurse
NHOPI= Native Hawaiian and Other Pacific Islanders
OR= Odds Ratio
PPE= Personal Protective Equipment
RN= Registered Nurse
SD= Standard Deviation
US=United States

Introduction

The nursing profession represents the largest segment of the health care workforce in the State of Hawai‘i.[1,2] In 2019, pre-pandemic, the Hawai‘i State Center for Nursing[1,3] predicted that the state's schools of nursing were graduating adequate numbers of pre-licensure students to meet the state's future registered nurse (RN) demands. However, future shortages were expected for licensed practical nurses (LPNs) and advanced practice registered nurses (APRNs).

Workforce predictions are based on the assumption that all employed nurses are available to work when needed. Adequate numbers of health care providers are essential in the response to an emergency. The US Department of Homeland Security guidance[4] outlines that all organizations should continuously plan and prepare for future emergencies. Hence researchers have queried members of the health care workforce about their willingness to provide patient care during different types of potential emergencies.[5-7] In these studies, about 50% of health care providers were unwilling to provide patient care during a pandemic. Factors that played into the decision to report to work during a pandemic included concerns for personal safety, concerns for the safety of others, and child- and eldercare responsibilities.[5-7]

The current coronavirus disease (COVID-19) pandemic has placed extraordinary strain on health care systems around the world. Health care providers, in particular nurses, are at an increased risk of exposure to and development of severe complications from COVID-19.[8,9] Of all health care providers hospitalized in the Spring of 2020, more than one-third were part of the nursing profession.[10] Despite elevated risk, nurses have remained in the workforce and have demonstrated a strong sense of duty and professionalism.[11,12]

As the pandemic continued, reports highlighted increased strain and exhaustion among nurses.[13] Nurses caring for COVID-19 patients, in particular, have experienced increased stress, insomnia, anxiety, depression, symptoms of post-traumatic stress disorder, as well as signs of burnout.[14-16] This physical and psychosocial stress is likely to impact the nursing workforce at the state level as well as nationally. Therefore, the purpose of this study was to assess how the COVID-19 pandemic has impacted nurses working in Hawai‘i. The authors explored nurses' perspectives on and intentions to continue in the nursing workforce and identified factors that may be associated with the nurses' consideration to leave the workforce.

Methods

Participants and Recruitment

In 2019, about 20,000 individuals held Hawai'i nursing licenses.[1] Of those, approximately 2,000 were members of the Hawai'i State Center for Nursing. During November and December of 2020, recruitment letters were sent to the Hawai'i State Center for Nursing's members via email. Additionally, recruitment flyers were posted on the Center's social media pages (Twitter and Facebook). Recruitment emails followed the Dillman's Tailored Design Method approach.[17,18] All materials distributed contained a link to the study webpage that included study information, informed consent procedures, and an assessment of eligibility. Eligibility criteria included: (1) being licensed as a nurse at any level in Hawai'i (eg, APRN, RN, LPN), (2) currently employed or actively seeking employment in Hawai'i, (3) able to read and understand English, and (4) aged 18 years or older. If eligible and consented, participants were directed to complete a 10-minute online survey. Participation was voluntary and remuneration was not offered. The study received approval from the University of Hawai'i at Mānoa Institutional Review Board as exempt (Protocol Number 2020-00862).

Measures

Demographics. The survey collected age, gender, race/ethnicity, level of education, license type, years as a nurse, level of employment, title, setting, and place of employment. Age was categorized into 4 groups: 18-30 years, 31-40 years, 41-50 years, and 61 years or older. Participants reported if they identified as Hispanic (yes/no) and, based on its distribution, race was identified as White, Asian, Native Hawaiian and Other Pacific Islander (NHOPI), and Other. Other included Black, American Indian, or Alaska Native, and those who identified as multiracial or preferred not to answer. Level of education was categorized as: (1) vocational/practical certificate, diploma, associate degree; (2) bachelor's degree; and (3) master's, doctorate in nursing practice, and/or PhD degree. Years in nursing were defined as 0-5 years, 6-10 years, 11-20 years, and 21 years or more. Title was categorized as: (1) staff nurse, (2) advanced practice (eg, nurse practitioner, nurse midwife, nurse anesthetist, clinical nurse leader), (3) nurse administrator (eg, nurse administrator, manager, executive), and (4) other (eg, faculty, researchers, consultants). Setting was categorized as: (1) community/outpatient (eg, ambulatory care, assisted living/nursing home/extended care, community/public health, correctional facility, home health), (2) hospital, and (3) other (eg, academic, research, policy/regulatory, insurance). Place of employment was determined by zip codes and categorized to O'ahu versus Other (eg, any other Hawaiian island).

Considering leaving the nursing workforce. Considerations to leave the workforce (not just changing jobs) was assessed by the following question: "Have you considered leaving the health care workforce since the start of the pandemic?" It was defined as a binary outcome variable (0=No, 1=Yes). Those who indicated "Yes" were asked to provide their reason(s) by selecting 1 or more options that included: retiring, family/caregiving strain, economic strain, unsafe work environment, do not want to be a health care provider anymore, mandated vaccine, job fatigue, and other (open response).

COVID-19 vaccine perceptions (employer policies and informed decision making). Three 5-point Likert-type questions measured COVID-19 vaccine workplace policies on intentions to vaccinate (1=strongly disagree to 5=strongly agree). The questions were "How likely is it that you will get a COVID-19 vaccine if your employer recommended (not required) it," and "How likely is it that you will get a COVID-19 vaccine if your employer required you to receive the vaccine once available." The intention to request an exemption for the COVID-19 vaccine was assessed via the dichotomous question, "If there was an option for obtaining an exemption for the COVID-19 vaccine would you obtain one" (0=No, 1=Yes). Information for informed vaccine decision making was defined using a 5-point Likert-type question, "I feel that I have the necessary information I need to make an informed decision about COVID-19 vaccination (1=strongly disagree to 5=strongly agree)."

Attitudes towards being a health care provider during the pandemic. Attitude towards being a health care provider was assessed by 3, 5-point Likert-type questions (1=strongly disagree to 5=strongly agree): "The COVID-19 pandemic has strengthened my commitment to being a healthcare provider," "The COVID-19 pandemic has made me reconsider staying employed in my current role as a healthcare provider," and "The COVID-19 pandemic has made me afraid to continue providing direct patient care as a healthcare provider."

Workload. To assess perceptions about the effect of the pandemic on workload the survey included: "Since the start of the pandemic, at your current/primary place of employment, indicate any changes in hours worked." The participants were able to select 1 of 3 choices (working less hours compared to pre-pandemic, working the same amount of hours, working more hours compared to pre-pandemic). The 'same' workload was considered as the reference group.

Statistical Analysis

Descriptive statistics were reported using frequencies and percentages for categorical variables and means and standard deviations for continuous variables. Bivariate associations between consideration to leave the workforce and each of the variables were explored using a univariable logistic regression. Then a multivariate logistic regression analysis with the bivariates was implemented with a P-value <.15. Hosmer and Lemeshow test and c-statistic were computed to address the model fit. Additionally, a multicollinearity using variance inflation factor - none

were greater than 10 was investigated. Odds ratios (ORs) and 95% confidence intervals (CIs) to measure association with intention to leave the workforce were computed. All analyses were conducted in SAS 9.4 (SAS Institute, Cary, NC) and $P \leq .05$ was considered statistically significant.

Results

Sample

Among 602 participants who opened the survey and consented, 550 met eligibility criteria. Of these, 421 participants responded to the "considering leaving the health care workforce" question. More than 70% of the participants who did not answer the "considering leaving" question completed only the first few survey questions before abandoning the survey. No significant difference was found in characteristics between participants who responded to the considering leaving question and their counterparts.

The final analytic sample included 421 nurses. The majority identified as female (87.0%); were educated at the vocational/practical certificate, diploma or associates' level (66%); and worked as a staff nurse (57.5%) in the hospital setting (56.5%) on the island of O'ahu (72.2%) (Table 1). The majority of respondents (63.4%) had 11 or more years of experience, and 34.4% of nurses were aged 51 years or older. Race was identified as 45.1% White, 27.8% Asian, 10.7% NHOPI, and 16.4% Other, and 6.2% identified their ethnicity as Hispanic. Slightly more than 80% of the respondents intended to receive the COVID-19 vaccine (Table 2).

In this sample, 23.0% indicated that they were considering leaving the nursing workforce. Reasons included: safety (39.2%), family/caregiver strain (32.0%), job fatigue (24.7%), retiring (21.6%), not wanting to be a health care provider (21.6%), and economic strain (9.3%), and 3.1% indicated they would consider leaving the workforce if employers required/mandated the COVID-19 vaccine (Figure 1).

Bivariate Analysis

In bivariate analyses, none of the demographic characteristics were statistically associated with considering leaving the workforce (Table 1). Descriptive data and bivariate analyses for COVID-19 vaccine perceptions, attitudes, and workload are presented in Table 2. Of these, the likelihood of receiving the vaccine against COVID-19 if their employer recommended/required it (OR=0.85, 95% CI=0.74-0.99), having the necessary information to make an informed vaccine decision (OR=0.79, 95% CI=0.66-0.94), having the pandemic strengthen their commitment to being a health care provider (OR=0.45, 95% CI=0.36-0.57), reconsidering staying employed in their current role (OR=2.27, 95% CI=1.83-2.82), and feeling afraid to continue providing direct patient care (OR=2.21, 95% CI=1.79-2.73) were all statistically associated with considering leaving the workforce.

The mean "likelihood of getting a COVID-19 vaccine if employer recommended it" was 3.6 (SD=1.6) for nurses who were not considering leaving the health care workforce and 3.2 (SD=1.5) for nurses who were. Mean "likelihood of getting vaccinated if employer required it" was 3.9 (SD=1.5) for nurses who did not consider leaving the workforce but the mean for nurses who did was 3.5 (SD=1.5). Means of strengthened commitment to being a health care provider were 4.0 (SD=0.9) for nurses who did not consider leaving but 3.1 (SD=1.2) for those who did. Also, the means of "reconsidering staying employed in current role" and "fear to continue providing direct patient care" among participants who indicated considering leaving were higher than those of the counterparts. However, having the necessary information to make a vaccination decision was the opposite direction; the mean for nurses "considering leaving" was lower than nurses with "no intention to leave."

Multivariate Analysis

With all the potential bivariates included, 3 variables were significantly associated with considering leaving the nursing workforce: strengthened commitment to being a health care provider, reconsidering staying employed in current role, and feeling afraid to continue providing direct patient care. The fit statistics of this model were good: Hosmer and Lemeshow goodness-fit test was not significant (P=.47) and c-statistic was 0.856 (95% CI=0.817-0.896). More specifically, the odds for indicating "considering leaving" were decreased by a factor of 0.48 (95% CI=0.36-0.64) for 1 unit increase in strengthened commitment to being a health care provider. The odds for indicating "considering leaving" were increased by a factor of 2.05 (95% CI=1.56-2.69) and 1.97 (95% CI=1.54-2.54) for 1 unit increase in reconsidering staying employed in current role and fear to continue providing direct patient care, respectively.

Table 1. Bivariate Associations Between Demographic Characteristics and Consideration to Leave the Workforce among Hawai'i Nurses (N=421), 2020

Demographic Characteristics	Total	Consideration to leave		OR [95% CI]	*P* value
		No (n=324, 77%)	Yes (n=97, 23%)		
Age (years)					
18-30	69 (16.4%)	54 (16.7%)	15 (15.5%)	1.00	
31-40	103 (24.5%)	82 (25.3%)	21 (21.6%)	0.92 [0.44, 1.95]	.83
41-50	104 (24.7%)	81 (25.0%)	23 (23.7%)	1.02 [0.49, 2.13]	.95
51-60	86 (20.4%)	61 (18.8%)	25 (25.8%)	1.48 [0.71, 3.09]	.30
61 or older	59 (14.0%)	46 (14.2%)	13 (13.4%)	1.02 [0.44, 2.36]	.97
Gender					
Female	360 (87.0%)	279 (87.2%)	81 (86.2%)	1.00	
Male/Other*	54 (13.0%)	41 (12.8%)	13 (13.8%)	1.09 [0.56, 2.14]	.80
Hispanic					
No	395 (93.8%)	306 (94.4%)	89 (91.8%)	1.00	
Yes	26 (6.2%)	18 (5.6%)	8 (8.2%)	1.53 [0.64, 3.63]	.34
Race					
White	190 (45.1%)	142 (43.8%)	48 (49.5%)	1.00	
Asian	117 (27.8%)	94 (29.0%)	23 (23.7%)	0.72 [0.41, 1.27]	.26
NHOPI	45 (10.7%)	36 (11.1%)	9 (9.3%)	0.74 [0.33, 1.65]	.46
Other	69 (16.4%)	52 (16.0%)	17 (17.5%)	0.97 [0.51, 1.83]	.92
Education					
Certificate/Diploma/Associate	274 (66.0%)	209 (65.3%)	65 (68.4%)	1.00	
Bachelor's	112 (27.0%)	90 (28.1%)	22 (23.2%)	0.79 [0.46, 1.35]	.39
Master's/Doctorate	29 (7.0%)	21 (6.6%)	8 (8.4%)	1.23 [0.52, 2.90]	.64
License Type					
Advanced Practice	35 (8.3%)	30 (9.3%)	5 (5.2%)	1.00	
RN	386 (91.7%)	294 (90.7%)	92 (94.8%)	1.88 [0.71, 4.98]	.21
Years in Nurse (years)					
0-5	103 (24.5%)	85 (26.2%)	18 (18.6%)	1.00	
6-10	51 (12.1%)	41 (12.7%)	10 (10.3%)	1.15 [049, 2.72]	.75
11-20	105 (24.9%)	76 (23.5%)	29 (29.9%)	1.80 [0.93, 3.50]	.08
21 or more	162 (38.5%)	122 (37.7%)	40 (41.2%)	1.55 [0.83, 2.88]	.17
Job Title					
Staff nurse	242 (57.5%)	181 (55.9%)	61 (62.9%)	1.00	
Advanced practice	54 (12.8%)	42 (13.0%)	12 (12.4%)	0.85 [0.42, 1.71]	.65
Nurse administrator	87 (20.7%)	71 (21.9%)	16 (16.5%)	0.67 [0.36, 1.24]	.200
Other	38 (9.0%)	30 (9.3%)	8 (8.2%)	0.79 [0.34, 1.82]	.58
Job Setting					
Hospital	238 (56.5%)	183 (56.5%)	55 (56.7%)	1.00	
Community/outpatient	145 (34.4%)	112 (34.6%)	33 (34.0%)	0.98 [0.60, 1.60]	.94
Other	38 (9.0%)	29 (9.0%)	9 (9.3%)	1.03 [0.46, 2.31]	.94
Island of Employment					
Other Hawai'i Islands	117 (27.8%)	89 (27.5%)	28 (28.9%)	1.00	
O'ahu	304 (72.2%)	235 (72.5%)	69 (71.1%)	0.93 [0.57, 1.54]	.79

OR = Odds Ratio. CI = Confidence Interval. NH = Non-Hispanic. NHOPI = Native Hawaiian and Other Pacific Islanders. RN = Registered Nurse. Column percentage. Bivariate association was explored using a logistic regression model with each demographic variable as a predictor. *Options for gender included female, male, other (to include those who identify as transgender).

Table 2. Bivariate Associations Between Health Care Provider Related Predictors and Consideration to Leave the Workforce among Hawai'i Nurses (N=421), 2020

Health Care Provider Related Predictors	Total	Consideration to leave		OR [95% CI]	*P* value
		No (n=324, 77%)	Yes (n=97, 23%)		
Categorical	n (%)	n (%)	n (%)		
Intention to obtain COVID-19 vaccination					
No	83 (19.7%)	60 (18.5%)	23 (23.7%)	1.00	.26
Yes	338 (80.3%)	264 (81.5%)	74 (76.3%)	0.73 [0.42, 1.26]	
Workload perception compared to pre-pandemic					
Less	81 (19.3%)	61(18.9%)	20(20.6%)	1.21 [0.66, 2.21]	.54
Same	206 (49.2%)	162(50.3%)	44(45.4%)	1.00	
More	132 (31.5%)	99(30.7%)	33(34.0%)	1.23 [0.73, 2.06]	.44
Continuous	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**		
Likelihood of vaccinating if employer recommended vaccine[a]	3.5 ± 1.6	3.6 ± 1.6	3.2 ± 1.5	0.85 [0.74, 0.99]	.030
Likelihood of vaccinating if employer required vaccine[a]	3.8 ± 1.5	3.9 ± 1.5	3.5 ± 1.5	0.85 [0.74, 0.99]	.032
Had necessary information to make informed vaccine decision[a]	3.2 ± 1.3	3.3 ± 1.2	2.9 ± 1.3	0.79 [0.66, 0.94]	.009
Strengthened commitment to being a HCP[a]	3.7 ± 1.1	4.0 ± 0.9	3.1 ± 1.2	0.45 [0.36, 0.57]	<.001
Reconsider staying employed in current role[a]	2.8 ± 1.3	2.5 ± 1.3	3.8 ± 1.0	2.27 [1.83, 2.82]	<.001
Afraid to continue providing direct patient care[a]	2.4 ± 1.2	2.1 ± 1.1	3.3 ± 1.2	2.21 [1.79, 2.73]	<.001

OR = Odds Ratio. CI = Confidence Interval. HCP = Health Care Provider. a Item was scaled to indicate 1=Strongly disagree to 5=Strongly agree. Column percentage. Bivariate association was explored using a logistic model with each demographic variable as a predictor.

Table 3. Multivariable Logistic Regression for Consideration to Leave the Workforce among Hawai'i Nurses

Variable	OR [95% CI]	*P* value
Perceived vaccination recommended	0.84 [0.57, 1.24]	.39
Perceived vaccination required	1.03 [0.73, 1.46]	.86
Exemption for vaccine: Yes vs. No	1.02 [0.40, 2.60]	.96
Strengthened commitment to being a health care provider	0.48 [0.36, 0.64]	<.0001
Reconsider staying employed in current role	2.05 [1.56, 2.69]	<.0001
Afraid to continue providing direct patient care	1.97 [1.54, 2.54]	<.0001
Decisional information	0.98 [0.77, 1.24]	.85

OR = Odds Ratio. CI = Confidence Interval. Multivariable logistic regression model was used to identify factors in this table that may be associated with the nurses' consideration to leave the workforce (1=Yes, 0=No). All items except exemption for vaccine were 5-point Likert point scales (1=strongly disagree to 5=strongly agree) and treated as continuous variables. C-statistics was this model was 0.856, 95% CI = [0.817, 0.896]. Hosmer and Lemeshow goodness-of-fit test is insignificant (*P*-value=.476).

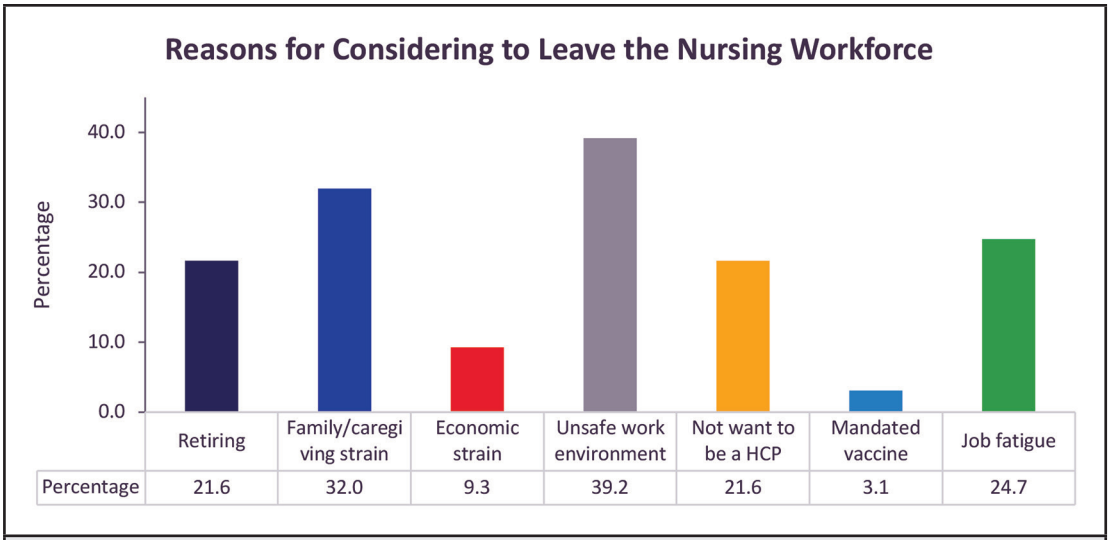

Figure 1. Distribution of Reasons for Considering Leaving the Nursing Workforce (n=97). HCP = Health Care Provider.

Discussion

The COVID-19 pandemic has created a significant strain on the health care system and health care workers. This study explicates and highlights a potential health care provider shortage in Hawai'i; 23% of nurses who responded indicated that they were considering leaving the nursing workforce. Further, reconsidering whether one should stay in their current role and being afraid to continue direct patient care doubled the odds of considering leaving the workforce. Whereas the nurses who reported a strengthened commitment to the profession decreased the odds of considering leaving. The outcomes of this study suggest that a significant nursing shortage could occur if stressors of the pandemic do not abate and interventions to support nurses in their current roles are not developed.

The findings in this study are similar to other recent national surveys of nurses. A survey conducted by the Washington Post/Kaiser Family Foundation (KFF)[19] highlighted that 28% of nurses expressed a desire to quit their current roles as a result of the COVID-19 pandemic. The American Nurses Association (ANA)[20] similarly has documented that many nurses report feeling exhausted or experiencing other negative emotions such as feeling overwhelmed, irritable, anxious, sad, or depressed. These negative feelings are commonly associated with burnout.[21] In this survey burnout was not directly measured, but about one-quarter of those who considered leaving the workforce cited job fatigue, while one-third mentioned additional family or caregiving strains as their reason.

Burnout has become an important issue in regard to nurse retention.[22,23] Kelly et al[22] determined that a 1 unit increase on the Maslach Burnout Inventory emotional exhaustion scale led to an 11% increase in the likelihood of staff turnover. In their study, the highest predictor of actual turnover was a nurses stated intention to leave. Shah et al[23] reported that of those who left their positions due to burnout, almost 70% did so because of stressful work environments. Ultimately, more research into the effects of the COVID-19 pandemic on nurses' burnout, work hours, work conditions, mental health, nurses' consideration to leave the workforce, and the effects of these stressors on the nurses' mental health is needed. This is an especially important topic since nearly a quarter of nurses have sought professional mental health support during the pandemic despite reported barriers of being too busy or being too afraid or embarrassed to seek care.[19] Due to the overwhelming strain shared among nurses during the pandemic, many nurses may need greater support services going forward. Health care systems need to find ways to provide these services and address barriers that prevent their uptake among nurses and other health care workers.

Of the nurses considering leaving the workforce in this study, nearly 40% reported concerns related to an unsafe work environment. Inadequate supplies of personal protective equipment (PPE), particularly early in the pandemic, have been a main source of stress for nurses nationally and nurses overwhelmingly have reported concerns associated with being exposed to COVID-19 at work, or exposing others in their households.[19] The ANA has repeatedly documented nurses reporting shortages of PPE.[20,24,25] While nurses have risen to the occasion to provide care to their patients in seemingly austere conditions,[26] preserving an adequate supply of PPE and other safety equipment is imperative to maintain the safety of the nursing workforce. Other factors that negatively influence nurses' willingness to work during a pandemic include fear for personal health, health of immediate family members, and lack of available vaccination.[27] Nurses in this study who reported fear related to providing direct patient care were nearly 2 times more likely to report considering leaving the workforce.

Nurses' readiness, willingness, and ability to participate in any disaster response effort has been described as critical to sustained public health success.[28] Interventions to support nurses are needed and safeguarding the physical and mental health of the nursing workforce should be a priority. The COVID-19 pandemic has underscored that (1) health care organizations need to be prepared with adequate emergency supplies/resources as well as a structure to support both the physical and mental health of their employees,[29] and (2) training in disaster preparedness and specialized pandemic-associated care are needed.[27,30] Locally, the University of Hawai'i at Mānoa Nancy Atmospera-Walch School of Nursing is educating nursing students to lead public health efforts via disaster and emergency response simulation training.[31] Integrating pandemic response training into routine disaster preparedness will help prepare health care systems' and providers' responses to a future pandemic.

Health care organizations can address current shortfalls by seeking ways to support their current nursing workforce's capacity to continue providing pandemic associated care as well as recover from pandemic-related stress, trauma, and burnout. Moving forward, it is imperative to bolster nurses' skills and abilities to respond in the future. Ongoing training focused on infection prevention, proper donning and removal of PPE, implementation of crisis standards, and setting up emergency medical facilities and mass vaccination clinics are needed.[29] Hospitals and other health care organizations could encourage and support nurses to join disaster relief volunteer agencies, such as the American Red Cross or Medical Reserve Corps, and provide paid time off to workers who volunteer to respond to disaster events as a means of increasing specialized experience and capacity to respond to large scale public health emergencies.

Lastly, future preparedness should include monitoring trends in workforce supply/demand. It appears that current workforce models have not accounted for the potential of nurses leaving the workforce before retirement age.[32-34] Previous reports in Europe have documented that job satisfaction accounts for about 10% of nurses considering leaving the workforce.[35] Ultimately, ongoing assessments are needed to track job satisfaction and stress among nurses in the US in response to the pandemic, in order to adjust the models used to predict the status of the nursing workforce.

Current estimates from the Hawai'i State Center for Nursing[1,3] indicate that the state will have adequate numbers of generalist RNs as the local schools of nursing were graduating adequate numbers of pre-licensure students prior to the pandemic. However, fewer specialty RNs existed. Therefore, health care organizations, in combination with schools of nursing, need to find creative solutions to allow new nurses to move into specialty areas immediately after graduation to mitigate this shortage. Potential ideas include creation of robust undergraduate nursing externships or immersive clinical experiences in specialty areas and/or creation of post-graduation nurse residency programs where newly licensed nurses are provided with additional resources, orientations, and support.[36]

These findings should be viewed in light of study limitations. As reported elsewhere, the sample population in this study differed (ie, higher proportion of those identified as White) to the general demographic make-up of Hawai'i's nurses.[1,37] Further, since participation was voluntary, findings may have been affected by a self-selection bias which could have affected the study's outcomes. Finally, data were collected in late 2020 as cases throughout the US surged[38] and approximately at the same time as the first 2 COVID-19 vaccines received national emergency use authorization and recommendations.[39,40] The surge could have exacerbated the nurses' stress/strain; however, vaccine availability could have provided reassurance to perceived safety. Hawai'i's success in keeping overall COVID-19 cases numbers lower than the continental US[38] and the unique racial and cultural composition of the local nursing workforce may also limit the generalizability of our results. However, national reports have documented similar rates of nurses' intention to leave the workforce as a result of the pandemic.[19] Future longitudinal research is needed to capture nurses' employment considerations, education and training needs, and organizational support structures needed to support nurses' mental health and safety.

Conclusion

This study explicated how the COVID-19 pandemic is affecting Hawai'i nurses' consideration of staying in the workforce. In this sample, approximately 1 in 5 nurses considered leaving the workforce in late 2020, citing an unsafe work environment, family/caregiving strain, and job fatigue as the 3 most common reasons (Figure 1). These numbers are concerning as the US and the State of Hawai'i may be facing significant nursing shortages in the future. Further research is needed to develop interventions to support and empower nurses in their current roles, promote safety, and reduce burnout.

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Disclosure/Competing Interests

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Conflict of Interest

None of the authors identify a conflict of interest.

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