Are They Aligned?
A Qualitative Analysis of Social Media–Based Nurse Well-Being Concerns and Well-Being Programs

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Abstract

Background: Nurse burnout and distress pose patient safety risks due to impaired nurse attention, increased likelihood of medical error, and increased nurse turnover leading to a reduction in the number of nurses available to deliver care. Some healthcare facilities have launched well-being programs in response to increasing rates of burnout. Many of these programs are based on survey data which may be incomplete, resulting in programs that are not as comprehensive as they should be. We sought to identify nurse concerns related to burnout and well-being through analysis of social media data. We aligned these concerns with well-being program leader perceptions of factors contributing to burnout and well-being program initiatives.

Methods: We conducted a qualitative study composed of two parts: social media analysis and semistructured interviews with well-being leaders. The social media analysis focused on 120 nurse comments on Reddit that were retrieved based on a keyword search using the terms "burnout," "stress," and "wellbeing." The interviews were conducted with nine well-being leaders from seven different healthcare systems. Well-being program leaders were asked about factors contributing to burnout and lack of well-being, initiatives to address these factors, and metrics used to evaluate their programs. The social media comments and interview data were reviewed by two experts to identify topics, themes, and subthemes grounded in wellness models.

Results: Of the 120 social media comments analyzed, the most frequent topic was *Lack of Meaningful Recognition, Compensation, and Influence* (n=46 of 120, 38.3%), followed by *Work Environment* (n=43, 35.8%) and *Uninformed or Misinformed Public* (n=31, 25.8%). Several themes emerged and the most prevalent was Constrained Professional Agency with the most prevalent subtheme of health system or macrosystem policies or regulations that limit nurses' ability to respond effectively to patient care needs. Of the seven healthcare systems interviewed, the most common topics that emerged from asking about the factors contributing to the lack of nurse well-being were the *Work Environment* (n=6 of 7, 85.7%), followed by *Lack of Meaningful Recognition, Compensation, and Influence* (n=4, 57.1%), and *Inadequate or Inaccessible Well-Being Resources* (n=3, 42.9%). Several novel initiatives were identified, and most healthcare systems relied on surveys as their key metric.

Conclusion: The social media analysis revealed nurse concerns that may not be identified as factors contributing to lack of well-being by well-being program leaders. There is an opportunity to optimize our understanding of nurse concerns around well-being through social media, and an opportunity to better align nurse concerns with the focus of well-being programs.

Introduction

Nurse burnout and poor well-being have direct implications for patient safety. First, burnout in nurses often manifests as impaired attention, which has been demonstrated to increase the likelihood of being involved in medical errors.[1-4] For example, Melnyk and colleagues demonstrated a 26% to 71% higher likelihood of medical errors by healthcare providers reporting lower levels of physical and mental well-being.[5] Second, burnout and poor well-being contribute to nurses leaving the workforce, which, in turn, reduces the number of nurses available to care for patients, reduces ongoing patient monitoring, and contributes to the loss of nursing expertise.[4,6,7] Addressing the challenge of burnout and nurse well-being is a national priority.[8,9]

Burnout refers to the emotional depletion and loss of motivation from prolonged exposure to chronic emotional and interpersonal stressors on the job.[10] Burnout has been described as high levels of emotional exhaustion and low sense of accomplishment and motivation within the workplace.[11,12] Nurse burnout rose during the COVID-19 pandemic, with one study finding that over half of the nurses surveyed experienced burnout.[13] While the recent data on nurse burnout and well-being are staggering, these issues have affected nurses for decades.[14] Stress and burnout have been widely studied and identified as occupational hazards and key factors influencing nursing quality of life, quality of care, and patient outcomes.[14-17] Studies conducted between 2003 and 2021 identified workload demands, work environment, and reduced resources as contributors to stress, impaired physical and mental well-being, and burnout among nurses.[11,16-27]

With the COVID-19 pandemic bringing greater attention to nurse burnout, there has been an increased effort to understand prevalence and key contributing factors to burnout. Several surveys have been conducted to determine the impact of the pandemic on nurses' well-being and to identify specific stressors associated with intent to leave.[28-33] In the second year of an annual COVID-19 survey conducted by the American Nurses Foundation in 2022, over 12,000 nurses were surveyed to gain additional insight on the effect of the pandemic on nurses, staffing, and

intent to leave the profession. Findings included a statistically significant relationship between age and emotional health of nurses; an increase in the percentage of nurses intending to leave their position; and increases in staff shortages, incivility, and bullying.[29]

In response to the high levels of nurse burnout and well-being challenges, some healthcare facilities have launched programs focused on improving nurse well-being. Compared to well-being initiatives focused on physicians, especially trainees, nurse well-being programs are quite new and little research has been done to evaluate whether these programs are addressing nurses' concerns.[34-39] Having effective well-being programs in place to support nurses is critical for nurse safety, retention, and patient safety.

In this qualitative study we sought to identify whether nurses' concerns about burnout and well-being are aligned with the focus of healthcare system well-being programs intended for nurses. We focused on sourcing nurse concerns from social media posts. Social media often provides an anonymous platform for expressing concerns, which may potentially result in more open and honest sharing compared to organizational surveys and interviews that can be perceived as not being anonymous.[40,41] Identifying misalignments between nurse well-being concerns and the focus of current well-being programs offers the opportunity to optimize these programs to provide better support to the nurse workforce. Based on our analysis, we provide recommendations for improving methods for sourcing information on nurse concerns and for improving current well-being programs.

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Methods

Social Media Analysis

We analyzed social media content from a nurse-specific Reddit forum. Reddit forums are structured with an initial post, which is a user leaving a comment/question, and then subsequent comments/questions are presented in response to the initial post. Together, the post and resulting comments/questions make up a thread.

We first retrieved all publicly available did not contain language relevant to any of the eight domains and were removed from analysis, resulting in 27 threads included for analysis. From these 27 threads, the five highest-rated, first-level comments from self-reported registered nurses were extracted from each post, yielding 135 comments for review. These comments were also reviewed for relevance based on the Swarbrick model. Fifteen comments did not contain language relevant to any of the eight domains and were removed, resulting in 120 comments for qualitative analysis. **Figure 1** summarizes the data selection process.

Using the topics and themes in **Table 1**, as well as subthemes (shown in **Table 2**) the 120 social media comments were then manually reviewed and dually coded by a nurse and human factors expert, with discrepancies reconciled through group discussion. Each comment was coded into a single primary topic, theme, and subtheme to best reflect the nature of the comment. The topics, themes, and subthemes were based primarily on Swarbrick's wellness model, as well as healthy work environments (HWEs), and the National Academies of Sciences, Engineering, and Medicine's (NASEM) systems model of burnout and well-being.[42-44]

Figure 1. Data Selection of Nurse Well-Being Social Media Comments for Qualitative Review

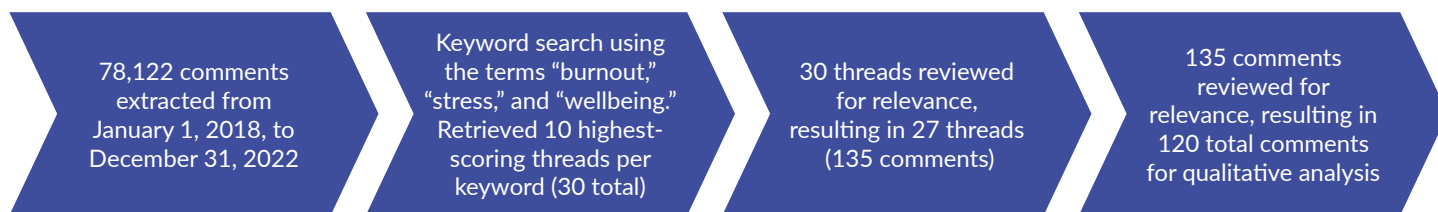|			
78,122 comments extracted from January 1, 2018, to December 31, 2022	Keyword search using the terms "burnout," "stress," and "wellbeing." Retrieved 10 highest-scoring threads per keyword (30 total)	30 threads reviewed for relevance, resulting in 27 threads (135 comments)	135 comments reviewed for relevance, resulting in 120 total comments for qualitative analysis

Table 1 shows the complete list of topics and themes used to code the social media and interview data, with details of the interview method presented below. Note: Some topics, themes, and subthemes were only relevant to the social media analysis, while others were only relevant to the interviews.

Semistructured Interviews

Semistructured interviews were conducted with nine leaders of nurse well-being programs from seven healthcare systems with varying geographic locations. The goal was to understand their perception of the factors contributing to poor nurse well-being, of initiatives to address these contributing factors, and of metrics used to evaluate their own well-being initiatives. A convenience sample of healthcare leaders involved in nurse well-being initiatives was recruited. Interviews were led by clinical and human factors experts and conducted over two months, with each interview lasting approximately 30 minutes. All participants provided verbal consent before starting the interview. Interviews were conducted via video teleconference using a moderator guide. After consent from participants, interviews were recorded and electronically transcribed. Participants were compensated with a $25 Amazon gift card. This study was approved by MedStar Health Research Institute Institutional Review Board.

Participants' responses were segmented into discrete statements. A grounded theory approach was used to analyze interview data.[45] The same codes iteratively developed for the social media data were also applied to the interview data. Participants' responses were mapped to the topics and themes by one researcher, and independently confirmed by a second researcher. Discrepancies were resolved through group discussion. Descriptions, examples, and representative quotes were used to provide insight and support for identified topics and themes.

Results

Social Media Results

Of the 120 comments analyzed, the most frequent topic was *Lack of Meaningful Recognition, Compensation, and Influence* (n=46 of 120, 38.3%), followed by *Work Environment* (n=43, 35.8%) and *Uninformed or Misinformed Public* (n=31, 25.8%). There were no comments related to the topic of *Inadequate or Inaccessible Well-Being Resources*. Frequency counts and percentages of the topics, themes, and subthemes are displayed in **Table 2**, below.

The comments related to *Lack of Meaningful Recognition, Compensation, and Influence* included the themes of Constrained Professional Agency and Compensation. There were no comments related to the theme of Lack of Opportunity to Influence Organizational Decisions. Constrained Professional Agency accounted for 32 comments (of 46, 69.6%) (the most frequent theme across all topics and themes), and the most frequent subtheme was health system or macrosystem (i.e., federal, state, or funders) policies or regulations that limit nurses' ability to respond effectively to patient care needs (n=22 of 32, 68.8%). Compensation accounted for 14 comments (of 46, 30.4%) and comments were almost evenly distributed between the three subthemes of disparity between staff nurses and travel nurses, disparity between salaries of nurses and health system executives, and insensitive/disrespectful organizational communications regarding healthcare worker compensation (n=5 of 14, 35.7%; n=5, 35.7%, and n=4, 28.6%, respectively).

The comments related to *Work Environment* included themes of Inadequate Nurse Staffing, Violence Against Nursing, and the Emotional Burden of Nursing, with the two most prominent being Inadequate Nurse Staffing and Violence Against Nursing (both accounting for 16 of 43 *Work Environment* comments, 37.2%). There were no comments related to the theme of Unusable or Burdensome Technology. Within the theme of Inadequate Nurse Staffing, most comments were related to ineffective organizational strategies to retain (original staff/pre-pandemic staff) nurses (n=9 of 16, 56.3%). Subthemes related to Violence Against Nursing were roughly evenly split between physical violence (n=6 of 16, 37.5%), nurse-to-nurse/nurse-to-student incivility (n=5, 31.3%), and culturally motivated violence (n=5, 31.3%). Nearly three quarters of the comments related to Emotional Burden of Nursing included the subtheme of emotional toll of being with patients as they die—often the nurse was the only one with the patient, as the family may not have been permitted to be physically present (n=8 of 11, 72.7%).

The comments related to *Uninformed or Misinformed Public* were coded as the third most frequent topic, accounting for roughly a quarter of all comments (31 of 120, 25.8%), and included themes of Uninformed Knowledge of Healthcare Operations/Personnel (n=17 of 31, 54.8%) and COVID-19 Misinformation (n=14, 45.2%). All subthemes related to both themes were roughly evenly distributed.

Semistructured Interview Results

The interviews of the nine nurse well-being leaders from seven healthcare systems revealed information about the factors contributing to the lack of well-being, the current well-being initiatives that have been put in place to address these contributing factors, and metrics for measuring improvements in well-being. Results of the interview data are discussed at the organizational level with a sample size of seven.

Table 1. Topics, Themes, Definitions, and Examples of Factors Contributing to Lack of Nurse Well-Being

Topic or Theme	Definition	Example
Work Environment	Includes the physical environment that enables nurses to function fully within their abilities to provide quality care to patients. Includes the day-to-day job demands that impact nurse well-being.	"We have an almost 900-pound patient right now. We don't have enough staff to be able to turn him (it takes MULTIPLE people) so SECURITY has been helping us … It is so unsafe to take that many people off a floor where patients need close monitoring AND taking away security for actual emergencies."
Inadequate Nurse Staffing	Relates to staffing that is needed for patient care, the unstable workforce, nurse retention (or lack thereof), and the skill gap between experienced nurses and new-to-practice nurses.	"A nearby hospital had a patient die in their emergency department waiting room last week [due to] staffing issues as they had lost a significant number of their emergency nurses recently."
Violence Against Nursing	Relates to any act or threat of physical violence, threatening behavior, or verbal abuse that occurs in the work setting.	"We shouldn't be worried about being attacked at work. There is already enough on our plates right now."
Emotional Burden of Nursing	Relates to the psychological fatigue associated with effective interpersonal engagement with patients and families to identify necessary interventions to reduce pain, anxiety, and suffering; to facilitate the patient's return to health when possible; and to serve as the patient's advocate.[4]	"It's a hopeless feeling watching them struggle to breathe, alone in the room, after they have shared their fears with you."
Unusable or Burdensome Technology	Relates to healthcare technology and medical devices that inhibit effective and efficient work.	"…gets in the way of the job that they're supposed to do, when technology entered, the art of nursing left."
Lack of Meaningful Recognition, Compensation, and Influence	Systemic, organizational, and cultural components impacting nurse well-being, including lack of meaningful recognition, financial compensation, or influence in decisions affecting nursing care delivery.	"Ancillary staff was cut and all of it, right down to transport, became the extra responsibility of nursing. That is what got us here. And if you think about it, the only reason hospitals are even able to keep afloat with this model is because at the end of every semester there is a brand-new batch of new grad RNs to replace the ones that walked (or jumped). No other industry could have sustained under these terms for this long."
Constrained Professional Agency	Relates to the hindrance of one's ability to implement the best evidence-based nursing intervention for patients or families due to poor policies or inadequate resources in the workplace. May include organizational and situational mandates to modify standards of care and to limit flexibility or autonomy from a systemic level. These actions may affect personal identity, career, and practices.[4]	"We're all just numbers to them but the machine absolutely depends on us to work. The engine is the most important part of the car."
Compensation	Relates to monetary benefits, including inequitable compensation between healthcare executives and floor nurses, and/or traveling nurses and floor nurses, and insensitive communications around compensation.	"And to pay their staff close to nothing compared to what their [executives are] making is a slap in the face."
Lack of Opportunity to Influence Organizational Decisions	Relates to the nursing voice not considered in daily decisions and in leadership and organizational decisions.	"There is a lack of professional voice given to nurses."

Table 1. (continued)

Uninformed or Misinformed Public	The public's lack of knowledge regarding the role of nurses in healthcare and the risk of severe illness and hospitalization during the COVID-19 pandemic.	"It won't matter to them until they need some medical treatment that is either significantly delayed or just straight up unavailable."
Uninformed Knowledge of Healthcare Operations/ Personnel	Relates to the public's lack of knowledge regarding healthcare operations and personnel and their impact on healthcare.	"I've seen this concept for years while trying to explain the concept of "no rooms available" to bed holds in the ER [emergency room]… Oh, well in that case let me just wave my magic wand and poof one out of thin air."
COVID-19 Misinformation	Relates to the public's belief in incorrect information regarding the COVID-19 pandemic and subsequent actions based on that.	"People are getting hurt because a huge portion of our country isn't taking this seriously. This spike is worse than it was all of last year and people don't even believe it."
Inadequate or Inaccessible Well-Being Resources	The lack of access to well-being resources; training and education; and inadequate scope of well-being resources, such as employee assistance programs, that do not support the needs of nursing.	"Feeling like they're not able to access support resources or things that could kind of sustain and maintain their well-being."
Lack of Access to Resources to Maintain/Promote Well-Being	Relates to inadequate access to resources that maintain or promote well-being and includes not having the time, financial means, or availability to obtain the materials or attend activities.	"I started printing things, posting on their units or in their offices, and made it so they can take it with them and use it when they have time. I wanted everything to be accessible and easy."
Inadequate Employee Assistance Program and Benefits	Relates to employee assistance programs and other benefits not fully supporting the needs of nurses and not recognizing life outside of healthcare impacts work, such as needing day care and tutoring services for their children.	"We did change this [Employee Assistance Program] during pandemic as the program wasn't performing the way it needed to and the structure was replaced."
Lack of Well-Being Training and Education	Relates to the lack of well-being training and education provided to nurses in school or on the job.	"We have failed miserably at teaching nurses what it looks like to take care of themselves and things to be on the lookout for."

Note: Topic rows are highlighted, followed by their related themes.

Factors Contributing to the Lack of Nurse Well-Being

Of the seven healthcare systems interviewed, the most common topics that emerged from asking about the factors contributing to the lack of nurse well-being were the *Work Environment* (n=6 of 7, 85.7%), followed by *Lack of Meaningful Recognition, Compensation, and Influence* (n=4, 57.1%), and *Inadequate or Inaccessible Well-Being Resources* (n=3, 42.9%). There were no comments related to the topic of *Uninformed or Misinformed Public*. **Table 3** summarizes these results.

Of the six healthcare systems that noted the *Work Environment* topic as a contributing factor to the lack of nurse well-being, Inadequate Nurse Staffing (n=6 of 6, 100%) was noted by all systems. Other *Work Environment* themes that impacted lack of nurse well-being included the Emotional Burden of Nursing (n=4, 66.7%), Unusable

or Burdensome Technology (n=2, 33.3%), and Violence Against Nursing (n=1, 16.7%).

Of the four healthcare systems that noted *Lack of Meaningful Recognition, Compensation, and Influence*, all systems noted the Lack of Opportunity to Influence Organizational Decisions (n=4 of 4, 100%). Compensation was mentioned by three quarters of the well-being leaders interviewed (n=3 of 4, 75%) and Constrained Professional Agency was noted by two healthcare systems (n=2, 50%).

Of the three healthcare systems that noted *Inadequate or Inaccessible Well-Being Resources*, two of the systems stated that nurses felt like they did not have Access to Resources to Maintain/Promote Well-Being (n=2 of 3, 66.7%). Inadequate Employee Assistance Program (EAP) and Benefits and Lack of Well-Being Training and Education were both noted by a single healthcare system (n=1 of 3, 33.3%).

Current Well-Being Initiatives

To address the *Work Environment* as a topic contributing to the lack of nurse well-being, healthcare systems have implemented several well-being initiatives, including creating a physical space for relaxation before, during, or after shifts (n=2 of 7, 28.6%); changing policy (n=2, 28.6%); changing working processes (n=1, 14.3%); and optimizing technology (n=1, 14.3%). **Table 4** shows a summary of current nurse well-being initiatives offered by the healthcare systems interviewed. One policy change example is a healthcare system updated their policy so that staff could safely take a power nap during their 30-minute unpaid lunch break. Previously, nurses would be terminated if they slept anytime during their shift. Another healthcare system described a pilot program in their emergency department where they changed a work process allowing nurses to request a 5-to-10-minute well-being

Table 2. Frequency Counts and Percentages of Social Media Analysis of Factors Contributing to Lack of Nurse Well-Being By Topic, Theme, and Subtheme

Topic	Theme	Subtheme	Frequency Count (%)
Lack of Meaningful Recognition, Compensation, and Influence (46 of 120 total comments, 38.3%)	Constrained Professional Agency (32 of 46, 69.6%)	Health system or macrosystem policies or regulations that limit nurses' ability to respond effectively to patient care needs	22 (of 32, 68.8%)
		Lack of influence to change conditions	5 (15.6%)
		Calling for collective action	5 (15.6%)
	Compensation (14, 30.4%)	Disparity between staff nurses and travel nurses	5 (of 14, 35.7%)
		Disparity between salaries of nurses and health system executives	5 (35.7%)
		Insensitive/disrespectful organizational communications regarding healthcare worker compensation	4 (28.6%)
Work Environment (43, 35.8%)	Inadequate Nurse Staffing (16 of 43, 37.2%)	Ineffective organizational strategies to retain (original staff/pre-pandemic) nurses	9 (of 16, 56.3%)
		Inadequate staff for patient care or regulatory tasks that require more than one nurse	4 (25.0%)
		Associated with preventable patient safety events and near miss events	2 (12.5%)
		Implicit or explicit threats from leadership regarding leaving/travel contracts	1 (6.3%)
	Violence Against Nursing (16, 37.2%)	Physical violence	6 (of 16, 37.5%)
		Nurse-to-nurse/nurse-to-student incivility	5 (31.3%)
		Culturally motivated violence	5 (31.3%)
	Emotional Burden of Nursing (11, 25.6%)	Emotional toll of being with patients as they die—often the nurse was the only one with the patient, as the family may not have been permitted to be physically present	8 (of 11, 72.7%)
		Moral distress associated with insufficient resources to provide high-quality nursing care and deciding what care will be left undone	3 (27.3%)
Uninformed or Misinformed Public (31, 25.8%)	Uninformed Knowledge of Healthcare Operations/ Personnel (17 of 31, 54.8%)	Public doesn't appreciate/understand the role of nurse	9 (of 17, 52.9%)
		Emergency department/hospital is unable to fill its mission of responding to emergencies and trauma due to public flooding hospitals with minor symptoms	8 (47.1%)
	COVID-19 Misinformation (14, 45.2%)	Increased burden on health system and nurses due to societal anti-vaccination beliefs/misinformation	8 (of 14, 57.1%)
		Frustration with the public's failure to acknowledge the risk of severe illness, hospitalization, or death associated with COVID-19 infection	6 (42.9%)
TOTAL			**120 (100.0%)**

Table 3. Frequency Counts and Percentages of Interview Results of Factors Contributing to Lack of Nurse Well-Being By Topic and Theme

Topic	Theme	Frequency Count (%)
Work Environment (6 of 7 healthcare systems, 85.7%)	Inadequate Nurse Staffing	6 (of 6, 100.0%)
	Emotional Burden of Nursing	4 (66.7%)
	Unusable or Burdensome Technology	2 (33.3%)
	Violence Against Nursing	1 (16.7%)
Lack of Meaningful Recognition, Compensation, and Influence (4, 57.1%)	Lack of Opportunity to Influence Organizational Decisions	4 (of 4, 100.0%)
	Compensation	3 (75.0%)
	Constrained Professional Agency	2 (50.0%)
Inadequate or Inaccessible Well-Being Resources (3, 42.9%)	Lack of Access to Resources to Maintain/Promote Well-Being	2 (of 3, 66.7%)
	Inadequate EAP and Benefits	1 (33.3%)
	Lack of Well-Being Training and Education	1 (33.3%)

Table 4. Frequency Counts and Percentages of Interview Results of Current Well-Being Initiative By Topic

Current Well-Being Initiatives	Frequency Count (%) N=7
Work Environment	
Created a physical space for relaxation before, during, or after shifts	2 (28.6%)
Changing policy	2 (28.6%)
Changing work processes	1 (14.3%)
Optimizing technology	1 (14.3%)
Lack of Meaningful Recognition, Compensation, and Influence	
Financially incentivized participation in well-being programs	4 (57.1%)
Created gratitude programs	2 (28.6%)
Inadequate or Inaccessible Well-Being Resources	
Implemented peer support and mentoring programs	4 (57.1%)
Held well-being events	4 (57.1%)
Shared well-being resources	3 (42.9%)
Improved EAP and benefits	3 (42.9%)
Created and shared well-being content during new employee orientation	3 (42.9%)
Hired well-being leaders to help with well-being initiatives	3 (42.9%)

Note: Topic rows are highlighted, followed by their related initiatives.

> *Nurse burnout and lack of well-being not only impact nurses, but also have serious patient safety consequences and are associated with increased likelihood of medical error and reductions in workforce which result in fewer nurses available to deliver care.*

break on a communication application on their phone during their shift. Finally, one healthcare system is making improvements to "minimize nursing documents and function so they have time for clinical thinking" (optimizing technology).

To address the *Lack of Meaningful Recognition, Compensation, and Influence* as a topic contributing to the lack of nurse well-being, healthcare systems interviewed described two programs. Some healthcare systems (n=4 of 7, 57.1%) described financially incentivizing well-being, including paying cash rewards (up to $1,000 per year) for utilizing a well-being application that tracks movement (specifically steps taken) and other healthy habits, and paying employees to take educational programs that promote well-being. Another example of a healthcare facility financially incentivizing well-being includes linking participation in well-being activities to medical insurance premiums. One participant noted, "Connection with the medical premiums and seeing how much money that you can save has been kind of a no-brainer for all of us that are on the medical insurance." Two healthcare systems (28.6%) described gratitude programs. An example of a gratitude program is the "Thank You Project," an opportunity for someone who's received care at the hospital to recognize anyone who was part of their patient experience.

To address *Inadequate or Inaccessible Well-Being Resources*, healthcare systems have completed a variety of things. Over half of the healthcare systems interviewed (n=4 of 7, 57.1%) have implemented peer support and mentoring programs, including initiatives such as Stress First Aid and Care for the Caregiver. Many healthcare systems (n=4, 57.1%) have held well-being events, such as yoga classes or pet therapy, and provided education, such as healing touch classes. Healthcare systems

have started to share more well-being resources and made them more accessible (n=3, 42.9%), improved their EAP and benefits (n=3, 42.9%), and created and shared well-being content during new employee orientation (n=3, 42.9%). Healthcare systems have also hired well-being leaders to help with well-being initiatives (n=3, 42.9%).

Metrics of Well-Being Initiatives

Metrics used to measure nurse well-being at healthcare systems varied. Surveys were the most common method to measure nurse well-being (n=4 of 7, 57.1%), followed by utilization rates of programs (n=3, 42.9%), anecdotes (n=3, 42.9%), and retention rates (n=2, 28.6%). Interestingly, one healthcare system (14.3%) was utilizing medical claims as a metric of nurse well-being.

Discussion

Nurse burnout and lack of well-being not only impact nurses, but also have serious patient safety consequences and are associated with increased likelihood of medical error and reductions in workforce which result in fewer nurses available to deliver care.[1-3,6,7,46] Ensuring that appropriate well-being programs are in place to support nurses is critical to patient safety.[47,48] Our unique analysis focused on analyzing social media data related to burnout and well-being to identify nurse concerns and interviewing well-being leaders to understand the factors contributing to lack of well-being, current well-being initiatives, and metrics associated with their programs.

Comparing the social media–based concerns to the topics that emerged from interviews focused on factors contributing to the lack of well-being and current initiatives provides one perspective on whether the

well-being programs are meeting the needs of nurses. **Table 5** shows a direct comparison of the topics and themes identified from the social media analysis and interviews. Identifying misalignments between the social media analysis and well-being leader interviews may present opportunities to improve well-being programs.

Based on the social media analysis, the most prominent topic was *Lack of Meaningful Recognition, Compensation, and Influence* followed by *Work Environment*, and finally *Uninformed or Misinformed Public*. From the interviews, at the topic level the most prominent was *Work Environment*, followed by *Lack of Meaningful Recognition, Compensation, and Influence*, and then *Inadequate or Inaccessible Well-Being Resources*. Interestingly, the topic of *Uninformed or Misinformed Public* which surfaced from the social media analysis was not mentioned by any of the well-being leaders. On the contrary, the topic of *Inadequate or Inaccessible Resources* was a contributing factor topic for well-being leaders but was not mentioned in the social media analysis.

While the topics of *Lack of Meaningful Recognition, Compensation, and Influence* and *Work Environment* were identified through social media analysis and interviews, there were some differences in the specific themes. The social media analysis did not reveal any explicit comments related to the theme of Lack of Opportunity to Influence Organizational Decisions under the topic *Lack of Meaningful Recognition, Compensation, and Influence*. In addition, the social media analysis did not reveal any comments related to Unusable or Burdensome Technology under the theme of *Work Environment*. This is surprising given both themes have been discussed extensively in the literature and other forums.[49-52]

In the social media analysis, there is not a substantial difference in frequency of comments related to the topics of *Lack of Meaningful Recognition, Compensation, and Influence* and the topic of *Work Environment*; however, many comments fell under the subtheme of health system or macrosystem policies or regulations that limit nurses' ability to respond effectively to patient care needs. This suggests that addressing this subtheme will be important for addressing overall nurse burnout and lack of well-being. This subtheme will be challenging to address at a

Table 5. Comparison of Social Media Analysis Results and Well-Being Leader Interviews

Topic or Theme	Social Media Analysis of Staff Nurses	Well-Being Leader Interviews
Lack of Meaningful Recognition, Compensation, and Influence	✓	✓
Constrained Professional Agency	✓	✓
Compensation	✓	✓
Lack of Opportunity to Influence Organizational Decisions	✗	✓
Work Environment	✓	✓
Inadequate Nurse Staffing	✓	✓
Violence Against Nursing	✓	✓
Emotional Burden of Nursing	✓	✓
Unusable or Burdensome Technology	✗	✓
Uninformed or Misinformed Public	✓	✗
Uninformed Knowledge of Healthcare Operations/Personnel	✓	✗
COVID-19 Misinformation	✓	✗
Inadequate or Inaccessible Resources	✗	✓
Lack of Access to Resources to Maintain/Promote Well-Being	✗	✓
Inadequate EAP and Benefits	✗	✓
Lack of Well-Being Training and Education	✗	✓

Note: Topic rows are highlighted, followed by their related themes.

health system or national level given the diversity of stakeholders and the complexity of the issues impacting these policies and recommendations.

The interview data revealed some interesting well-being initiatives addressing some concerns expressed in the social media analysis. There is an opportunity to further study the impact of these initiatives and to share the most effective initiatives nationally. The biggest gap noted in the well-being initiatives described is addressing the topic of *Uninformed or Misinformed Public*.

The interview data surrounding metrics of well-being initiatives highlight the opportunity to improve our measurement of these initiatives. Survey-based instruments were the most common and while survey data are important, additional methods are needed to better quantify the potential impact of well-being programs. This is a key area for future research and development.

Recommendations for Healthcare Facilities

Fully addressing nurse burnout and well-being will require federal, state, and institutional changes to certain policies, compensation models, and numerous other factors. In addition to those efforts, our social media analysis and interviews lay the foundation for several recommendations healthcare facilities should consider in their immediate efforts to address nurse burnout and well-being. These recommendations include:

Use a multipronged approach to understand nurse concerns: Fundamental to addressing nurse burnout and well-being is understanding the factors that are driving these issues. While many facilities conduct surveys to understand factors contributing to burnout and lack of well-being, surveys alone may not capture all the key concerns. Further, there can be tremendous variation in the factors that contribute to burnout from facility to facility and even

department to department. These factors are difficult to capture by surveys alone. In addition to surveys, healthcare facilities should interview nurses; use different polling platforms, including social media; and conduct observations to identify what tasks and interactions may be contributing to burnout.

Embrace positive deviance: Positive deviance is focused on identifying groups or individuals with better outcomes than their peers, studying their behaviors, and then using this knowledge to inform the practices of others.[53] Many healthcare facilities focus on those individuals with high levels of burnout. While this is important, there can also be lessons learned from understanding what factors contribute to low levels of burnout. Observing, interviewing, and surveying those with low levels of burnout may surface key insights that can be brought to those with high levels of burnout.

Conclusion

Nurse burnout and lack of well-being have clear implications for patient safety, and addressing the factors contributing to burnout is a national priority. Nurse concerns about burnout and well-being may not be fully addressed by current well-being programs. There is an opportunity to optimize current well-being programs by ensuring alignment between nurse concerns and well-being program initiatives and by improving measurement of the effectiveness of well-being programs.

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Develop ways to address nurse concerns around constrained professional agency: The social media analysis revealed that Constrained Professional Agency was one of the most frequently discussed issues. Constrained professional agency is the hindrance of one's ability to influence and make choices in a way that affects their personal identity, career, and practices, including lack of flexibility or autonomy from a systemic level.[54] Facilities should focus on addressing these issues at a local level. One approach is to conduct focus groups with nurses to learn how they might be better supported on this issue.

Develop strategies to discuss issues around uninformed or misinformed public with nurses: This issue surfaced in the social media analysis and was not described by any of the well-being leaders, suggesting there may be a significant gap. Facilities should develop strategies for discussing this issue with their nurses, acknowledging that this is a known issue and developing interventions to relieve the stress associated with this problem.

Improve well-being program measurement efforts: To develop a successful well-being program, frequent measurement of program goals is important. Facilities should develop data points aimed at measuring burnout, well-being, and the impact of programs. These can be operational metrics (for example, number of surveys completed) though we recommend that at a minimum they include some outcome metrics, such as any improvement in well-being and whether implemented programs are having an impact. Measurements taken at regular intervals with the least amount of burden on staff are important. Consistency in measurement is also important for benchmarking and understanding well-being in context—aligning measurement efforts with existing standards will speed implementation and allow for effective comparisons within and across organizations.

Engage other well-being leaders to share what is and isn't working: The interviews we conducted served to identify several different well-being initiatives. There is an opportunity to increase knowledge sharing across organizations and given the common ground of wanting to improve nurse well-being and patient safety, there should be little hesitation to sharing what works. Current collaborative efforts to share in both well-being measurement and knowledge sharing around programs and solutions include the Healthcare Professional Well-being Academic Consortium, which has recently expanded its nurse well-being survey content to develop national benchmarks for nurse well-being.[55]

Limitations

There are several limitations to our study. Our social media analysis was based on data from a Reddit forum focused on nurse-related topics. However, we cannot verify the identity of social media posters to determine if they are, in fact, nurses that are engaging in this social media platform. We also have no way to verify the accuracy of the questions/comments that were analyzed. We sampled a small segment of the social media content, and the coding of this content may not accurately reflect the entire dataset. As with all interviews, we captured the experiences of those individuals interviewed; however, we were not able to verify the accuracy of these experiences. Additionally, we utilized a convenience sample of nurse leaders from a small subset of healthcare facilities in the United States and the results may not be generalizable to all healthcare facilities.

References

1. Jun J, Ojemeni MM, Kalamani R, Tong J, Crecelius ML. Relationship Between Nurse Burnout, Patient and Organizational Outcomes: Systematic Review. *Int J Nurs Stud*. 2021;119:103933. doi:10.1016/j.ijnurstu.2021.103933

2. Hall LH, Johnson J, Watt I, Tsipa A, O'Connor DB. Healthcare Staff Well-Being, Burnout, and Patient Safety: A Systematic Review. *PLoS One*. 2016;11(7):e0159015. doi:10.1371/journal.pone.0159015

3. Montgomery AP, Patrician PA, Azuero A. Nurse Burnout Syndrome and Work Environment Impact Patient Safety Grade. *J Nurs Care Qual*. 2022;37(1):87-93. doi:10.1097/ncq.0000000000000574

4. National Council of State Boards of Nursing (U.S.). Expert Panel on Practice Breakdown., Benner PE, Malloch K, Sheets V. *Nursing Pathways for Patient Safety*. Mosby Elsevier; 2010:x, 182 p.

5. Melnyk BM, Orsolini L, Tan A, et al. A National Study Links Nurses' Physical and Mental Health to Medical Errors and Perceived Worksite Wellness. *J Occup Environ Med*. 2018;60(2):126-131.

6. LeClaire M, Poplau S, Linzer M, Brown R, Sinsky C. Compromised Integrity, Burnout, and Intent to Leave the Job in Critical Care Nurses and Physicians. *Crit Care Explor*. 2022;4(2):e0629. doi:10.1097/cce.0000000000000629

7. Nantsupawat A, Kunaviktikul W, Nantsupawat R, Wichaikhum OA, Thienthong H, Poghosyan L. Effects of Nurse Work Environment on Job Dissatisfaction, Burnout, Intention to Leave. *Int Nurs Rev*. 2017;64(1):91-98. doi:10.1111/inr.12342

8. National Academy of Medicine. *National Plan for Health Workforce Well-Being.* NAM Special Publication ed. The National Academies Press; 2022.

9. Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction. *JAMA.* Oct 23-30 2002;288(16):1987-93. doi:10.1001/jama.288.16.1987

10. Leiter MP, Maslach C, Frame K. Burnout. In: Cautin R, Lilienfeld S, ed. *The Encyclopedia of Clinical Psychology.* John Wiley & Sons; 2014:1-7.

11. Mudallal RH, Othman WM, Al Hassan NF. Nurses' Burnout: The Influence of Leader Empowering Behaviors, Work Conditions, and Demographic Traits. *Inquiry.* 2017;54:46958017724944. doi:10.1177/0046958017724944

12. Salyers MP, Bonfils KA, Luther L, et al. The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. *J Gen Intern Med.* 2017;32(4):475-482. doi:10.1007/s11606-016-3886-9

13. Rotenstein LS, Brown R, Sinsky C, Linzer M. The Association of Work Overload with Burnout and Intent to Leave the Job Across the Healthcare Workforce During COVID-19. *J Gen Intern Med.* 2023:1-8. doi:10.1007/s11606-023-08153-z

14. Jennings BM. Advances in Patient Safety Work Stress and Burnout Among Nurses: Role of the Work Environment and Working Conditions. In: Hughes RG, ed. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses.* Agency for Healthcare Research and Quality (US); 2008.

15. Chao M, Shih CT, Hsu SF. Nurse Occupational Burnout and Patient-Rated Quality of Care: The Boundary Conditions of Emotional Intelligence and Demographic Profiles. *Jpn J Nurs Sci.* 2016;13(1):156-65. doi:10.1111/jjns.12100

16. Van Bogaert P, Timmermans O, Weeks SM, van Heusden D, Wouters K, Franck E. Nursing Unit Teams Matter: Impact of Unit-Level Nurse Practice Environment, Nurse Work Characteristics, and Burnout on Nurse Reported Job Outcomes, and Quality of Care, and Patient Adverse Events—A Cross-Sectional Survey. *Int J Nurs Stud.* 2014;51(8):1123-34. doi:10.1016/j.ijnurstu.2013.12.009

17. Van Bogaert P, Clarke S, Roelant E, Meulemans H, Van de Heyning P. Impacts of Unit-Level Nurse Practice Environment and Burnout on Nurse-Reported Outcomes: A Multilevel Modelling Approach. *J Clin Nurs.* 2010;19(11-12):1664-74. doi:10.1111/j.1365-2702.2009.03128.x

18. McVicar A. Workplace Stress in Nursing: A Literature Review. *J Adv Nurs.* 2003;44(6):633-42. doi:10.1046/j.0309-2402.2003.02853.x

19. Diehl E, Rieger S, Letzel S, et al. The Relationship Between Workload and Burnout Among Nurses: The Buffering Role of Personal, Social and Organisational Resources. *PLoS One.* 2021;16(1):e0245798. doi:10.1371/journal.pone.0245798

20. Halpin Y, Terry LM, Curzio J. A Longitudinal, Mixed Methods Investigation of Newly Qualified Nurses' Workplace Stressors and Stress Experiences During Transition. *J Adv Nurs.* 2017;73(11):2577-2586. doi:10.1111/jan.13344

21. Hayes B, Douglas C, Bonner A. Work Environment, Job Satisfaction, Stress and Burnout Among Haemodialysis Nurses. *J Nurs Manag.* 2015;23(5):588-98. doi:10.1111/jonm.12184

22. Wang S, Liu Y, Wang L. Nurse Burnout: Personal and Environmental Factors as Predictors. *Int J Nurs Pract.* 2015;21(1):78-86. doi:10.1111/ijn.12216

23. Davey MM, Cummings G, Newburn-Cook CV, Lo EA. Predictors of Nurse Absenteeism in Hospitals: A Systematic Review. *J Nurs Manag.* 2009;17(3):312-30. doi:10.1111/j.1365-2834.2008.00958.x

24. Kovner CT, Brewer CS, Fatehi F, Jun J. What Does Nurse Turnover Rate Mean and What is the Rate? *Policy Polit Nurs Pract.* 2014;15(3-4):64-71. doi:10.1177/1527154414547953

25. Leiter MP, Maslach C. Nurse Turnover: The Mediating Role of Burnout. *J Nurs Manag.* 2009;17(3):331-9. doi:10.1111/j.1365-2834.2009.01004.x

26. Jourdain G, Chênevert D. Job Demands–Resources, Burnout and Intention to Leave the Nursing Profession: A Questionnaire Survey. *Int J Nurs Stud.* 2010;47(6):709-22. doi:10.1016/j.ijnurstu.2009.11.007

27. Lu H, While AE, Barriball KL. Job satisfaction Among Nurses: A Literature Review. *Int J Nurs Stud.* Feb 2005;42(2):211-27. doi:10.1016/j.ijnurstu.2004.09.003

28. Berlin G, Lapointe M, Murphy M. Surveyed Nurses Consider Leaving Direct Patient Care at Elevated Rates. McKinsey & Company. https://www.mckinsey.com/industries/healthcare/our-insights/surveyed-nurses-consider-leaving-direct-patient-care-at-elevated-rates. Published February 17, 2022. Accessed March 22, 2023.

29. American Nurses Foundation. Pulse on the Nation's Nurses Survey Series: COVID-19 Two-Year Impact Assessment Survey. Nursing World. https://www.nursingworld.org/~4a2260/contentassets/872ebb13c63f44f6b11a1b-d0c74907c9/covid-19-two-year-impact-assessment-written-report-final.pdf. Updated March 1, 2022. Accessed March 22, 2023.

30. Kantorski LP, Oliveira MM, Alves PF, et al. Intention to Leave Nursing During the COVID-19 Pandemic. *Rev Lat Am Enfermagem.* 2022;30:e3613. Intenção em deixar a Enfermagem durante a pandemia de COVID-19. doi:10.1590/1518-8345.5815.3613

31. Raso R, Fitzpatrick JJ, Masick K. Nurses' Intent to Leave their Position and the Profession During the COVID-19 Pandemic. *J Nurs Adm.* 2021;51(10):488-494. doi:10.1097/nna.0000000000001052

32. Raso R, Fitzpatrick JJ, Masick K. Perceptions of US Nurses and Nurse Leaders on Authentic Nurse Leadership, Healthy Work Environment, Intent to Leave and Nurse Well-Being During a Second Pandemic Year: A Cross Sectional Study. *J Nurs Manag.* 2022;30(7):2699-2706. doi:10.1111/jonm.13712

33. Zeiher W, Sego E, Trimmer D, Bowers C. Posttraumatic Stress Disorder in Nurses During a Pandemic: Implications for Nurse Leaders. *J Nurs Adm.* 2022;52(2):E3-e8. doi:10.1097/nna.0000000000001112

34. Hart D, Paetow G, Zarzar R. Does Implementation of a Corporate Wellness Initiative Improve Burnout? *West J Emerg Med.* 2019;20(1):138-144. doi:10.5811/westjem.2018.10.39677

35. Lemaire JB, Ewashina D, Polachek AJ, Dixit J, Yiu V. Understanding How Patients Perceive Physician Wellness and Its Links to Patient Care: A Qualitative Study. *PLoS One.* 2018;13(5):e0196888. doi:10.1371/journal.pone.0196888

36. Arnold J, Tango J, Walker I, et al. An Evidence-based, Longitudinal Curriculum for Resident Physician Wellness: The 2017 Resident Wellness Consensus Summit. *West J Emerg Med*. 2018;19(2):337-341. doi:10.5811/westjem.2017.12.36244

37. Lefebvre D, Dong KA, Dance E, et al. Resident Physician Wellness Curriculum: A Study of Efficacy and Satisfaction. *Cureus*. 2019;11(8):e5314. doi:10.7759/cureus.5314

38. Lefebvre DC. Perspective: Resident Physician Wellness: A New Hope. *Acad Med*. 2012;87(5):598-602. doi:10.1097/ACM.0b013e31824d47ff

39. Zaver F, Battaglioli N, Denq W, et al. Identifying Gaps and Launching Resident Wellness Initiatives: The 2017 Resident Wellness Consensus Summit. *West J Emerg Med*. 2018;19(2):342-345. doi:10.5811/westjem.2017.11.36240

40. Miles SJ, Mangold WG. Employee voice: Untapped Resource or Social Media Time Bomb? *Business Horizons*. 2014/05/01/2014;57(3):401-411. doi:https://doi.org/10.1016/j.bushor.2013.12.011

41. Holland P, Cooper BK, Hecker R. Use of Social Media at Work: A New Form of Employee Voice? *Int J Hum Resour Manag*. 2016;27(21):2621-2634. doi:10.1080/09585192.2016.1227867

42. Swarbrick M. A Wellness Model for Clients. *Mental Health Special Interest Section Quarterly*. 1997;20(1):1-4.

43. Shirey MR. Authentic Leaders Creating Healthy Work Environments for Nursing Practice. *Am J Crit Care*. 2006;15(3):256-267.

44. National Academies of Sciences, Engineering, and Medicine; National Academy of Medicine; Committee on Systems Approaches to Improve Patient Care by Supporting Clinician Well-Being. Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being. National Academies Press; 2019.

45. Strauss A, Corbin J. Grounded Theory Methodology: An Overview. In: Denzin NK, Lincoln YS, ed. *Handbook of Qualitative Research*. Sage Publications, Inc.; 1994:273-285.

46. Aiken LH, Lasater KB, Sloane DM, et al. Physician and Nurse Well-Being and Preferred Interventions to Address Burnout in Hospital Practice: Factors Associated With Turnover, Outcomes, and Patient Safety. *JAMA Health Forum*. 2023;4(7):e231809. doi:10.1001/jamahealthforum.2023.1809

47. Melnyk BM, Kelly SA, Stephens J, et al. Interventions to Improve Mental Health, Well-Being, Physical Health, and Lifestyle Behaviors in Physicians and Nurses: A Systematic Review. *Am J Health Promot*. 2020;34(8):929-941. doi:10.1177/0890117120920451

48. Dempsey C, Assi MJ. The Impact of Nurse Engagement on Quality, Safety, and the Experience of Care: What Nurse Leaders Should Know. *Nurs Adm Q*. 2018;42(3):278-283. doi:10.1097/naq.0000000000000305

49. Melnick ER, West CP, Nath B, et al. The Association Between Perceived Electronic Health Record Usability and Professional Burnout Among US Nurses. *J Am Med Inform Assoc*. 2021;28(8):1632-1641. doi:10.1093/jamia/ocab059

50. Harris DA, Haskell J, Cooper E, Crouse N, Gardner R. Estimating the Association Between Burnout and Electronic Health Record-Related Stress Among Advanced Practice Registered Nurses. *Appl Nurs Res*. 2018;43:36-41.

51. Bogue RJ, Carter KF. The Nurse Well-Being Self-Assessment Supports the Model of Leadership Influence for Health Professional Well-Being. *Nurs Outlook*. 2022;70(3):478-486.

52. Khamisa N, Peltzer K, Oldenburg B. Burnout in Relation to Specific Contributing Factors and Health Outcomes Among Nurses: A Systematic Review. *Int J Environ Res Public Health*. 2013;10(6):2214-2240.

53. Morley G, Ives J, Bradbury-Jones C. Moral Distress and Austerity: An Avoidable Ethical Challenge in Healthcare. *Health Care Anal*. 2019;27(3):185-201. doi:10.1007/s10728-019-00376-8

54. Stein D, Hobson N, Jachimowicz JM, Whillans A. *How Companies Can Improve Employee Engagement Right Now*. Harvard Business Review;2021.

55. Healthcare Professional Well-being Academic Consortium. Healthcare PWAC. https://healthcarepwac.org. Accessed May 18, 2023.

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