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Impact of nurse burnout on organizational and position turnover

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ABSTRACT

Background: The National Academies of Medicine describes clinician burnout as a serious threat to organizational health, including employee turnover.

Purpose: To determine the relationship between resilience, burnout, and organizational and position turnover.

Methods: We surveyed direct care nurses in three hospitals 1 year apart between 2018 and 2019; 1,688 nurses completed 3,135 surveys included in analysis.

Findings: Fifty-four percent of nurses in our sample suffer from moderate burnout, with emotional exhaustion scores increasing by 10% and cynicism scores increasing 19% after 1 year. The impact of burnout on organizational turnover was significant, with a 12% increase in a nurse leaving for each unit increase on the emotional exhaustion scale, though it was not a factor in position turnover.

Discussion: These findings contribute to the growing body of evidence of nurse burnout and support policies and programs for annual measurement of burnout, increased employee wellbeing support, and improved work environments.

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Introduction and Background

Nursing burnout is a deleterious and consequential syndrome that affects not only the individuals, but also the organization and patients in which those nurses labor. As many as half of the nursing workforce are experiencing burnout, with likelihood of personal consequence, job dysfunction, and potential risk to patients (Dyerbye et al., 2017). An increase in awareness, including the National Academy of Medicine's establishment of the *Action Collaborative on Clinician Wellbeing and Resilience* (National Academy of Medicine

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[NAM], 2020) has contributed to efforts to produce outcome data; however, there is a paucity of quality research with the nursing workforce and organizational outcomes. In this analysis, we examine the influence of nurses' resilience on burnout, and how nurse burnout affects subsequent organizational and position turnover.

Because burnout is characterized through three classic symptoms of exhaustion, depersonalization (cynicism), and reduced personal accomplishment (Maslach & Leiter, 2016), it stands that burnout contributes to employees leaving their positions. Burned out individuals may become exhausted doing their best to care for patients, where the chances of recovery are minimal. The burned out clinician may express cynicism in uncharacteristic negative behaviors, poor communication with others, and even incivility toward coworkers. When clinicians are burned out they feel they are not performing their job responsibilities at the highest levels, lack motivation, and have poor personal job related self-esteem. The emotional toll on health care workers, especially nurses who care for patients through death, may impact nurses' own emotions (Wilson & Kirshbaum, 2011). Nurses may feel reduced personal accomplishment and a lack of satisfaction in response to job-related stressors and eventually leave their position. In addition to the disruption to patient care, the loss of a nurse leaving their position is also associated with significant financial costs, estimated from $11,000 to $90,000 per nurse with up to $8.5 million in associated wider costs (e.g., unfilled vacancies, patient deferment, training and orientations) (Halter et al., 2017).

Despite the hypothesized link, few studies have evaluated burnout and actual job turnover in the nursing workforce, instead using an individual's intention to leave their position as a proxy for turnover. A recent physician study described the relationship between clinician's actual turnover and burnout, finding physicians and advanced practice providers to be 1.5 times more likely to turnover when they had high burnout (Willard-Grace et al., 2019). Moreover, virtually no attention has been given to position turnover or the associated contributing factors (Kovner et al., 2016; Taylor & Covaleski, 1985). Since studies confirm that up to one third of nurses leave their position in the first one to two years of employment (Unruh & Zhang, 2014) and nationally turnover for nurses is approximately 18% (Nursing Solutions, Inc., 2020), it is critical to evaluate the role of burnout in turnover.

To fully understand clinician wellbeing, the role of resilience, or one's ability to overcome adversity, must be evaluated related to burnout and outcomes (NAM, 2018). A growing trend has emerged to generally view resilience as a method to prevent burnout; while evidence generally describes personal resilience building activities as support for decreasing stress, improving coping, and adapting (Kamath et al., 2017; Rees, Breen, Cusack, & Hegney, 2015; Rushton, Batcheller, Schroeder, & Donohue, 2015). In the nursing profession, resilience is required to mitigate burnout, with many interventions aiming to increase personal resilience in order to affect organizational culture and work environment (Rushton et al., 2015). Thus, the examination of personal resilience must be included in evaluating the relationship of nurse burnout and its effect on turnover. The purpose of this study is to evaluate the relationship between resilience, burnout, and both organizational and position turnover.

Methods

A quantitative nonexperimental study was conducted using a survey of direct care nurses at two points in time. Institutional review board approval was received from the health system and the partner university.

Sample

The study was conducted in three hospitals in a single health system in the United States in March 2018 and March 2019. The nonprofit health system hospitals included two community hospitals and one academic medical center with two facilities under one campus. We surveyed employed nurses from 78 units who provided direct patient care. Non-nurses and nurses whose primary role was not patient care (e.g., leaders, case management, educators) and advanced practice nurses were excluded. An estimated 3,574 eligible nurses were surveyed in 2018 and 3,528 eligible nurses in 2019.

Measures

Common validated instruments were used to measure burnout and resilience: the Maslach Burnout Inventory (MBI) (Maslach, Schaufeli, & Leiter, 2001) and the Connor Davidson Resilience Scale -10 item version (CDRISC-10) (Davidson & Connor, 2018), respectively. The MBI measures emotional exhaustion, cynicism, and personal accomplishment, with higher scores on the exhaustion and cynicism subscales indicating a higher burnout, whereas a lower score on personal accomplishment indicates burnout through decreased motivation (Maslach, Schaufeli, & Leiter, 2001). As with previous research, we classified moderate burnout as a score of 16–26, and high burnout 27 or higher on the emotional exhaustion scale (Lee, 2017; McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011). The CDRISC-10 measures resilience with a total score of the 10 items, with a higher total indicating increased resilience (Davidson & Connor, 2018).

The survey included questions asking the nurse's age, tenure as a registered nurse, and average hours worked in a typical week. Additionally, nurses were asked their race, most common shift work (day/night), whether they held a national certification in nursing, and whether they were a member of a professional

organization. To assess workplace conditions related to burnout, we asked nurses to recall the number of patients assigned to their care on their last shift, as a proxy for staffing/workload, and the number of patient deaths they were involved with in the last 30 days, to assess the number of patient deaths nurses were involved with on average. Finally, we asked nurses whether they intend to be in their position in 1 year.

Organizational turnover was defined as the nurse leaving this health care system and position turnover was defined as an individual leaving their position and accepting another position within the organization (Kovner, Brewer, Fatehi, & Jun, 2014). We collected turnover data from April 2018 to June 2019.

Data Collection

We utilized a third-party honest broker to identify eligible nurses, administer the survey and collect responses, which allowed us to link year over year data via the employed nurse's unique identification code. Nurses were invited to participate in the surveys each year through their email. After accessing the survey through the emailed link, the first page of the survey included informed consent the nurse must agree to in order to participate. The same survey was repeated in both years. The survey was open for 3 weeks each year the study was conducted. Throughout the 3 weeks of data collection, response rates were provided by unit and the research team utilized rounding and multiple forms of communication to encourage participation.

Turnover data was extracted from the health systems workforce department and matched through the same employee number used for the survey. Once matched, data were deidentified by removing employee numbers and utilizing unique codes for each nurse for analysis.

Data Analysis

All survey data was transferred to the research team from the third party honest broker. All participants who completed surveys in both 2018 and 2019 were included in analysis, with standard errors clustered for each nurse to account for if the nurse took the survey in both years. We utilized a recursive regression modeling structure (Thiel, 1971) to evaluate the pathways from resiliency, to nurse burnout, and then subsequently organizational and position turnover. This recursive modeling structure follows an intuitive development of resiliency to burnout through the examination of how independent variables lead to dependent variables without a feedback loop. Fixed effects (for each unit) linear regressions were used to predict nurse burnout (partially determined by resiliency) and separate regressions were used to predict organizational and position turnover (partially determined by resiliency and burnout, as measured by emotional exhaustion). We estimated organizational and position turnover using all survey data with nonmissing values, with 15 months of turnover exposure risk for 2018 survey respondents (3 months for 2019 respondents) and controlling for the exposure in measuring turnover with year fixed effects, as well as all other controls including departmental fixed effects.

Limitations

Our study is limited to one system in a single state, however, we report on a large sample of three hospitals across 78 departments. The demographics, work conditions, technology, and regional practices of the area may affect generalizability. Our response rate is average to surveys with the nursing workforce; however, response bias may be present and influence the validity of the results. Although we collected data at two points in time, continued longitudinal data may provide more information about the workforce trends over time. A limitation of all prospective analyses of turnover, including ours, is that the time frames in which a turnover is observed are right censored. In our models, we control for the differential censoring between 2018 and 2019 with year fixed effects.

Findings

In 2018, a total of 1,834 surveys (51% response rate) were returned and in 2019,1,632 surveys (46% response rate) were returned. The final analytic sample on complete outcome data was conducted on 3,135 surveys. This sample comes from 1,688 nurses in 78 units.

We find that 54% of nurses in our sample to be experiencing burnout (emotional exhaustion score above 16), with 28% of nurses experiencing high levels of burnout (score above 27). On average, nurses in all units report exposure to patient death at a rate of one death every other month (0.477 deaths per month), but variance within the sample demonstrates two high acuity areas, intensive care units and emergency departments, experience on average 1.5 deaths per month. For nurses who completed the survey both years (n = 1,034) we find that emotional exhaustion scores increased by 10% (from 18.95 to 20.89) and cynicism increased by 19% (from 5.50 to 6.54). Personal accomplishment remained essentially flat from an average of 36.37 in 2018 to 36.07 in 2019. Nurses reported an average resiliency score of 32.59 in 2018, with a slight decrease to 31.83 in 2019. Table 1 describes average characteristics for the regression sample means, including organizational and position turnover rates of approximately 8% per year.

Nurses' resilience scores are positively impacted by their age, tenure as a registered nurse, increased hours working, and intention to stay in their position (Table 2, left hand column). Additionally, nurses who engage as members of a professional organization are likely to increase resilience.

Table 1 – Summary of Nurse Characteristics and Their Environment, 2018–2019

	Mean (SD) or *n* (%)
Sociodemographic factors	
Age	39.9 (10.63)
Years tenure RN	11.83 (9.97)
Hours worked per week	34.79 (7.42)
Patients assigned per shift	3.38 (3.72)
Deaths experienced in 30 days	0.48 (1.28)
Female	2,790 (89%)
Dayshift	1,661 (53%)
Non-Hispanic white	2,195 (70%)
Bachelors prepared	1,975 (63%)
Certified	1,536 (49%)
Member of professional organization	1,411 (45%)
Intend to be in position in 1 year	3,603 (87%)
Dependent variables	
Emotional exhaustion	20.22 (11.97)
Resilience	32.08 (5.54)
Organizational turnover	251 (8%)
Position turnover	239 (8%)

In context of nurses' resilience and other potentially contributing variables, Table 2 (right hand column) describes the significant impact of individual and work-related characteristics in predicting burnout. Female nurses experienced roughly 9% more burnout than males, similar to physician gender differences (Templeton et al., 2019). Each year of tenure increases burnout (logit coefficient of 0.058), but holding tenure constant, each additional year of age decreases burnout (−0.076), suggesting that those nurses entering the profession at an earlier age have less burnout than those entering the profession at a later age (since nurses entering the profession earlier are older for each year of tenure).

The potential exposure to secondary trauma and exposure to patient deaths, as assessed through a single item measure of number of patient deaths, is extrapolated to understand the toll over 1 year. The increase in expected burnout for a nurse who witnesses one death per month would have a 3.31 increase in burnout on the emotional exhaustion scale[1]; compared to a nurse without any death(s), this would represent an approximate 40% increase in burnout over the course of a year. For nurses who work the day shift, where work environments may be more hectic and interactions between colleagues more likely to occur, burnout is likely to be 11.3 percent higher (2.279/20.22)[1] (Table 2, right hand column).

We estimate the likelihood of organizational turnover (a nurse leaving the hospital system) as a function of these same variables in the left hand column of Table 3 using logistic regression. This is a 0.953 percentage point increase in the likelihood of turnover for a one unit increase in burnout on the emotional exhaustion scale, which translates into an 11.62 percent increase in the likelihood of turnover for a unit increase in the normalized scale (0.00953/0.082 = 11.62). We find only two other factors that contribute to organizational turnover: higher education and stated intention to leave. Nurses with graduate degrees (masters or doctorate) are 68% more likely to turnover than those with associate degrees, and nurses with graduate degrees are 47% more like to turnover than those with bachelor's degrees. Nurses stated intention to leave is the highest predictor of actual turnover (Table 3). For nurses who choose to leave their position, we find the only significant predictor to be nurses stated intention to leave.

[1] percent = (coefficient)/(mean value of burnout)

Discussion

Burnout continues to be a persistent and concerning problem for the nursing workforce, with more than half of our sample experiencing moderate burnout and 28% experiencing high burnout. Although prevalence findings of burnout vary across settings, studies using the MBI and assessing nurses in the United States cite the prevalence of high burnout between 19% and 43% (Poghosyan, Clarke, Finlayson & Aiken, 2010; Aiken, Clarke, Sloane, Sochalski & Silber, 2002; McHugh et al., 2011). In an effort to address the scope of the problem, the National Academy of Medicine calls on organizations to utilize validated measures to annually assess burnout and wellbeing in their workforce (National Academy of Medicine, 2019). Through these actions, health care systems can begin to collect meaningful longitudinal data in understanding the impact of burnout on their employee, quality, and financial outcomes.

Efforts to understand resilience must be taken before promoting the workforce to build resilience capacity (Kelly, Gee, Weston, & Ryan, 2019). Our findings describe encouraging resilience building factors, such as fostering intent to stay in one's position (organizational commitment) and supporting professional membership organization. However, the limitations of our surveys prevent us from understanding whether nurses increased resilience is in response to negative work attributes or characteristics. For example, a nurse may demonstrate higher resilience as a result of increased hours worked, suggesting part-time nurses are less resilient; however, nurses who become acclimated to longer hours, overtime, or adding extra shifts may have developed higher resilience to unfavorable conditions that can lead to burnout. Understanding and measuring resilience, as part of clinician wellbeing, should be approached by assessing work environment factors, such as staffing, communication, recognition, workload, and leadership; clinicians may be building resilience against unfavorable work environment factors causing burnout (Kelly et al., 2019; National Academies of Science, Engineering, & Medicine, 2019). Additionally, the role and value of staff belonging to professional nursing organizations could be

Table 2 – Predictors of Resilience and Burnout

Characteristic	Resilience Coefficient	*p* Value	Burnout Coefficient	*p* Value
Average years tenure RN	−0.052	.004		
Average hours worked per week	0.042	.005		
Member of professional organization	0.722	.002		
Age	0.039	.019	−0.076	.017
Intend to be in position in 1 year	1.530	<.0001	−7.148	<.0001
Average deaths experienced in 30 days			0.669	<.0001
Female			1.740	.016
Dayshift			2.279	<.0001
Nurses resilience score			−0.581	<.0001

Linear regression resilience and burnout. Note: Nonsignificant coefficients not shown; specification included race dummy variables, a year fixed effect, and fixed effects for each nursing unit. Full models provided in supplementary material (n = 3,135).

Table 3 – Predictors of Nurse Organizational and Position Turnover

Characteristic	Organizational Turnover Coefficient	*p* Value	Position Turnover Coefficient	*p* Value
Years tenure RN	−0.046	.013		
Associate degree prepared	−0.693	.028		
Nurses' burnout score	0.014	.058		
Intend to be in position in 1 year	−1.469	<.0001	−0.8710	<.0001

Logistic regression organizational and position turnover. Nonsignificant coefficients not shown; specification included race dummy variables, a year fixed effect, and fixed effects for each nursing unit. Full models provided in supplementary material (n = 3,135).

explored further to understand how membership increases resilience.

Alleviating factors of burnout is a complex issue, with no one strategy to support efforts. Our study continues to support the need to create healthy work environments, especially for those more vulnerable to burnout, specifically, younger, female nurses who work the day shift. This is particularly concerning, as the nursing workforce is on average 91% female and over 60% to 80% of nursing students are under the age of 30 (National League of Nursing [NLN], 2020) and tend to obtain training and preceptorship on the day shift (Mayes & Schott-Baer, 2010). The increased use of nurse residency programs for new graduate nurses can, but does not always, address wellbeing. These findings emphasize the need to promote wellbeing early in nurses' preceptorship and training.

The evidence between nurse burnout and turnover is enhanced with understanding the contribution of an individual's resilience. We find that a nurses' lack of resilience can be a predictor of burnout, however, we do not find a lack of resilience to be a factor in turnover. We interpret these findings to describe that resilience building is a necessary component of preventing burnout, but once high burnout occurs turnover is a likely outcome. In addition to burnout, organizational turnover occurs because of other known factors, such as younger age and lack of job commitment (Kovner et al., 2014). Our findings describe potential new contributors to burnout such as the turbulence of day shift work and the potential of secondary trauma exposure from increased deaths. These findings describe key areas where organizations can focus burnout intervention efforts, such as improving communication between providers or supporting critical incident stress debriefing after traumatic events.

We did not find evidence that burnout contributes to position turnover. On one hand, opportunity may be driving position turnover, as nurses may be desiring career advancement or seeking novel opportunities. While often considered controversial, placement of new graduates early into specialty positions may decrease turnover, although it comes with other financial and training challenges (Read & Laschinger, 2017). On the other hand, position turnover may be influenced by negative affectivity and job satisfaction (Kovner et al., 2016), and likely the role of burnout could be a factor in a unit-level analysis that includes work environment and leadership variables.

Burnout and COVID-19

Recent studies have demonstrated that stressors linked to nurse burnout are prevalent during the COVID-19 pandemic. Being overworked during COVID-19, or any pandemic, and experiencing a surplus of stressful scenarios likely increases the risk of burnout (Gavidia, 2020), and nurses who treat quarantined or isolated patients, especially frequently, are more likely to experience emotional issues (Lai, Ma & Wang, 2020).

Nurse burnout is already a serious problem, however, the COVID-19 pandemic brings additional stressors, increased morbidity, and severe working conditions, which increase the likelihood of burnout. It is essential that hospitals engage in proactive measures to reduce burnout, especially during a pandemic. Some strategies to decrease workload, stress, and potential burnout during COVID-19 include improving the work schedule, encouraging self-management, and providing personal resilience building opportunities, such as mindfulness-based stress reduction and mental health awareness resources (Fessell & Cherniss, 2020).

Conclusion

Our findings describe the significant role of burnout in nurses' organizational turnover and provide insight that other factors contribute to why nurses may choose to change positions. We further describe the impact of resilience on burnout, providing areas for increasing wellbeing in clinicians and improving the work environment. Because of the importance of identifying and reducing burnout in the workforce, organizations must systematically measure burnout and wellbeing to understand and address the impact on their turnover.

Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.outlook.2020.06.008.

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