Nurse Job Change Due to Work Stress

Seth Baffoe¹

¹University of Maryland Global Campus

April 16, 2024

Abstract

Abstract Rationale, Aims and Objectives: To examine the relationship between nurse employment setting and nurse job change as related to work stress. Method: A retrospective quantitative analysis. The secondary data was from the 2008 National Sample Survey of Registered Nurses (NSSRN). The outcome measure was job change related to nursing work stress (yes vs. no). The independent variable was nurse work settings, including covariates. Results: Nurses working in medical/physician practice, an insurance company or other private claims/benefits/utilization, and other settings, including nurses who were neither satisfied nor dissatisfied, moderately dissatisfied, and extremely dissatisfied, had higher odds for job change due to stress when compared to inpatient unit community hospital /medical center, non-federal and moderately satisfied the reference category, respectively. Nurses who were unsure and had no plans to remain in the profession had higher odds for job change due to stress than a nurse who said yes to staying in the profession, the reference category. However, nurses in the 65 to 69 age cohort had substantially lower ([OR] = .482, p = .003) odds for not changing jobs due to stress compared to the age group between 50 to 54, the reference category. Conclusion: Among nurses, workplace job dissatisfaction translates to job change related to nursing work stress, while nurses aged 65 to 69 stayed at the job despite work stress. Given the current coronavirus (COVID-19) high-stress pandemic environment, healthcare organizations must do more to mitigate work-related job stress to prevent attrition and job change. KEYWORDS nurses, job change, work stress, and workplace

1. INTRODUCTION

Prolonged exposure to workplace stress adversely affects health, including contributing to coronary heart disease (CHD), depression, and psychological disorders ^{1,2}. Some professions, including mental health nurses, have a higher propensity to experience work-related stress^{3,4}. Psychiatry nurses experience burnout and a higher level of stress because of human factor demands and environment^{4,5,6}. Subsequently, nurses in the pediatric intensive care unit (PICU) who have occupational-related stress routinely changed jobs⁷. Similar to nurses, emergency room physicians are prone to experiencing work-related stress resulting in burnout⁸.

Adverse work environment stressors profoundly impact the physical and psychological health of nurses⁹. Among Japanese nurses, mental health was the primary reason for nurses who sought to change jobs¹⁰. Laposa, Alden, and Fullerton¹¹ determined that trauma accounts for 20% of the attrition of Canadian emergency department nurses in large urban hospitals. Nurses intent to leave the profession identified disproportionate work effort/reward distribution, high mental demands, and increased job stress as the driving factors to seek a job change¹².

Nurses frequently experience significant working environment stressors and challenging working conditions ¹³. The stressful working environment of nurses reduces job satisfaction and negatively impacts patient care ¹⁴. Consequently, the implications of nurse turnover include economic impact, effects on nurse job performance, and patient outcomes ¹⁵. Shortages in the nurse workforce market spurs healthcare executives to think strategically about sustaining organizational effectiveness, including improving preventable risk factors associated with nurse workplace stress. However, no study has been done to date to examine the relationship between nurse work setting and nurse job change due to work stress using the National Sample Survey of Registered

Nurses (NSSRN) data. Understanding the effects of workplace stress on nurses may encourage effective interventions and future strategies to ameliorate nurse job change due to stress.

When the evidence of workplace stress disorder was studied, Czaja, Moss, and Mealer¹⁶ found that nurses who were critically exposed to significant stress levels had a higher intention to quit the occupation. However, some nurses are finding methods to cope and remain in the profession. As an illustration, some PICU nurses had substantial risk factors for posttraumatic stress disorder (PTSD) but still adapted well to the workplace stressors because they utilized resilient mechanisms to cope with stress, including cognitive mindfulness therapy and focus groups¹⁷. Job stress adversely affects life expectancy. Holleyman et al. ³ suggested that career area and work location contributed to the United Kingdom (U.K) physicians reducing life expectancy. The issue of nurse work setting related to nurse job change due to work stress requires further evaluation.

The purpose of the study is to test the hypothesis that nurse workplace stress facilitates nurse job change. As a result, this study investigates the association between nurses' work setting and job change related to work stress, including adjusting for case-mix difference in covariates. The covariates in the analysis include gender, ages grouped, marital status, years since graduated from initial Registered Nurse (RN) education grouped, household income, ethnicity, job satisfaction, full-time status, employed with current employer in 2007, census division, no patient care, represented by labor unions, intention regarding principal RN position, plans to remain in nursing profession, active RN license required, advanced practice RN certificate, Highest RN/RN related education, primary patient population, and principal RN position type.

2. METHODS

The retrospective analysis was based on 2008 data obtained from the National Sample Survey of Registered Nurses (NSSRN). Since 1977, the Health Resources and Services Administration (HRSA) has overseen the collection of NSSRN data every four years¹⁸. The NSSRN contains the central data repository workforce estimates for nurses in the United States, including household income, demographic characteristics, training, etc.¹⁹. The unit of analysis is the nurse.

Sample Description

There were (N=6,149) for the nurse population in this research. Of the sample of nurses studied, there were 483 males and 5,666 females. Of the nurses who wanted to change jobs because of employment stress, 1,692 said Yes to changing employment due to work stress, and 4,457 said No to wanting to change careers due to work stress.

Measures

The measure for the dependent variable was dichotomously categorized as nurses wanting to change jobs due to work stress (yes vs. no). Principal registered nurse position settings with < 500 in frequency distribution were combined into one single category as Other; however, the position settings with [?] 500 in frequency distribution were individually separated as a single category within the independent variable, principal RN position setting. The independent and covariate variables included nurse work settings, household income, gender, marital status, and ethnicity. Some of the covariates in the NSSRN survey data have been previously used in other studies^{19,20}.

Analysis

Missing cases not categorized as yes or no were excluded from the dependent variable (job change work stress), resulting in a sample size of 6,149. A univariate analysis was performed to examine group distribution. A multiple logistic regression analysis was performed to control nurse case-mix difference related to the dependent variable, job change due to nurse work stress. The International Business Machines Corporation (IBM) predictive analytics software SPSS version 25 was used in the study. The test of statistical significance for an alpha level was set to .01. A significance of .01 was chosen because there were many categorical variables.

3. RESULTS

1,787 nurses worked in inpatient unit community hospital /medical center, non-federal, 238 nurses working in outpatient clinic owned by a community hospital/medical center, and 264 nurses working in other administrative or functional area Community hospital. 147 of nurses in an inpatient unit Specialty hospital, non-Federal, 321 nurses in a nursing home/extended care facility (not in a hospital), 154 nurses in-home health agency (non-hospital based), 81 nurses in School or school system (K-12), 224 nurses in Medical/physician practice, 96 nurses in Insurance company or other private claims/benefits/utilization, 1048 nurses were not applicable, and 1789 nurses in the other category. For the age group, nurses aged 50 to 54 contributed to about 15.9 %, the highest frequency distribution within the sample. Nurses 75 and over cohorts accounted for .4% of the sample, the lowest frequency distribution. The frequency distribution for the study is shown in Table 1.

[Insert Table 1 Here]

The results for the multiple logistic regression analysis can be seen in Table 2. Medical/physician practice nurses had higher ([OR] = 1.618, p = .003) odds of changing jobs related to work stress than inpatient unit community hospital /medical center, non-federal, the reference category. An insurance company or other private claims/benefits/utilization nurses had substantially higher ([OR] = 2.373, p < .001) odds for job-related change because of stress when compared to inpatient unit community hospital /medical center, non-federal, the reference category. Nurses in other work settings had higher ([OR] = 1.300, p = .002) odds of job change due to stress than inpatient unit community hospital /medical center, non-federal, the reference category.

Nurses in the age group between 65 to 69 cohorts had significantly lower ([OR] = .482, p = .003) odds of not changing jobs due to stress compared to the age group between 50 to 54 years reference category. Nurses who were Neither satisfied nor dissatisfied had a higher ([OR] = 1.505, p < .001) odd for job change due to work stress when compared to the moderately satisfied, the reference category. Moderately dissatisfied nurses had higher ([OR] = 1.441, p < .001) odds for job change due to work stress when compared to the moderately satisfied, the reference category. Extremely dissatisfied nurses had substantially higher ([OR] = 2.172, p < .001) odds for job change due to work stress when compared to moderately satisfied, the reference category.

A part-time nurse had lower ([OR] = .809, p = .005) odds for no job change due to work stress when compared to full-time nurses, the reference category. Nurses who said yes to intention regarding principal Registered Nurse (RN) position, including having left or will leave within the next 12 months ([OR] = .786, p = .005), had lower odd for having no job change due to work stress when compared to a nurse who had no plans to leave within next 3 years, the reference category. Nurses who said they had no plans to remain in the nursing profession had higher ([OR] = 1.7730, p = .005) odds for job change due to work stress when compared to nurses who said yes to planning on remaining in the nursing profession, the reference category.

Nurses who were unsure whether they would remain in nursing positions had significantly higher ([OR] = 2.022, p<.001) odds for job change due to work stress when compared to nurses who said yes to planning on remaining in the nursing profession, the reference category. Nurses employed through an employment agency as a traveling nurse had lower ([OR] = .505, p<.001) odd for not changing job due to work stress when compared to an employee of the organization or facility, the reference category. Thus, nurses in 2008 principal RN position type employed through an employment agency as a traveling nurse were cut in half for the likelihood of not changing jobs due to stress.

[Insert Table 2 Here]

In summary, nurses working in medical/physician practice, insurance company or other private claims/benefits/utilization, and other settings, including nurses who were neither satisfied nor dissatisfied, moderately dissatisfied, and extremely dissatisfied had higher odds for changing jobs due to stress when compared to inpatient unit community hospital /medical center, non-federal and moderately satisfied the reference category, respectively. Nurses who were unsure and had no plans to remain in the profession had higher odds for job change due to stress than a nurse who said yes to staying in the profession, the reference

category. However, nurses in the 65 to 69 age cohort had substantially lower odds for job change due to stress when compared to the age group between 50 to 54, the reference category. Although nurses who answered Yes, have left or will leave within the next 12 months and nurses employed through an employment agency as a traveling nurse both had lower odds for not changing jobs. The odds for nurses who were aged between 65 to 69 were substantially lower than nurses who answered Yes, have left, or will leave within the next 12 months and nurses employed through an employment agency as a traveling nurse. The odds for part-time nurses were also lower when compared to full-time nurses, the reference category; the part-time nurse had a low likelihood of switching jobs.

4. DISCUSSION

Nurses are an integral part of the healthcare industry. However, there continue to be nurse shortages throughout the country during the COVID-19 pandemic. Increased baby boomers' health care exacerbates the need for more nurses, and other allied field works need demand; therefore, retaining and reducing nurses' attrition is imperative. Spetz et al. 19 suggested employing more internationally educated nurses (IEN) to offset nurse scarcity and increase nurse supply. However, hiring IEN may not be the only panacea to the problem because this creates a ripple effect that may contribute to more shortages in other areas. Another approach to the problem may be to retain the existing nurses in the field by addressing some of the underlying factors causing attrition in the industry.

Work environments do influence nurse job change due to stress. Some literature studies^{7,14,16} suggested that a healthy work environment does play a significant role in whether a nurse will remain on the job. Interestingly, the results from the retrospective analysis in this study showed there might not be a strong association between nurse work environment and nurse job change due to work stress. Unfortunately, nurses continue to leave the profession, so the question remains why?

Some nurses cite increased stress and a higher nurse-to-patient ratio as the reason for abandoning the field. In a study about nurse staffing and outcomes, Shin, Park, and Bae²¹ suggested that a higher nurse-to-patient ratio harms patient care. Also, Shin et al.²¹ indicated in the same study a direct relationship between rising nurse-to-patient proportion and increasing odds for nurse discontentment. While Shin et al.²¹ linked dissatisfaction to patient outcome, this study also found a strong association to nurse workplace and nurse job change due to work stress while controlling for job satisfaction. Subsequently, in a literature review study in which the authors examined 59 papers, Lu et al. and Mcvicar^{22,23} asserted that nurse job contentment is among a multiplicity of factors, including organizational empowerment, work setting, employment stress, nurse to patient ratio, social support, demographics, and evidence-based approach were associated. Because the results from the odds ratio supporting dissatisfaction and job change in the study were substantially significant, the finding from this study supports the claim that the nurse-to-patient ratio may contribute to job dissatisfaction, including job change due to nurse work stress.

The reason for nurses who are aged between 65 to 69 have lower odds for no employment change related to work stress when compared to nurses aged 50 to 54; the reference category may be because those nurses have a higher level of experience, including resilience, and may be because they can transition to different jobs easily or retire from the profession. Equally important, senior nurses aged 65 to 69 have developed more substantial adaptation coping mechanisms over many years of working in a high-stress nursing environment. Perhaps, another possible explanation may be that most senior nurses aged 65 to 69 are in a leadership position and may have less burden of job stress. Effective leadership may play a fundamental role in nurse retention^{24,25}.

Effective leadership is essential in healthcare. O'Hara et al.²⁴ described the need for leadership encouragement in healthcare by suggesting that millennial job satisfaction was closely related to leaders providing sufficient help and guidance. In contrast, Tyndall et al.²⁶ does not support my finding that nurse satisfaction may help mitigate or reduce retention. Numerous studies have argued that dissatisfied nurses hurt patient safety and quality improvement. Therefore, job satisfaction efforts need to be encouraged. The results study seems to suggest that job satisfaction is an excellent predictor of nurses seeking a job change. Subsequently, the

evidence from this research may indicate that nurses have a higher odd of changing jobs due to stress when they are more dissatisfied when compared to moderately satisfied, the reference category.

A comparison of the findings in this research may be consistent with that of Liu et al.²⁷ and Leng et al.²⁸ that showed that work stress contributed to burnout and mental exhaustion, including some psychiatric disorders. These psychiatric disorders and related stress may indirectly influence nurses' job changes. Subsequently, Falguera et al.²⁹ found that a conducive work environment has synergistic benefits that may promote burnout reduction and job stress, including improving patient care quality outcomes.

5. LIMITATIONS

The addition of numerous years of data may have provided more depth to the study. However, performing a more comprehensive analysis using multiple years is challenging because the study is based on single-year data. Although this research was based on data from 2008, the analysis performed was exhaustive, including adjusting for covariates to improve the study's reliability, validity, and efficacy. Even though the research data is from 2008, Kelly et al.³⁰demonstrated in a paper published in 2021 that work environment impact on nurses is still relevant and requires a systemic approach to tackle the issue. While this research can be generalizable, the findings in this study should be interpreted with caution because the analysis was based on single-year data.

6. CONCLUSIONS

Among nurses, workplace job dissatisfaction translates to job changes because of nursing work stress. In contrast, nurses aged 65 to 69 cohort stayed at the position despite work stress. In the current coronavirus (COVID-19) high-stress pandemic environment, healthcare organizations must do more to mitigate work-related job stress, including preventing attrition and job change. Perhaps other confounding factors may influence some nurses' decision to remain in the field despite employment stress.

Supplementary research may be required to investigate why nurses do not remain in the career field because of work stress despite meaningful attempts to address the situation. New research, including an extended period of years examing the COVID-19 pandemic's direct and indirect impact on nurses and work stress leading to job change, may add to the scientific understanding of the issue. Subsequently, new research on the topic may provide decision-makers with sufficient evidence to initiate positive change and policy intervention to address the issue. Additionally, healthcare leaders may want to adapt and experiment responsibly with alternative evidence-based and patient-centered approaches to reduce nurse turnover rates to moderate nurse attrition in this era of uncertainty.

Acknowledgments

I am grateful to the National Sample Survey of Registered Nurses (NSSRN) for providing the data for this research work.

Conflict of Interest and Funding:

The author has no conflict of interest and has not received funding from other sources (s).

REFERENCES

- 1. Chandola T, Britton A, Brunner E, et al. Work stress and coronary heart disease: what are the mechanisms? European Heart Journal. 2008;29(5):640-648. doi: 10.1093/eurheartj/ehm584
- 2. Tennant C. Work-related stress and depressive disorders. Journal of Psychosomatic Research . 2001;51(5):697-704. doi:10.1016/S0022-3999(01)00255-0
- 3. Holleyman R, Vann Jones S. Location, vocation, procreation: how choice influences life expectancy in doctors. *Occupational Medicine* . 2016;66(4):276-278. doi:10.1093/occmed/kgv207
- 4. Edwards D, Burnard P, Coyle D, Fothergill A, Hannigan B. Stress and burnout in community mental health nursing: a review of the literature. *Journal of Psychiatric and Mental Health Nursing* . 2000;7(1):7-14. doi:10.1046/j.1365-2850.2000.00258.x

- 5. Humpel N, Caputi P, Martin C. The relationship between emotions and stress among mental health nurses. *Australian and New Zealand Journal of Mental Health Nursing* . 2001;10(1):55-60. doi:10.1046/j.1440-0979.2001.00191.x
- 6. Hamdan-Mansour AM, Al-Gamal E, Puskar K, Yacoub M, Marini A. Mental health nursing in Jordan: An investigation into experience, work stress and organizational support. *International Journal of Mental Health Nursing*. 2011;20(2):86-94. doi:10.1111/j.1447-0349.2010.00716.x
- 7. Foglia C Dorothy, Grassley S Jane, Zeigler L Vicki. Factors That Influence Pediatric Intensive Care Unit Nurses to Leave Their Jobs. *Critical Care Nursing Quarterly*. 2010;33(4):302-316. doi:10.1097/CNQ.0b013e3181f64979
- 8. Lahr Keller K, Koenig WJ. Management of stress and prevention of burnout in emergency physicians. *Annals of Emergency Medicine* . 1989;18(1):42-47. doi:10.1016/S0196-0644(89)80309-9
- 9. Chang EM, Daly JW, Hancock KM, et al. The Relationships Among Workplace Stressors, Coping Methods, Demographic Characteristics, and Health in Australian Nurses. *Journal of Professional Nursing*. 2006;22(1):30-38. doi:10.1016/j.profnurs.2005.12.002
- Lambert VA, Lambert CE, Ito M. Workplace stressors, ways of coping and demographic characteristics as predictors of physical and mental health of Japanese hospital nurses. *International Journal of Nursing Studies*. 2004;41(1):85-97. doi:10.1016/S0020-7489(03)00080-4
- 11. Laposa JM, Alden LE, Fullerton LM. Work stress and posttraumatic stress disorder in ED nurses/personnel (CE). *Journal of Emergency Nursing* . 2003;29(1):23-28. doi:10.1067/men.2003.7
- 12. Lavoie-Tremblay M, O'brien-Pallas L, Gélinas C, Desforges N, Marchionni C. Addressing the turnover issue among new nurses from a generational viewpoint. *Journal of Nursing Management* . 2008;16(6):724-733. doi:10.1111/j.1365-2934.2007.00828.x
- 13. Mealer ML, Shelton A, Berg B, Rothbaum B, Moss M. Increased prevalence of posttraumatic stress disorder symptoms in critical care nurses. *American journal of respiratory and critical care medicine* . 2007;175(7):693. doi:10.1164/rccm.200606-735OC
- Mealer M, Hodapp R, Conrad D, Dimidjian S, Rothbaum BO, Moss M. Designing a Resilience Program for Critical Care Nurses. AACN advanced critical care . 2017;28(4):359-365. doi:10.4037/aacnacc2017252
- Hayes LJ, O'Brien-Pallas L, Duffield C, et al. Nurse turnover: A literature review. International Journal of Nursing Studies . 2006;43(2):237-263. doi:10.1016/j.ijnurstu.2005.02.007
- 16. Czaja AS, Moss M, Mealer M. Symptoms of Posttraumatic Stress Disorder Among Pediatric Acute Care Nurses. *Journal of Pediatric Nursing* . 2012;27(4):357-365. doi:10.1016/j.pedn.2011.04.024
- 17. Mealer M, Jones J, Moss M. A qualitative study of resilience and posttraumatic stress disorder in United States ICU nurses. *Intensive Care Medicine*. 2012;38(9):1445-1451. doi:10.1007/s00134-012-2600-6
- 18. Nooney JG, Cleary BL, Moulton P, et al. Toward Standardization (Part 1): Assessment of State and National Nursing Workforce Data Sources. *Policy, Politics, & Nursing Practice*. 2010;11(3):173-183. doi:10.1177/1527154410390521
- 19. Spetz J, Gates M, Jones CB. Internationally educated nurses in the United States: Their origins and roles. *Nursing Outlook* . 2014;62(1):8-15. doi:10.1016/j.outlook.2013.05.001
- 20. Thompson M. Review of Occupational Health Nurse Data From Recent National Sample Surveys of Registered Nurses-Part I. AAOHN J. 2010;58(1):27-39. doi:10.3928/08910162-20091223-01
- 21. Shin S, Park JH, Bae SH. Nurse staffing and nurse outcomes: A systematic review and meta-analysis. Nursing Outlook . 2018;66(3):273-282. doi:10.1016/j.outlook.2017.12.002
- 22. Lu H, Zhao Y, While A. Job satisfaction among hospital nurses: A literature review. *International Journal of Nursing Studies*. 2019;94:21-31. doi:10.1016/j.ijnurstu.2019.01.011
- 23. Mcvicar A. Workplace stress in nursing: a literature review. Journal of Advanced Nursing . 2003;44(6):633-642. doi:10.1046/j.0309-2402.2003.02853.x
- 24. O'Hara MA, Burke D, Ditomassi M, Palan Lopez R. Assessment of Millennial Nurses' Job Satisfaction and Professional Practice Environment. *J Nurs Adm* . 2019;49(9):411-417. doi: 10.1097/NNA.0000000000000777
- 25. Correa PB, Bacon CT. The Effect of Leadership Interventions on Staff Nurse Job Enjoyment and

- Leadership Perception. J Nurs Adm . 2019;49(4):215-220. doi: 10.1097/NNA.0000000000000740
- 27. Liu Y, Aungsuroch Y, Gunawan J, Zeng D. Job Stress, Psychological Capital, Perceived Social Support, and Occupational Burnout Among Hospital Nurses. *Journal of Nursing Scholarship*. 2021;53(4):511-518. doi:10.1111/jnu.12642
- 28. Leng M, Wei L, Shi X, et al. Mental distress and influencing factors in nurses caring for patients with COVID-19. Nursing in Critical Care . 2021;26(2):94-101. doi:10.1111/nicc.12528
- 29. Falguera CC, De los Santos JAA, Galabay JR, et al. Relationship between nurse practice environment and work outcomes: A survey study in the Philippines. *International Journal of Nursing Practice* . 2021;27(1): e12873. doi:10.1111/jjn.12873
- 30. Kelly LA, Johnson KL, Bay RC, Todd M. Key Elements of the Critical Care Work Environment Associated with Burnout and Compassion Satisfaction. *American Journal of Critical Care* . 2021;30(2):113-120. doi:10.4037/ajcc2021775

TABLETable 1 Descriptive Statistics

Yes	Variable	Frequency	Percent	Cumulative perc
No 4457 72.5 100.0 Work Setting (N=6,149) Inpatient unit community hospital/medical center, non-federal 1787 29.1 29.1 Outpatient clinic owned by a Community hospital/medical center 238 3.9 32.9 Other administrative or functional area Community hospital/m 264 4.3 37.2 Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N=6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N=6,149) 8.8 11.5 Less than 25	Job Change-Work Stress (N= 6,149)			
Work Setting (N= 6,149) Inpatient unit community hospital /medical center, non-federal 1787 29.1 29.1 Outpatient unit community hospital /medical center 238 3.9 32.9 Other administrative or functional area Community hospital/m 264 4.3 37.2 Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 483 7.9 7.9 Female 483 7.9 7.9 Female 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 541 8.8 11.5 </td <td>Yes</td> <td>1692</td> <td>27.5</td> <td>27.5</td>	Yes	1692	27.5	27.5
Inpatient unit community hospital /medical center, non-federal 1787 29.1 29.1 Outpatient clinic owned by a Community hospital/medical center 238 3.9 32.9 Other administrative or functional area Community hospital/m 264 4.3 37.2 Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Whate the second of the second	No	4457	72.5	100.0
Outpatient clinic owned by a Community hospital/medical center 238 3.9 32.9 Other administrative or functional area Community hospital/m 264 4.3 37.2 Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 5666 92.1 100.0 Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.	Work Setting $(N=6,149)$			
Other administrative or functional area Community hospital/m 264 4.3 37.2 Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) 100.0 100.0 Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 100.0 100.0 Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719	Inpatient unit community hospital /medical center, non-federal	1787	29.1	29.1
Inpatient unit Specialty hospital, non-Federal 147 2.4 39.6 Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 59.7 75	Outpatient clinic owned by a Community hospital/medical center	238	3.9	32.9
Nursing home/extended care facility (not in a hospital) 321 5.2 44.8 Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Other administrative or functional area Community hospital/m	264	4.3	37.2
Home health agency (non-hospital based) 154 2.5 47.3 School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N=6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N=6,149) 88 11.5 Less than 25 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 59.7 15.9 75.7	Inpatient unit Specialty hospital, non-Federal	147	2.4	39.6
School or school system (K-12) 81 1.3 48.7 Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Nursing home/extended care facility (not in a hospital)	321	5.2	44.8
Medical/physician practice 224 3.6 52.3 Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 5666 92.1 100.0 Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Home health agency (non-hospital based)	154	2.5	47.3
Insurance company or other private claims/benefits/utilization 96 1.6 53.9 Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	School or school system (K-12)	81	1.3	48.7
Not Applicable 1048 17.0 70.9 Other 1789 29.1 100.0 Gender (N= 6,149) Male 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Medical/physician practice	224	3.6	52.3
Other 1789 29.1 100.0 Gender (N= 6,149) 483 7.9 7.9 Female 5666 92.1 100.0 Ages Grouped (N= 6,149) 2.7 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Insurance company or other private claims/benefits/utilization	96	1.6	53.9
Gender (N= 6,149)Male4837.97.9Female566692.1100.0Ages Grouped (N= 6,149)Less than 251692.72.725 to 295418.811.530 to 3464310.522.035 to 3971911.733.740 to 4471911.745.445 to 4988814.459.850 to 5497715.975.7	Not Applicable	1048	17.0	70.9
Male4837.97.9Female566692.1100.0Ages Grouped (N= 6,149)Less than 251692.72.725 to 295418.811.530 to 3464310.522.035 to 3971911.733.740 to 4471911.745.445 to 4988814.459.850 to 5497715.975.7	Other	1789	29.1	100.0
Female566692.1100.0Ages Grouped (N= 6,149)1692.72.725 to 295418.811.530 to 3464310.522.035 to 3971911.733.740 to 4471911.745.445 to 4988814.459.850 to 5497715.975.7	Gender $(N = 6,149)$			
Ages Grouped (N= 6,149)Less than 251692.72.725 to 295418.811.530 to 3464310.522.035 to 3971911.733.740 to 4471911.745.445 to 4988814.459.850 to 5497715.975.7	Male	483	7.9	7.9
Less than 25 169 2.7 2.7 25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Female	5666	92.1	100.0
25 to 29 541 8.8 11.5 30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Ages Grouped $(N=6,149)$			
30 to 34 643 10.5 22.0 35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	Less than 25	169	2.7	2.7
35 to 39 719 11.7 33.7 40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	25 to 29	541	8.8	11.5
40 to 44 719 11.7 45.4 45 to 49 888 14.4 59.8 50 to 54 977 15.9 75.7	30 to 34	643	10.5	22.0
45 to 49 50 to 54 888 14.4 59.8 977 15.9 75.7	35 to 39	719	11.7	33.7
50 to 54 977 15.9 75.7	40 to 44	719	11.7	45.4
	45 to 49	888	14.4	59.8
FF FO	50 to 54	977	15.9	75.7
55 to 59 (68 12.5 88.2)	55 to 59	768	12.5	88.2
60 to 64 439 7.1 95.3	60 to 64	439	7.1	95.3
65 to 69 211 3.4 98.8	65 to 69	211	3.4	98.8
70 to 74 49 .8 99.6	70 to 74	49	.8	99.6
75 and over 26 .4 100.0	75 and over	26	.4	100.0

Variable	Frequency	Percent	Cumulative per
Marital Status (N= 6,149)			
Married or in domestic partnership	4276	69.5	69.5
Widowed, divorced, separated	1193	19.4	88.9
Never married	680	11.1	100.0
Years since graduated from initial RN Education Grouped ($N=6,149$)			
Less than or equal to 5 years	1398	22.7	22.7
6 to 10 years	927	15.1	37.8
11 to 15 years	1005	16.3	54.2
16 to 20 years	624	10.1	64.3
21 to 25 years	623	10.1	74.4
26 to 30 years	566	9.2	83.6
31 to 35 years	476	7.7	91.4
36 to 40 years	251	4.1	95.5
41 or more years	279	4.5	100.0
Household Income ($N=6,149$)	. •	~	
\$15,000 or less	61	1.0	1.0
\$15,001 to \$25,000	74	1.2	2.2
\$25,001 to \$35,000	156	2.5	4.7
\$35,001 to \$50,000	559	9.1	13.8
\$50,001 to \$75,000	1635	26.6	40.4
\$75,001 to \$100,000	1496	24.3	64.7
\$100,001 to \$150,000	1442	23.5	88.2
\$150,001 to \$200,000	447	7.3	95.5
More than \$200,000	279	4.5	100.0
Single Races ($N=6,149$)	210	1.0	100.0
American Indian/Alaska Native only	34	.6	.6
Asian only	232	3.8	4.3
Black only	397	6.5	10.8
Native Hawaiian/Pacific Islander only	11	.2	11.0
White only	5326	86.6	97.6
Multiracial	149	2.4	100.0
Job Satisfaction (N= $6,149$)	140	2.4	100.0
Extremely satisfied	1728	28.1	28.1
Moderately satisfied	3027	49.2	77.3
Neither satisfied nor dissatisfied	554	9.0	86.3
Moderately dissatisfied	603	9.8	96.1
Extremely dissatisfied	237	3.9	100.0
· ·	231	5.9	100.0
Full-Time (FT)/Part-Time (PT) Status (N= $6,149$) Full-time	4736	77.0	77.0
Part-time	4730 1413	23.0	100.0
Employed with current employer in 2007 (N= 6.149)	1419	∠ J. U	100.0
	1735	98 9	28.2
Different position/same employer as current one		28.2	
Different employer than current one	3978	64.7	92.9
Different position/employer or not working in 2008	436	7.1	100.0
Census Division (N= $6,149$)	4099	70 C	70 C
Not Applicable	4833	78.6	78.6
Outside of the U.S.	24	.4	79.0
New England	100	1.6	80.6
Middle Atlantic	96	1.6	82.2
East North Central	124	2.0	84.2

Variable	Frequency	Percent	Cumulative perc
West North Central	96	1.6	85.8
South Atlantic	262	4.3	90.0
East South Central	63	1.0	91.0
West South Central	142	2.3	93.3
Mountain	208	3.4	96.7
Pacific	201	3.3	100.0
No Patient Care $(N=6,149)$			
Unknown	110	1.8	1.8
Not Applicable	1602	26.1	27.8
Yes	143	2.3	30.2
No	4294	69.8	100.0
Represented by Labor Unions 2008 (N= 6,149)			
Not Applicable	1048	17.0	17.0
Yes	552	9.0	26.0
No	4549	74.0	100.0
Intention regarding principal RN position (N=6,149)			
Not Applicable	1048	17.0	17.0
Yes, have left or will leave within the next 12 months	1572	25.6	42.6
Yes, in 1 year to 3 years	653	10.6	53.2
No plans to leave within next 3 years	2105	34.2	87.5
Undecided	771	12.5	100.0
Plans to remain in nursing profession (N= 6,149)		12.0	100.0
Not Applicable	3924	63.8	63.8
Yes	1889	30.7	94.5
No	134	2.2	96.7
Unsure	202	3.3	100.0
Active RN license Required (N= 6,149)	202	0.0	100.0
Not Applicable	1048	17.0	17.0
Yes	5051	82.1	99.2
No No	5051	.8	100.0
	50	.0	100.0
Advanced practice RN certification (APRN) (N= 6,149) Unknown	27	4	4
	3710	.4 60.3	.4
Not Applicable			60.8
No APRN certifications	2026	32.9	93.7
One APRN certification	355	5.8	99.5
Two APRN certifications	26	.4	99.9
Three or more APRN certifications (N. 2.142)	5	.1	100.0
Highest RN/RN-Related Education (N= 6,149)	1.1	0	2
Unknown	11	.2	.2
Diploma in nursing	622	10.1	10.3
Associates in nursing/nursing-related field	2398	39.0	49.3
Bachelor's in nursing/nursing-related field	2238	36.4	85.7
Master's or Doctorate in nursing/nursing-related field	880	14.3	100.0
Primary Patient Population (N= 6,149)			
Unknown	55	.9	.9
Not Applicable	1048	17.0	17.9
No patient care	554	9.0	26.9
Adult	2394	38.9	65.9
Geriatric	1027	16.7	82.6
Pre-natal	66	1.1	83.7

Variable	Frequency	Percent	Cumulative perc
Newborn or neonatal	119	1.9	85.6
Pediatric and/or Adolescent	339	5.5	91.1
Multiple age groups	185	3.0	94.1
Adult & geriatric	128	2.1	96.2
Newborn & pediatric	16	.3	96.5
Maternal & child	47	.8	97.2
All ages	171	2.8	100.0
Principal RN position type 2008			
Not Applicable	1048	17.0	17.0
An employee of the organization or facility	4268	69.4	86.5
Employed through an employment agency, but not as a traveling	125	2.0	88.5
Employed through an employment agency as a traveling nurse	388	6.3	94.8
Self-employed, per diem, or working as-needed	320	5.2	100.0

Table 2 Multiple Logistic Regression Analysis of Nurse Work Setting and Job Change due to Work Stress

Comparison	Odds Ratio	95% C.I.	<i>p</i> -Value
Multivariate			
Work Setting			
Reference: Inpatient unit community hospital /medical center, non-federal	1		
Outpatient clinic owned by a Community hospital/medical center	1.419	1.045 - 1.928	.025
Other administrative or functional area Community hospital/m	1.327	.969-1.816	.077
Inpatient unit Specialty hospital, non-Federal	.857	.565 - 1.300	.468
Nursing home/extended care facility (not in a hospital)	1.040	.770 - 1.405	.797
Home health agency (non-hospital based)	.905	.607 - 1.350	.625
School or school system (K-12)	.465	.245882	.019
Medical/physician practice	1.618	1.172 - 2.234	.003
Insurance company or other private claims/benefits/utilization	2.373	1.506 - 3.738	<.001
Not Applicable	.848	.668 - 1.075	.173
Other	1.300	1.105 - 1.530	.002
Gender			
Reference: Female	1		
Male	.948	.761 - 1.182	.637
Ages Grouped			
Reference: 50-54	1		
Less than 25	1.070	.695 - 1.647	.759
25 to 29	.946	.693 - 1.292	.728
30 to 34	.954	.724 - 1.257	.737
35 to 39	.971	.754 - 1.250	.817
40 to 44	.987	.776 - 1.256	.918
45 to 49	1.053	.849 - 1.307	.639
55 to 59	1.017	.810 - 1.277	.882
60 to 64	.827	.612 - 1.117	.215
65 to 69	.482	.296785	.003
70 to 74	.824	.391 - 1.737	.611
75 and over	.341	.095 - 1.217	.097
Marital Status			
Reference: Married or in domestic partnership	1		
Widowed, divorced, separated	1.066	.906 - 1.255	.440

Comparison	Odds Ratio	95% C.I.	<i>p</i> -Value
Never married	.944	.768-1.160	.581
Years since graduated from initial RN Education Grouped			
Reference: 11-15 years	1		
Less than or equal to 5 years	.994	.795 - 1.243	.961
6 to 10 years	1.052	.849-1.304	.643
16 to 20 years	1.025	.811-1.295	.838
21 to 25 years	1.060	.831-1.351	.640
26 to 30 years	1.028	.791 - 1.337	.835
31 to 35 years	.978	.732 - 1.307	.881
36 to 40 years	1.081	.741-1.576	.686
41 or more years	.944	.590 - 1.509	.808
Household Income			
Reference: \$100,001 to \$150,000	1		
\$15,000 or less	1.126	.614-2.066	.701
\$15,001 to \$25,000	1.355	.776 - 2.366	.286
\$25,001 to \$35,000	1.216	.814-1.817	.339
\$35,001 to \$50,000	1.114	.873-1.421	.387
\$50,001 to \$75,000	1.063	.892-1.267	.493
\$75,001 to \$100,000	1.141	.964-1.350	.125
\$150,001 to \$200,000	.810	.627-1.048	.109
More than \$200,000	.771	.559 - 1.064	.114
Demographic			
Reference: White	1		
American Indian/Alaska Native	1.235	.587-2.600	.578
Asian	.710	.507996	.047
Black	1.027	.807-1.306	.831
Native Hawaiian/Pacific Islander	1.057	.270-4.134	.936
Multiracial	1.234	.863-1.765	.250
Job Satisfaction	-		
Reference: Moderately Satisfied	1		
Extremely satisfied	.856	.741989	.035
Neither satisfied nor dissatisfied	1.505	1.230-1.842	<.001
Moderately dissatisfied	1.441	1.181-1.757	<.001
Extremely dissatisfied	2.172	1.632-2.890	<.001
Full Time (FT)/Part-Time (PT) Status			1.00-
Reference: FT	1		
PT	.809	.697939	.005
Employed with current employer in 2007			
Reference: Same position/same employer as principal nursing position	1		
Different position/same employer as current one	1.122	.815-1.544	.480
Different employer than current one	1.366	1.013-1.842	.041
Census Division	1.500	1.010 1.012	.011
Reference: South Atlantic	1		
Outside of the U.S.	.494	.186-1.308	.156
New England.	1.123	.878-1.437	.357
Middle Atlantic	.899	.686-1.178	.441
East North Central	1.024	.803-1.304	.850
West North Central	.989	.776-1.260	.928
East South Central	.833	.620-1.118	.224
West South Central	.844	.660-1.079	.176
most soduli Collitai	.011	.000-1.013	.110

Comparison	Odds Ratio	95% C.I.	p-Value
Mountain	1.060	.848-1.324	.609
Pacific	1.202	.945 - 1.527	.134
No patient care principal position			
Reference: No	1		
Yes	1.048	.543 - 2.023	.889
Unknown	.532	.261 1.082	.081
Intention regarding principal RN position			
Reference: No plans to leave within next 3 years	1		
Yes, have left or will leave within the next 12 months	.786	.663931	.005
Yes, in 1 year to 3 years	.770	.616962	.021
Undecided	.909	.749-1.103	.334
Plans to remain in nursing profession			
Reference: Yes	1		
No	1.773	1.193-2.633	.005
Unsure	2.022	1.471 - 2.780	<.001
Advanced practice RN certification (APRN)			
Reference: Not applicable	1		
No APRN certifications	1.161	1.023-1.316	.020
One APRN certification	.862	.620 - 1.197	.374
Two APRN certifications	.694	.249-1.933	.485
Three or more APRN certifications	.550	.060 - 5.075	.598
Highest RN/RN-Related Education			
Reference: Bachelor's in nursing /nursing-related field	1		
Diploma in nursing	1.146	.917 - 1.432	.229
Associates in nursing/nursing-related field	1.017	.885-1.168	.817
Master's or Doctorate in nursing/nursing-related field	.887	.703-1.118	.309
Primary Patient Population			
Reference: Adults	1		
Geriatric	1.177	.980-1.415	.082
Pre-natal	.475	.237949	.035
Newborn or neonatal	1.120	.730-1.718	.603
Pediatric and/or Adolescent	1.318	.986 - 1.763	.063
Multiple age groups	1.113	.795 - 1.558	.532
Adult & geriatric	.902	.593 - 1.371	.629
Newborn & pediatric	1.924	.699 - 5.298	.205
Maternal & child	.676	.320 - 1.426	.303
All ages	.988	.689-1.416	.946
Principal RN position type 2008			
Reference: An employee of the organization or facility	1		
Employed through an employment agency, but not as a traveling	1.432	.971 2.111	.070
Employed through an employment agency as a traveling nurse	.505	.371688	<.001
Self-employed, per diem, or working as-needed	1.100	.843-1.435	.483
Constant	14.698		.367