Critical Care Nurse Work Environments 2018: Findings and Implications

Beth Ulrich, EdD, RN
Connie Barden, MSN, RN, CCRN-K, CCNS
Linda Cassidy, MSN, EdM, RN, CCNS, CCRN-K
Natasha Varn-Davis, PhD

BACKGROUND The health of critical care nurse work environments affects patient and nurse outcomes. The results of the 2018 Critical Care Nurse Work Environment Study are reported here with comparisons to previous studies and recommendations for continued improvement.
OBJECTIVE To evaluate the current state of critical care nurse work environments.
METHODS An online survey was used to collect quantitative and qualitative data for this mixed-methods study. A total of 8080 American Association of Critical-Care Nurses (AACN) members and constituents responded to the survey.
RESULTS The health of critical care nurse work environments has improved since the previous study in 2013; however, there are still areas of concern and opportunities for improvement. Key findings include documented absence of appropriate staffing by more than 60% of participants; an alarming number of physical and mental well-being issues (198 340 incidents reported by 6017 participants); one-third of the participants expressed intent to leave their current positions in the next 12 months; and evidence of the positive outcomes of implementing the AACN Healthy Work Environment standards.
CONCLUSION Evidence of the relationship between healthy nurse work environments and patient and nurse outcomes continues to increase. The results of this study provide evidence of the positive relationship between implementation of the AACN Healthy Work Environment standards and the health of critical care nurse work environments, between the health of critical care nurse work environments and job satisfaction, and between job satisfaction and the intent of critical care nurses to leave their current positions or stay. (*Critical Care Nurse.* 2019;39[2]:67-84)

The American Association of Critical-Care Nurses (AACN) has long recognized that healthy work environments (HWEs) are essential for nurses to contribute optimally to patient care. In 2001, AACN committed to focusing efforts on promoting nurse work environments that foster excellence in patient care where acute and critical care nurses practice.[1] In 2005, the *AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence* was released.[2] This landmark document outlined the 6 essential standards necessary for creating an HWE: skilled communication, true collaboration, effective decision-making, meaningful recognition, appropriate staffing, and authentic leadership. Since that time, AACN

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has kept a keen eye on the status of the nurse work environment. In 2006, the organization completed the first national study of critical care nurse work environments; the findings provided baseline documentation of the status of the work environment for critical care nurses.[3] The results of 2 subsequent AACN studies of the work environment, in 2008[4] and 2013,[5] provided additional data on the status of this important link between nurses and the environments in which they care for patients.

In 2016, bolstered by rich evidence validating the essential components of an HWE and describing the relationships between work environment characteristics and outcomes for patients and nurses, AACN released the second edition of the *AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence.*[1] Along with their associated critical elements, the standards are an important blueprint organizations and nurses can use to foster workplaces that promote optimal patient outcomes and in which nurses and other members of the health care team are fulfilled in their work. In this article, we present the results of the 2018 study with comparisons to the 3 previous studies and recommendations for improvement.

For all items on the Critical Elements of a Healthy Work Environment Scale, there was a significant difference in results from nurses working in units that had implemented the HWE standards compared with those that had not.

Authors

Beth Ulrich is Professor, Cizik School of Nursing, The University of Texas Health Science Center at Houston, Texas, Editor of the Nephrology Nursing Journal, *and a consultant on Healthy Work Environments for the American Association of Critical-Care Nurses, Aliso Viejo, California.*

Connie Barden is the Chief Clinical Officer of the American Association of Critical-Care Nurses and a past president of the American Association of Critical-Care Nurses.

Linda Cassidy is the Strategic Advocacy Manager for the American Association of Critical-Care Nurses.

Natasha Varn-Davis is the Business Insights and Analytics Manager for the American Association of Critical-Care Nurses.

Corresponding author: Beth Ulrich, EdD, RN, FACHE, FAAN, 3811 Abbeywood Drive, Pearland, TX 77584 (email: bethtulrich@gmail.com).

Impact of HWEs

Work environments are associated with nurse and patient outcomes. After publication of its 1999 report *To Err Is Human: Building a Safer Health System,*[6] in which major patient safety concerns were identified, the Institute of Medicine, in 2004, studied patient safety and the work environments of nurses.[7] The resulting landmark report, *Keeping Patients Safe: Transforming the Work Environment of Nurses,*[7] was a clarion call for the health care industry to recognize the critical connection between patient safety and nurse work environments.

A systematic review of studies about nurse work environments in the United States from 2005 to 2017 revealed 5 major themes[8]:

1. Impacts of HWEs on nurse outcomes (ie, HWEs are positively correlated with psychological health, job satisfaction, and retention and negatively correlated with emotional strains and burnout)
2. Associations between HWEs and nurse workplace interpersonal relationships (eg, nurse-nurse, nurse-manager, nurse-physician), job performance, and productivity
3. Effects of work environment on patient care quality
4. Influences of HWEs on hospital accidents (eg, medication errors, nurse injuries from sharps)
5. Relationships between nurse leadership and HWEs

Mortality consistently has been associated with the health of the work environment. In a large multistate study, patients who were cared for in hospitals with poor work environments had a 16% lower likelihood of surviving an in-hospital cardiac arrest than did patients in hospitals with better work environments.[9] Olds et al[10] studied the effects of nurse work environments and safety climate on patient mortality; they found a 1 standard deviation increase in the work environment score on the Practice Environment Scale of the Nursing Work Index was associated with an 8.1% decrease in the odds of death ($P < .001$). A 1 standard deviation increase in the safety climate score (as measured by 7 items from the Agency for Healthcare Research and Quality Hospital Survey on Patient Safety Culture) was associated with a 7.7% decrease in the odds of death ($P < .001$). However, when the researchers modeled nurse work environment and safety climate together, nurse work environment remained a significant predictor of death, whereas safety climate did not.[10] The relationship between staffing and work environments and 30-day readmissions of surgical

patients receiving Medicare was investigated in a large multistate study. The quality of nurse work environments and nurse staffing adequacy were significantly associated with readmissions.[11]

Increasing evidence also exists of the relationship between the health of the work environment and nurse outcomes. The quality of nurse work environments is related to job satisfaction, intent to leave, burnout, and emotional exhaustion.[12,13] In addition, the health of the work environment has also been associated with health-promoting behaviors by nurses and nursing performance.[14]

Methods

Survey Instrument

The initial AACN Critical Care Nurse Work Environment Survey instrument was developed in 2006 and was based on the *AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence*[2] and on previous independent national research about nurses' work environments.[15] The AACN Critical Care Nurse Work Environment Survey has 3 parts: the Critical Elements of a Healthy Work Environment Scale, a series of additional questions to explore certain work environment elements in more detail, and questions about the demographics of participants and their employing organization. The survey also includes open-ended questions to elicit additional information on work environment issues and best practices. Before its use in 2006, the survey was pilot tested using a national sample of registered nurses (RNs) and no major changes were indicated.[3]

In subsequent studies, the additional questions were modified to probe results from the preceding surveys. For example, in 2008, a new open-ended question asked participants to describe the most meaningful recognition they had received. In 2013, we asked if the AACN HWE standards had been implemented in the participants' work units and by their employing organizations, and we queried about which of the standards was the most challenging to meet in their work unit. In 2018, we modified the questions regarding verbal and physical abuse, sexual harassment, and discrimination to collect more detailed information on the incidence and source.

The Critical Elements of a Healthy Work Environment Scale is a 32-item survey based on the AACN HWE standards. The scale measures the health of the work environment in the participants' work units and organizations, using Likert-type statements with 4-point response options: strongly disagree (1 point), disagree (2 points), agree (3 points), and strongly agree (4 points). The Critical Elements of a Healthy Work Environment Scale has remained consistent across all 4 surveys. In the 2018 study, the Cronbach α for the entire scale was 0.97; for the organization and work unit subscales, Cronbach α values were 0.95 and 0.94, respectively.

As reported previously,[5] the other 2 sections of the AACN Critical Care Nurse Work Environment Survey are items used to elicit participant opinions, report frequency of events related to HWEs, and gather demographic information. Because of this distinction among its sections, standard measures of numeric reliability could not be applied to the entire survey.[16]

Data Collection

Consistent with the previous 3 studies, a convenience sample was used that included all RNs in the AACN database at the time of the study. Invitations to participate were extended via email, website promotion, and AACN publications.

Analysis

Descriptive statistics (including frequencies, percentages, standard deviations, and means) were determined for all scalar variables. Frequencies, percentages, and modal values were calculated for categorical variables. Responses were cross-tabulated against demographic variables to determine which variables were significantly correlated.

The level of significance was set at $P < .05$. In cross-tabulation procedures, cases were eliminated in a pair-wise fashion so only those respondents with complete information for all target variables were included. The Spearman rank correlation was used to measure the degree of association between ordinal-level variables.

The quality of nurse work environments is related to job satisfaction, intent to leave, and emotional exhaustion.

Results

A total of 8080 critical care RNs participated in the study—twice as many participants as in the original 2006 study. The respondents represented all 50 states plus the District of Columbia, Puerto Rico, the Virgin Islands, and American Samoa. Participants in the 2018 study were younger on average than those in the 2013

Table 1 Demographic characteristics for survey respondents in 2006, 2008, 2013, and 2018

Characteristics	2006 (N = 4034)	2008 (N = 5562)	2013 (N = 8444)	2018 (N = 8080)
Age, y	44.6	45.8	46.5	45.1
White, non-Hispanic ethnicity, %	86.2	87.4	82.2	80.8
Female sex, %	89.6	89.8	89.6	90.0
RN experience, y	17.5	18.9	19.5	17.5
Certified in a specialty or subspecialty, %	55.5	58.5	60.8	66.6
Bachelor's degree, %	49.0	49.5	53.6	60.0
Graduate degree, %	24.6	26.0	23.9	24.3
Work in acute care hospitals, %	92.0	92.5	95.8	94.1
Work in direct patient care position, %	62.4	60.1	72.2	79.3
Work in a Beacon unit, %	NA	NA	14.9	18.7
Work in a Magnet unit, %	21.5	28.8	35.9	39.8

Abbreviations: NA, not asked; RN, registered nurse.

study, were more ethnically diverse, and had fewer years of experience; more had a Bachelor's degree as the highest level of nursing education; more held specialty certification; more worked in a direct-care position; and more worked in Beacon units and Magnet-designated hospitals (Table 1).

Overall Perception of Work Environment

There was improvement in all items in the Critical Elements of a Healthy Work Environment Scale from 2013 to 2018 ($P < .05$). Participants rated their level of agreement on the Likert-type scale and a mean level of agreement rating was calculated for each element, with higher means indicating more positive ratings. As in previous studies, the HWE elements were consistently rated higher in the work unit than in the organization (Table 2).

The 5 highest-rated work unit elements in 2018 were, in order by mean score: (1) RNs are as proficient in communication skills as they are in clinical skills (3.04); (2) RNs recognize others for the value they bring to the work of the organization (3.02); (3) structured processes are in place to ensure that the perspectives of patients and their families are incorporated into decisions affecting patient care (3.01); (4) RNs are relentless in pursuing and fostering true collaboration (2.98); and (5) RNs have opportunities to influence decisions that affect the quality of patient care (2.91).

The 5 lowest-rated work unit elements in 2018 were, in order by mean score: (1) nurse leaders (formal and informal) engage others in achieving an HWE (2.74); (2) RNs are engaged in the selection, adaptation, and evaluation of technologies that increase the effectiveness of nursing care delivery (2.67); (3) RN staffing ensures the effective match between patient needs and nurse competencies (2.66); (4) a structured process is provided to resolve disputes among members of the health care team (2.62); and (5) there are formal processes to evaluate the effect of staffing decisions on patient and system outcomes (2.44). The largest improvement at the work unit level from 2013 to 2018 was for the item "RNs are relentless in pursuing and fostering true collaboration" (mean score improved from 2.75 in 2013 to 2.98 in 2018).

Skilled Communication and True Collaboration

Scores for communication and collaboration improved in all the HWE critical elements from 2013 to 2018 (Table 2). Communication and collaboration ratings also improved when participants were asked to rate the communication among RNs and between RNs and physicians, frontline nurse managers, and administration (Figures 1 and 2). Communication and collaboration were rated highest among RNs, followed by between RNs and physicians, RNs and frontline nurse managers, and RNs and administration. In addition, communication and collaboration were positively associated with job satisfaction, quality of care, frontline nurse manager overall effectiveness, and intent to not leave one's current position (Table 3).

Table 2 Critical Elements of a Healthy Work Environment Scale: ratings[a] of the assessments of work unit and organizational work environments

Standard and statement	Work unit[b]				Organization[b]			
	2006	2008	2013	2018	2006	2008	2013	2018
Skilled Communication (SC): Nurses must be as proficient in communication skills as they are in clinical skills.								
SC1: Registered nurses (RNs) are as proficient in communication skills as they are in clinical skills.	2.77	2.84	2.87	3.04	2.52	2.56	2.65	2.79
SC2: All team members are provided with support for and access to education programs that develop communication and collaboration skills.	2.67	2.71	2.66	2.83	2.61	2.65	2.63	2.77
True Collaboration (TC): Nurses must be relentless in pursuing and fostering true collaboration.								
TC1: RNs are relentless in pursuing and fostering true collaboration.	2.75	2.80	2.75	2.98	2.46	2.51	2.57	2.76
TC2: A structured process is provided to resolve disputes among/between members of the health care team.	2.54	2.54	2.48	2.62	2.52	2.53	2.49	2.60
TC3: A structured process is provided to resolve disputes among/between members of the health care team and patients and their families.	2.75	2.74	2.66	2.76	2.75	2.73	2.67	2.73
Effective Decision-Making (ED): Nurses must be valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations.								
ED1: RNs are valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations.	2.85	2.89	2.69	2.85	2.65	2.70	2.60	2.70
ED2: Structured processes are in place to ensure that the perspectives of patients and their families are incorporated into decisions affecting patient care.	2.85	2.88	2.90	3.01	2.77	2.82	2.86	2.94
ED3: RNs are engaged in the selection, adaptation, and evaluation of technologies that increase the effectiveness of nursing care delivery.	2.72	2.74	2.58	2.67	2.61	2.63	2.53	2.58
ED4: RNs have opportunities to influence decisions that affect the quality of patient care.	2.95	2.95	2.78	2.91	2.77	2.78	2.68	2.77
Appropriate Staffing (AS): Staffing must ensure the effective match between patient needs and nurse competencies.								
AS1: RN staffing ensures the effective match between patient needs and nurse competencies.	2.75	2.77	2.61	2.66	2.46	2.50	2.45	2.46
AS2: There are formal processes to evaluate the effect of staffing decisions on patient and system outcomes.	2.42	2.46	2.37	2.44	2.37	2.35	2.35	2.40
Meaningful Recognition (MR): Nurses must be recognized and must recognize others for the value each brings to the work of the organization.								
MR1: RNs are recognized for the value each brings to the organization.	2.73	2.77	2.62	2.78	2.57	2.62	2.53	2.62
MR2: RNs recognize others for the value they bring to the work of the organization.	2.85	2.90	2.89	3.02	2.70	2.76	2.77	2.88
Authentic Leadership (AL): Nurse leaders must fully embrace the imperative of a healthy work environment, authentically live it and engage others in its achievement.								
AL1: Nurse leaders (formal and informal) fully embrace the concept of a healthy work environment.	2.78	2.80	2.63	2.79	2.58	2.62	2.52	2.62
AL2: Nurse leaders (formal and informal) engage others in achieving a healthy work environment.	2.70	2.73	2.58	2.74	2.53	2.58	2.48	2.58
AL3: Nurse leaders (formal and informal) receive support for and have access to educational programs to ensure that they develop and enhance their knowledge and abilities.	2.82	2.86	2.76	2.83	2.80	2.83	2.75	2.81

[a] Mean of scores ranging from 1 (strongly disagree) to 4 (strongly agree); a higher score indicates a higher level of agreement with the statement.
[b] All changes from 2013 to 2018 are significant ($P < .05$).

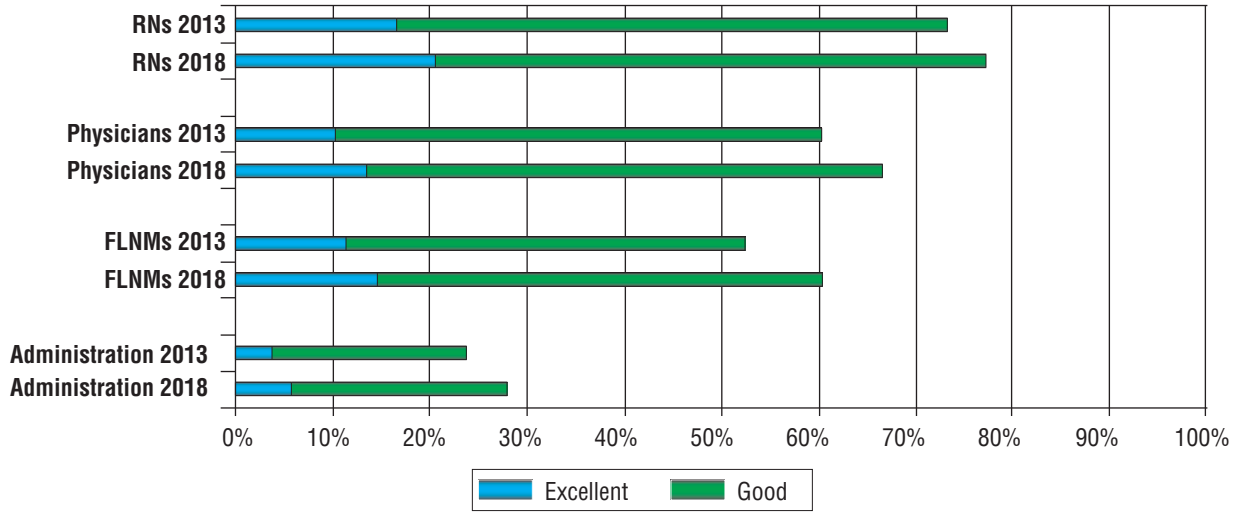

Figure 1 Quality of communication among RNs and between RNs and physicians, FLNMs, and administration.

Abbreviations: FLNM, frontline nurse manager; RN, registered nurse.

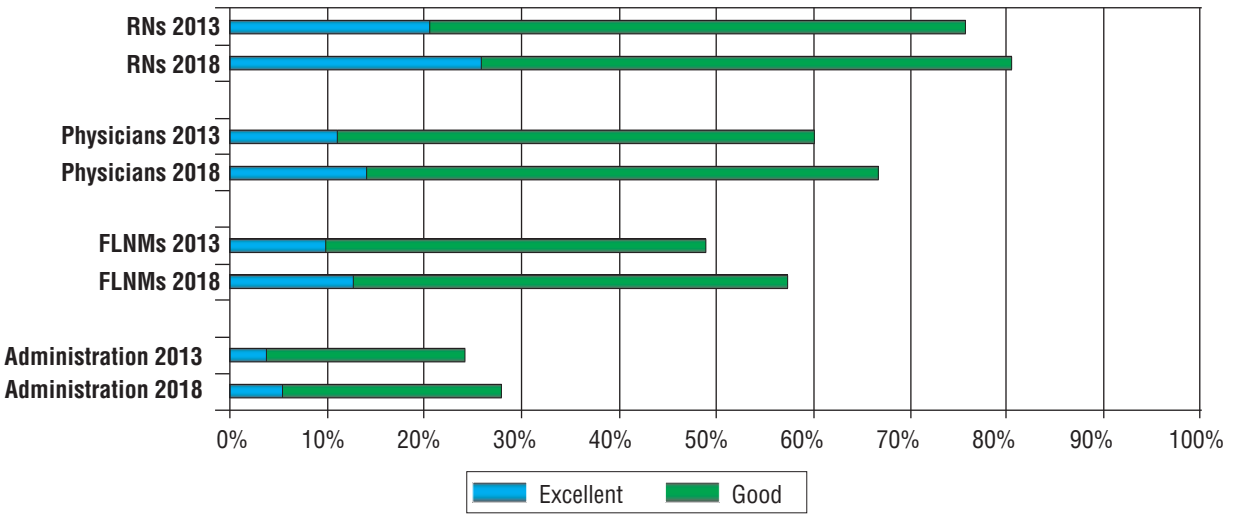

Figure 2 Quality of collaboration among RNs and between RNs and physicians, FLNMs, and administration.

Abbreviations: FLNM, frontline nurse manager; RN, registered nurse.

Respect and Meaningful Recognition

Respect for RNs from other RNs, physicians, frontline nurse managers, other health care colleagues, and administration improved from 2013 to 2018 (Figure 3). Respect from other RNs was rated highest, followed by respect from other health care colleagues, physicians, frontline nurse managers, and administration. Respect was positively associated with job satisfaction, communication, and intent to not leave one's current position (Table 3).

Consistent with previous surveys, nurses continue to report that recognition is most meaningful when it comes from patients or families and from other RNs. Recognition was positively associated with job satisfaction, intent to not leave one's current position, and quality of care (Table 3).

Effective Decision-Making

Effective decision-making improved in all measures from 2013 to 2018 (Table 2). This reversed a decline in 3 of the 4 items from 2008 to 2013. Scores for the items "RNs are valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations," "RNs are engaged in the

selection, adaptation, and evaluation of technologies that increase the effectiveness of nursing care delivery," and "RNs have opportunities to influence decisions that affect the quality of patient care" decreased in 2013 compared with 2008, but all increased from 2013 to 2018.

Appropriate Staffing

Appropriate staffing continues to be a major concern, with only 39% of RNs responding that they have the right number of nurses with the right knowledge and skills more than 75% of the time. However, the occurrence of appropriate staffing varied by position. Direct-care nurses reported having appropriate staffing 36% of the time, whereas frontline nurse managers reported having appropriate staffing 54% of the time. The 2 critical elements specific to appropriate staffing ("RN staffing ensures the effective match between patient needs and nurse competencies" and "There are formal processes to evaluate the effect of staffing decisions on patient and system outcomes") were the 2 lowest-rated critical elements in 2018 in work units and organizations. Appropriate staffing was significantly related to all work environment components, most notably job satisfaction, intent to not leave one's current position, respect for RNs by frontline nurse managers, the organization valuing the nurse's health and safety, the perceived overall effectiveness of the frontline nurse manager, valuing RNs as committed partners, and RNs having opportunities to influence decisions that affect the quality of patient care (Table 3).

Appropriate staffing affected work being completed. When staffing was appropriate more than 75% of the time, participants reported getting more work done on a typical shift than when staffing was appropriate less than 75% of the time. According to the survey results, direct-care work (eg, medications, procedures, monitoring) was completed most frequently, with 89% of the participants reporting direct care was completed at least 75% of the time on a typical shift. However, work that requires the critical thinking skills of an RN (eg, developing or updating care plans, preparing patients and families for discharge, teaching patients or families) was completed far less frequently. Less than 50% of participants reported this work was completed at least 75% of the time on a typical shift.

Authentic Leadership

The ratings of all 3 HWE critical elements of authentic leadership improved from 2013 to 2018. The perceived overall effectiveness of frontline nurse managers was related to the health of the environment, nurses' job satisfaction, and intent to leave (Table 3).

Physical and Mental Safety

Approximately two-thirds of the participants (68%) agreed with the statement "My organization values my health and safety." Verbal abuse, physical abuse, sexual harassment, and discrimination were reported as occurring frequently (Table 4). When survey respondents were asked if they had experienced verbal abuse, physical abuse, sexual harassment, and/or discrimination in the past year while working as a nurse, 80% reported experiencing verbal abuse at least once, 47% reported experiencing physical abuse at least once, 46% reported discrimination, and 40% reported sexual harassment; 86% of the respondents experienced at least 1 of the negative incidents. The 6017 RNs who reported experiencing these abuses reported a total of 198 340 incidences of abuse in the past year.

Patients and their families were the most frequently reported source of abuse. Of respondents reporting verbal abuse, 73% experienced the abuse at least once from patients (more than 12 times, 23%), 64% experienced this abuse at least once from patients' families (more than 12 times, 16%), 41% at least once from physicians (more than 12 times, 3%), 34% at least once from other RNs (more than 12 times, 3%), 15% at least once from non-RN/non-physician health care personnel, and 14% at least once from a nurse manager. Almost half of respondents (46%) reported experiencing physical abuse at least once from patients. At least 1 incident of sexual harassment by patients was reported by 34% of respondents, and 17% of respondents reported at least 1 incident by patients' families. Discrimination by patients was reported by 28% of the respondents, and 28% reported discrimination by patients' families, 19% by other RNs, 15% by a physician, and 13% by a nurse manager.

Appropriate staffing is the most concerning element of the health of critical care nurse work environments.

Only 48% of participants said their organizations had a zero-tolerance policy against verbal abuse of staff, and only 62% said their organizations had a zero-tolerance policy against physical abuse of staff. More than 20% of participants reported not knowing if their

Table 3 Relationships between HWE measures, demographic information, and outcomes

	Satisfaction with current job	Intent to leave	Quality of communication in organization between RNs	Quality of communication in organization between RNs and physicians	Quality of collaboration in organization between RNs	Quality of collaboration in organization between RNs and physicians	Respect for RNs by physicians	Respect for RNs by other health care colleagues
Satisfaction with current job	1.00	-0.43	0.37	0.33	0.35	0.35	0.34	0.35
Intent to leave	-0.43	1.00	-0.15	-0.15	-0.15	-0.16	-0.16	-0.16
Quality of communication in organization between RNs	0.37	-0.15	1.00	0.56	0.71	0.51	0.46	0.50
Quality of communication in organization between RNs and physicians	0.33	-0.15	0.56	1.00	0.47	0.76	0.66	0.49
Quality of collaboration in organization between RNs	0.35	-0.15	0.71	0.47	1.00	0.58	0.46	0.51
Quality of collaboration in organization between RNs and physicians	0.35	-0.16	0.51	0.76	0.58	1.00	0.68	0.52
Respect for RNs by physicians	0.34	-0.16	0.46	0.66	0.46	0.68	1.00	0.64
Respect for RNs by other health care colleagues	0.35	-0.16	0.50	0.49	0.51	0.52	0.64	1.00
Respect for RNs by FLNMs	0.50	-0.22	0.45	0.37	0.47	0.43	0.46	0.56
Frequency of moral distress	-0.39	0.19	-0.20	-0.21	-0.20	-0.22	-0.21	-0.22
Appropriate staffing (more than 75% and 75% or less)	0.40	-0.20	0.28	0.24	0.26	0.26	0.26	0.27
Magnet hospital	0.14	-0.05	0.17	0.10	0.17	0.12	0.12	0.13
Beacon unit	0.18	-0.07	0.17	0.13	0.17	0.14	0.13	0.15
Quality of care for patients in your work unit	0.47	-0.21	0.37	0.31	0.37	0.33	0.34	0.36
Tolerance of verbal abuse of staff in organization	-0.41	0.20	-0.29	-0.30	-0.27	-0.32	-0.32	-0.30
Tolerance of physical abuse of staff in organization	-0.30	0.15	-0.19	-0.21	-0.17	-0.22	-0.22	-0.21
Organization values health and safety	0.58	-0.27	0.36	0.32	0.34	0.35	0.35	0.36
Overall effectiveness of FLNMs	0.55	-0.26	0.38	0.30	0.37	0.33	0.32	0.37
Implementation of the AACN HWE standards	0.35	-0.17	0.23	0.20	0.23	0.23	0.21	0.23

Abbreviations: AACN, American Association of Critical-Care Nurses; FLNM, frontline nurse manager; HWE, healthy work environment; RN, registered nurse.
[a] All correlations are significant at the 0.01 level (2-tailed). The values of the Spearman correlation coefficients (*r*) range from +1.00 to -1.00, indicating strength and direction. Correlations closer to +1.00 and -1.00 indicate stronger linear relationships and correlations closer to 0.00 indicate weaker linear relationships.

organizations had zero-tolerance policies. Participants who reported the presence of zero-tolerance policies against verbal and physical abuse reported far fewer negative incidents than those who reported no zero-tolerance verbal or physical abuse policies ($P < .05$).

Respect for RNs by FLNMs	Frequency of moral distress	Appropriate staffing (more than 75% and 75% or less)	Magnet hospital	Beacon unit	Quality of care for patients in your work unit	Tolerance of verbal abuse of staff in organization	Tolerance of physical abuse of staff in organization	Organization values health and safety	Overall effectiveness of FLNMs	Implementation of the AACN HWE standards
0.50	-0.39	0.40	0.14	0.18	0.47	-0.41	-0.30	0.58	0.55	0.35
-0.22	0.19	-0.20	-0.05	-0.07	-0.21	0.20	0.15	-0.27	-0.26	-0.17
0.45	-0.20	0.28	0.17	0.17	0.37	-0.29	-0.19	0.36	0.38	0.23
0.37	-0.21	0.24	0.10	0.13	0.31	-0.30	-0.21	0.32	0.30	0.20
0.47	-0.20	0.26	0.17	0.17	0.37	-0.27	-0.17	0.34	0.37	0.23
0.43	-0.22	0.26	0.12	0.14	0.33	-0.32	-0.22	0.35	0.33	0.23
0.46	-0.21	0.26	0.12	0.13	0.34	-0.32	-0.22	0.35	0.32	0.21
0.56	-0.22	0.27	0.13	0.15	0.36	-0.30	-0.21	0.36	0.37	0.23
1.00	-0.29	0.35	0.16	0.18	0.40	-0.35	-0.27	0.52	0.64	0.33
-0.29	1.00	-0.26	-0.04	-0.05	-0.25	0.31	0.24	-0.37	-0.30	-0.17
0.35	-0.26	1.00	0.11	0.13	0.34	-0.26	-0.20	0.39	0.37	0.23
0.16	-0.04	0.11	1.00	0.39	0.16	-0.14	-0.11	0.18	0.15	0.18
0.18	-0.05	0.13	0.39	1.00	0.20	-0.17	-0.10	0.20	0.20	0.28
0.40	-0.25	0.34	0.16	0.20	1.00	-0.28	-0.21	0.39	0.43	0.28
-0.35	0.31	-0.26	-0.14	-0.17	-0.28	1.00	0.63	-0.47	-0.34	-0.27
-0.27	0.24	-0.20	-0.11	-0.10	-0.21	0.63	1.00	-0.41	-0.25	-0.21
0.52	-0.37	0.39	0.18	0.20	0.39	-0.47	-0.41	1.00	0.50	0.37
0.64	-0.30	0.37	0.15	0.20	0.43	-0.34	-0.25	0.50	1.00	0.35
0.33	-0.17	0.23	0.18	0.28	0.28	-0.27	-0.21	0.37	0.35	1.00

Only 58% of the participants who had experienced verbal abuse, physical abuse, discrimination, or sexual harassment reported the incident to their supervisor. Among those who reported an incident, 55% said there was some discussion but nothing was done or there was no follow-up, 30% said the problem was resolved

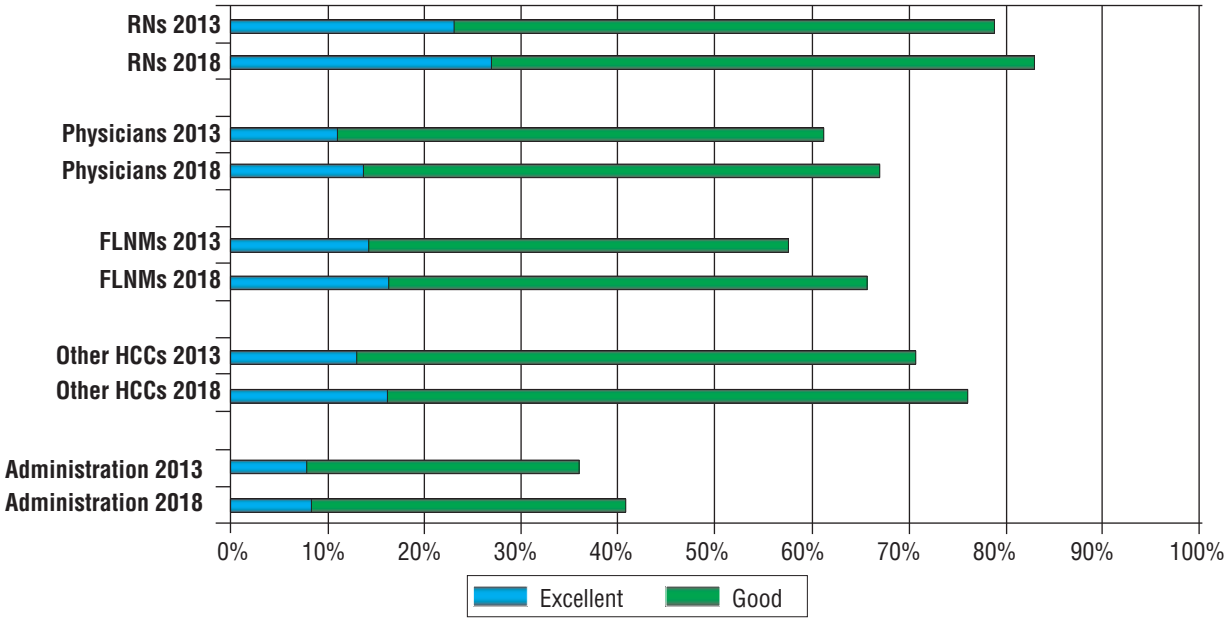

Figure 3 Respect for RNs from other RNs, physicians, FLNMs, other health care colleagues, and administration.

Abbreviations: FLNM, frontline nurse manager; HCC, health care colleagues; RN, registered nurse.

Table 4 Abuse incidents reported by type and by perpetrator for the 12 months before the survey for the 6017 participants who reported at least 1 incident

Perpetrator	Verbal abuse	Physical abuse	Discrimination	Sexual harassment	Total
Patient	59966	14520	7438	8689	90613
Patient's family/SO	38252	1320	7832	3172	50576
Nurse	12227	123	6351	1306	20007
Physician	13579	65	4309	1223	19176
Nurse manager	3563	39	3443	239	7284
Other health care staff	2024	18	1930	132	4104
Administrator	3412	50	2130	988	6580
Total	133023	16135	34433	15749	198340

Abbreviation: SO, significant other.

satisfactorily, and 4% said they were blamed for the incident. The responses were different depending on whether the unit had implemented the AACN HWE standards. For example, in units that had implemented the HWE standards, 50% of the participants said the problem was resolved satisfactorily, compared with 24% in units where the HWE standards had not been implemented. Of participants who did not report the incidents, 34% said they did not do so because they did not think anything would be done about it, 29% said they did not think it was a major issue, and 8% feared retribution.

Participants were asked, "To what extent, in your work as a nurse, do you experience moral distress?" The percentage of participants who reported that they experience moral distress very frequently increased from 9.4% in 2013 to 10.6% in 2018. An increased frequency of moral distress was related to decreased job satisfaction ($P < .01$).

Support for Continuing Education and Certification

Support for continuing education (CE) has increased since 2013, with more organizations offering CE (79% vs

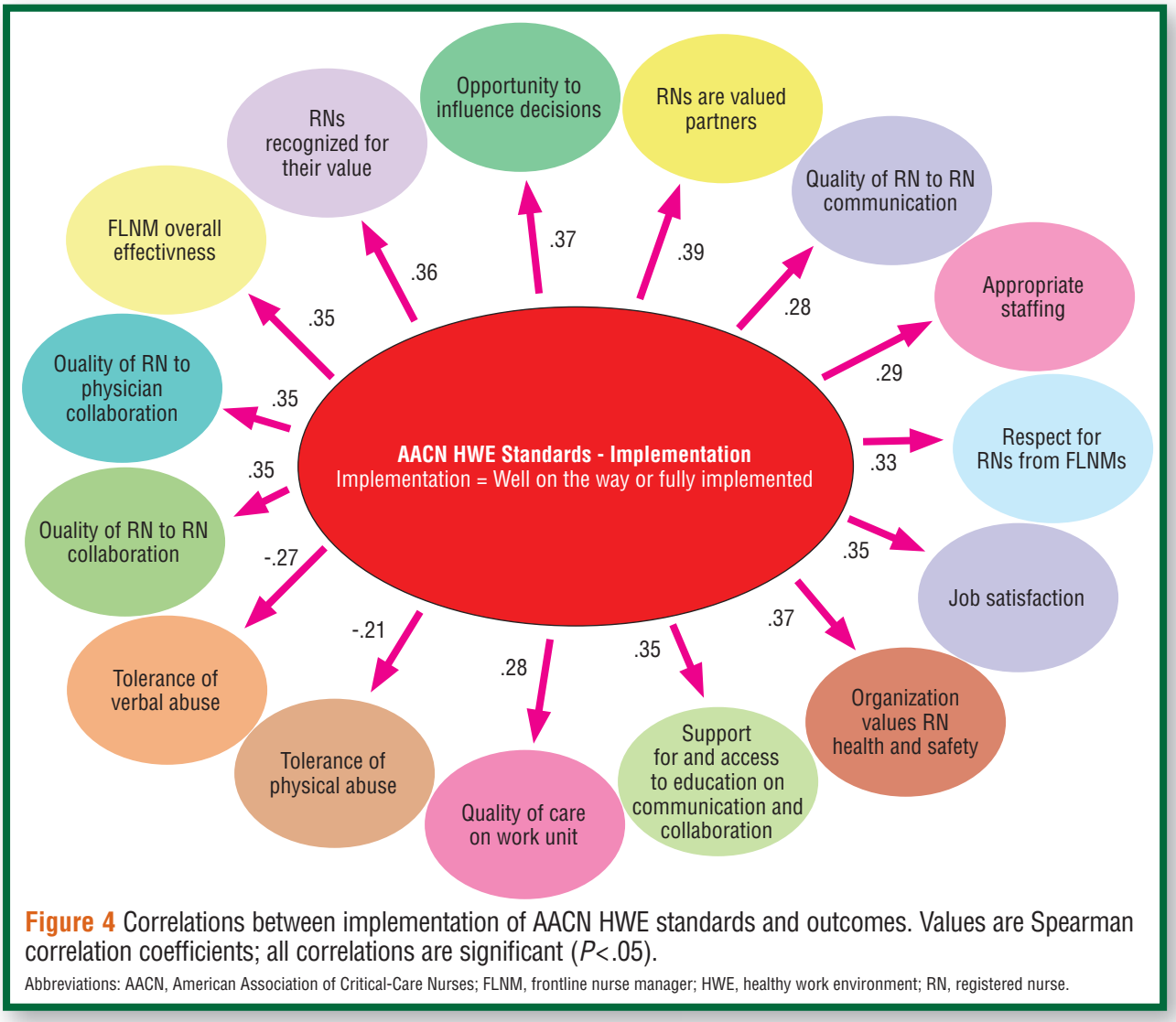

Figure 4 Correlations between implementation of AACN HWE standards and outcomes. Values are Spearman correlation coefficients; all correlations are significant ($P<.05$).

Abbreviations: AACN, American Association of Critical-Care Nurses; FLNM, frontline nurse manager; HWE, healthy work environment; RN, registered nurse.

74%); however, the level of support has remained about the same in other areas, such as providing paid time off for CE. Ten percent of participants reported receiving no organizational support for CE.

Support for certification improved from 2013 to 2018, particularly in the areas of the organization paying the initial examination fee (62% in 2013; 68% in 2018) and offering a bonus for the initial certification (21% in 2013; 25% in 2018).

Beacon Units and Magnet Organizations

Nurses who work in Beacon units (and in units in process of obtaining Beacon recognition) reported healthier work environments, were more satisfied in their current positions, and were less likely to plan to leave the organization (Table 3). The same holds true for nurses working in Magnet hospitals.

Implementation of HWE Standards

When asked if their unit had implemented the AACN HWE standards, 5% of respondents said the standards were fully implemented, 18% said the process was well underway, 21% reported their unit was just beginning to implement the standards, and 56% said not at all. For all items on the Critical Elements of a Healthy Work Environment Scale, there was a significant difference in results from nurses working in units that had implemented the HWE standards compared with those that had not (Figure 4 and Table 3). In addition, 59% of the nurses in units that had not implemented the HWE standards planned to leave their current position in the next 12 to 36 months, compared with 39% of respondents in the units that had implemented the HWE standards. Nurses who worked in units that had implemented or were on the journey of implementing the HWE standards

Table 5 Percentages of satisfaction with nursing as a career and with current position[a]

	Being a registered nurse				With current position			
Level of satisfaction	2006	2008	2013	2018	2006	2008	2013	2018
Very satisfied	62.9	65.5	62.4	62.2	30.9	32.0	25.5	28.6
Somewhat satisfied	29.5	27.9	23.8	29.3	45.1	43.1	42.2	45.6
Somewhat dissatisfied	5.8	5.1	6.8	6.7	18.5	19.1	22.0	18.6
Very dissatisfied	1.8	1.5	2.5	1.8	5.5	5.8	10.3	7.2

[a] Because of rounding, percentages may not total 100%. All changes from 2013 to 2018 are significant at $P < .05$.

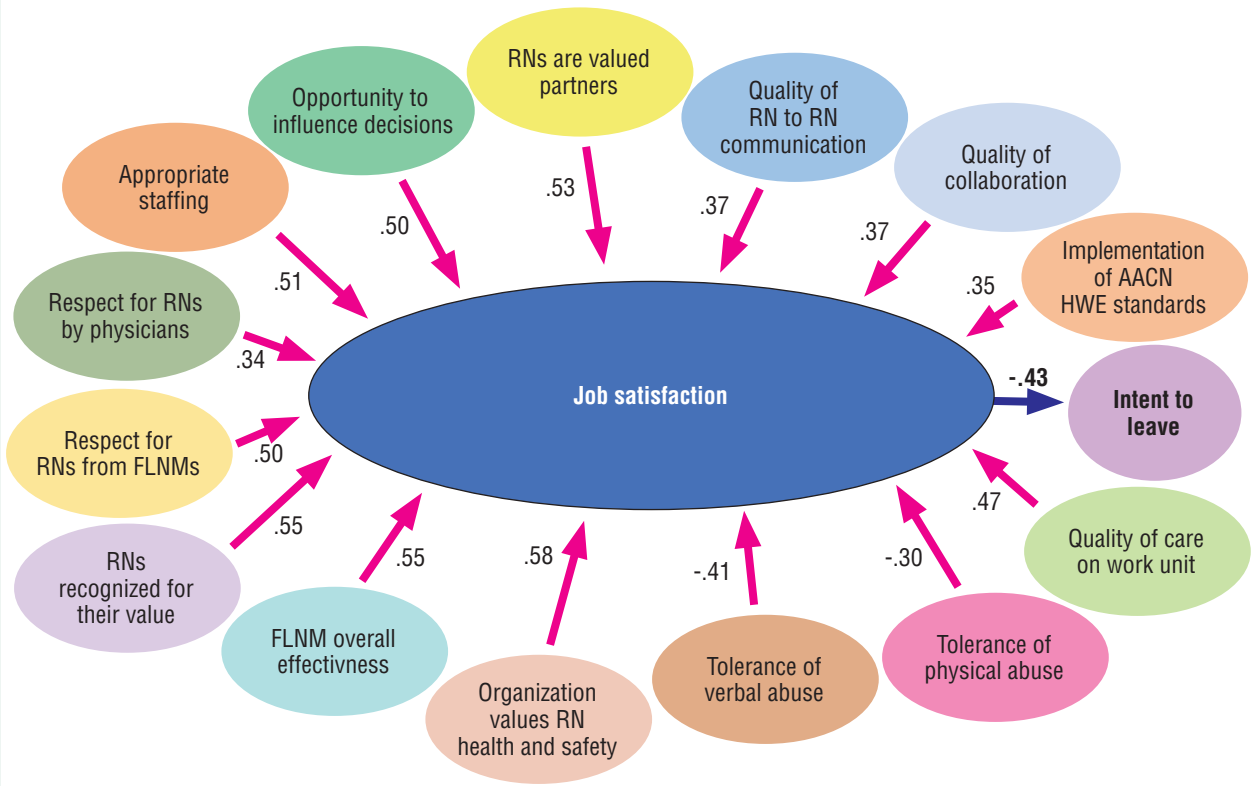

Figure 5 Correlations between AACN HWE components and job satisfaction and correlation between job satisfaction and intent to leave. Values are Spearman correlation coefficients; all correlations are significant ($P<.05$).

Abbreviations: AACN, American Association of Critical-Care Nurses; FLNM, frontline nurse manager; HWE, healthy work environment; RN, registered nurse.

reported overall healthier work environments, better leadership, better nurse staffing, less moral distress, and less workplace violence than did nurses who worked in units that had not implemented the HWE standards (Figure 4 and Table 3).

Job and Career Satisfaction and Career Plans

Job Satisfaction. As in previous studies, participants reported a high level of satisfaction in being an RN and a lower level of satisfaction in their current position (Table 5). More than half of respondents (62%) were very satisfied and 29% were somewhat satisfied with being an RN, whereas only 29% were very satisfied with their current position and 46% were somewhat satisfied. When asked how likely they would be to advise a qualified individual to pursue a career in nursing, 56% said they definitely would and 33% said they probably would. Data analysis revealed the significance of HWE components to job satisfaction. The correlations are shown in Table 3 and Figure 5. In addition, job satisfaction was

associated with intent to leave one's current position. Participants who reported lower job satisfaction were more likely to report intent to leave ($r = -0.43$; $P < .01$).

Intent to Leave. Overall, 54% of the participants said they plan to leave their current position within the next 12 months or the next 3 years (Table 6). When those reporting an intent to leave were asked what would influence them to reconsider leaving, the top responses included better staffing (50%), higher salary or improved benefits (46%), better leadership (44%), more respect from administration (42%) and frontline management (39%), and more meaningful recognition (39%). Nurses in healthier work environments were significantly less likely to express intent to leave.

For participants who expressed an intent to leave their position in the next 12 months or the next 3 years, significant differences were found in many areas compared to those who did not express an intent to leave, such as in the indicators for all 6 HWE standards, quality of care on the work unit, overall effectiveness of the frontline nurse manager, health and safety, and frequency of moral distress (Table 7). For those who expressed intent to leave in the next 12 months (a more concrete intent than an intent to leave in the next 3 years), 45% planned to take a different position in clinical or patient care nursing, 17% to take a different position in nonclinical or non–patient care nursing, 11% to return to school, and 9% to retire. Of this group, 52% said better staffing would very likely influence them to reconsider their plans to leave, 49% cited better leadership, and 45% cited more respect from administration. Of the participants who expressed an intent to leave in the next 3 years, 34% planned to take a different position in clinical or patient

Table 6 Percentages of intent to leave current nursing position[a]

Intent to leave	2006	2008	2013	2018
Yes, within the next 12 months	19.6	16.5	21.3	32.6
Yes, within the next 3 years	28.6	27.3	29.2	21.8
No plans to leave within the next 3 years	51.9	56.2	49.6	45.5

[a] Because of rounding, percentages may not total 100%.

Table 7 Perceptions of work environments based on intent to leave[a]

Perception of work environment	Intent to leave?		
	No, %	Yes, in next 12 months, %	Yes, in next 3 years, %
Quality: Described quality of care in work unit as excellent	54	31	38
Manager effectiveness: Rated frontline nurse manager overall effectiveness as excellent	31	12	18
Health and safety: Strongly agree with the statement "My organization values my health and safety"	24	7	11
Appropriate staffing: Have the right number of RN staff and the right knowledge and skills over 75% of the time	49	26	33
Moral distress: Experience moral distress very frequently	7	19	10
Communication: Rated communication between RNs and other RNs as excellent	25	15	18
Communication: Rated communication between RNs and physicians as excellent	18	9	10
Communication: Rated communication between RNs and frontline nurse managers as excellent	20	8	11
Collaboration: Rated collaboration between RNs and other RNs as excellent	31	19	23
Collaboration: Rated collaboration between RNs and physicians as excellent	18	9	11
Effective decision-making: Strongly agrees with the statement "RNs are valued and committed partners in making policy, directing and evaluating clinical care, and leading organizational operations" in work unit	31	12	17
Recognition: Strongly agrees with the statement "RNs are recognized for the value each brings to the work of the organization" in work unit	26	10	14

Abbreviation: RN, registered nurse.
[a] Because of rounding, percentages may not total 100%.

care nursing, 21% to return to school, 15% to take a different position in nonclinical or non–patient care nursing, and 14% to retire. Of this group, 50% said higher salary and benefits would very likely influence them to reconsider their plans to leave, 48% cited better staffing, and 42% cited better leadership.

Best Practices

We asked participants to describe a best practice in their unit or organization that others could use to improve their work environment, and we received almost 2700 responses. Examples of best practices included "We have a morale committee that helps support our nurses"; "Buddy system for breaks and turning patients"; "Supportive manager—always visible and accessible"; "Treating every patient on the unit as everyone's patient"; "Working as a team to get work done"; "We do rounds to discuss discharge planning on every patient"; "We [the staff] stand together"; "Daily huddles"; and "Brought in the HWE survey to one unit. Geared improvement efforts on that unit to the standards and saw positive results. Spread to other units in the system."

Discussion

The results of the 2018 AACN Critical Care Nurse Work Environment Study indicate that the health of critical care nurse work environments has improved since 2013; however, there are areas of concern and opportunities for improvement. In addition, the results provide evidence of the relationship between implementation of the AACN HWE standards and the health of critical care nurse work environments, between the health of critical care nurse work environments and job satisfaction, and between job satisfaction and the intent of critical care nurses to leave their current positions or to stay (Table 3).

Participants who planned to leave their positions in the next 12 to 36 months indicated that more respect from administration and nurse managers would influence them to stay.

Context

The context in which surveys occur is important when interpreting the results, especially when comparing outcomes of surveys conducted at different points in time. When the first AACN Critical Care Nurse Work Environment Study was conducted in 2006, the United States was in the midst of a major nursing shortage. Health care organizations were competing for RNs and trying hard to retain employed RNs. By the time the second study was conducted in 2008, a national recession was resulting in low vacancy rates as RNs returned to the workforce or increased their work hours to compensate for job losses for other family members and losses in retirement funds. The downstream effect of these RNs returning to work and increasing their hours was a decreased demand or need for new graduate RNs—many new graduate RNs could not find work for months after graduation.[17] When the 2013 study was conducted, the Patient Protection and Affordable Care Act had been passed, federal reimbursement for care was increasingly based on the quality of patient outcomes, and the economy was on the upswing. Nursing enrollments had increased in both prelicensure and graduate education programs. At the time of the 2018 study, the health care industry was in a time of major uncertainty. Parts of the Patient Protection and Affordable Care Act had been repealed or changed, leaving health care organizations that had been on a path based on the accountable care organization model unsure whether to move forward with their plans. A major shift in focus to care beyond traditional hospital walls affected resources and priorities for acute and critical units and caregivers.

Communication, Collaboration, and Respect

Communication, collaboration, and respect all showed improvement in all measures, but there is still room to improve. Communication is a critical element in patient safety and lack of communication can be costly to organizations. In 2015, the Controlled Risk Insurance Company estimated that failures in communication were responsible for 30% of all hospital and medical practice malpractice claims for the previous 5 years.[18] In 2017, The Joint Commission identified communication during handoffs as a critical problem and issued a sentinel event alert.[19] The evidence for the positive effects of collaboration goes back to the seminal work of Knaus (a physician), Draper (a nurse), Wagner, and Zimmerman in 1986[20]; they found positive associations between patient mortality and the quality of nurse-physician relationships and collaboration.

Respect lays the foundation for communication and collaboration.[21,22] Participants who planned to leave their

positions in the next 12 to 36 months indicated that more respect from administration and frontline nurse managers would influence them to stay.

Effective Decision-Making

The rebound of the ratings on the effective decision-making items of the Critical Elements of a Healthy Work Environment Scale is good news. The Institute of Medicine report on the future of nursing stressed the need for nurses to be involved as full partners in decision-making.[23] Involvement also requires accountability. The Institute of Medicine[23(p7)] report noted that nurses

> must act as full partners with physicians and other health professionals and must be accountable for their own contributions to delivering high quality care while working in collaboration with leaders from other health professions.

Appropriate Staffing

Appropriate staffing is the most concerning element of the health of critical care nurse work environments. Only 39% of the participants reported their unit had appropriate staffing more than 75% of the time. The discrepancy between the views of the frontline nurse managers and the direct-care staff may indicate a lack of communication. Much of the work that participants reported is not getting done is the work that RNs should be doing, such as critical thinking, teaching planning care, and preparing patients for discharge. The data from this study indicate RNs are not practicing at the top of their license or at the top of their scope of practice. When RNs are doing work that can be done by individuals with less knowledge and expertise, they become frustrated and the organization is not maximizing its resources. Many other downstream effects of inadequate staffing exist. The American Nurses Association found that adequate staffing is associated with reduction in medical and medication errors, fewer patient complications, decreased mortality rate, improved patient satisfaction, reduction in nurse fatigue, decreased nurse burnout, and improved nurse retention and job satisfaction.[24]

Meaningful Recognition

Participants reported that the most meaningful recognition comes from patients and families. This finding is consistent across all 4 of the AACN work environment surveys since 2006. The challenge for organizations is to explore ways to facilitate this recognition and to gain understanding about other types of recognition that may be more under the control of unit and organizational leaders.

Authentic Leadership

All ratings of authentic leadership improved since the 2013 study. Nurse managers have been found to profoundly influence nurse work environments. Press Ganey Associates[25] analyzed the 2016 National Database of Nursing Quality Indicators data from 171 789 nurses and found significant relationships between nurse manager performance ratings and the quality of nurse work environments. For nurses in critical care units, nurse managers also had a strong impact on nurse outcomes, including job enjoyment and intent to stay. The results of our current study are consistent with the findings of Press Ganey Associates. The perceived overall effectiveness of frontline nurse managers by direct-care nurses is significantly related to satisfaction with being an RN, satisfaction with one's job, and intent to leave (Table 3).

It is important to create work environments in which nurses have confidence they will be heard and actions will be taken to resolve unsafe conditions.

Physical and Mental Safety

Almost one-third of the participants did not believe their organizations valued their health and safety. More than 198 000 incidences of verbal abuse, physical abuse, discrimination, and sexual harassment within the prior 12 months were reported in this study. The abuse most frequently was by patients and families. More than 40% of the participants who experienced abuse did not report the incidents, most often because they did not think anything would be done about it. A sentinel event alert from The Joint Commission issued in December 2018 emphasized the importance of developing a reporting culture to ensure safety.[26] It is important to create work environments in which nurses have confidence they will be heard and actions will be taken to resolve unsafe conditions.

The findings on sexual harassment are consistent with those reported by Kane and Levy.[27] Incivility affects the organization as well as individual nurses. Lewis and

Malecha[28] found that incivility resulted in lost productivity of 20% and cost $11 581 per year per nurse. The higher the levels of incivility, the lower the productivity. Laschinger[29] investigated the impact of incivility and bullying and found that incivility and bullying by nurses, physicians, and supervisors had a significant effect on patient safety risk and quality of care. Sauer and McCoy[30] studied the effect of bullying on nurses' health. Their results indicated that a higher incidence of bullying was associated with significantly lower average physical and mental health scores, higher levels of perceived stress, and lower levels of resilience.

Overall, the results of the current study are a call to action to improve the physical and mental safety of nurses. Bodenheimer and Sinsky[31] have recommended expanding the "Triple Aim" (ie, enhancing patient experience, improving population health, and reducing costs) to the "Quadruple Aim" by adding the goal of improving the work life of health care providers, noting the reports of widespread burnout in the health care workforce. In 2018, The Joint Commission[32] issued a sentinel event alert on physical and verbal violence against health care workers. Burnout has become so pervasive that the National Academy of Medicine[33] launched a major initiative promoting clinician well-being, combatting burnout, and developing the skill of resilience. The initiative includes an extensive knowledge hub and information on solutions to improve patient care by caring for caregivers.

Creating and maintaining an HWE are everyone's responsibility—from the bedside to the boardroom.

Beacon Units and Magnet Organizations

The results of this study indicate that Beacon units and Magnet hospitals have healthier work environments than do units and hospitals that have not received Beacon or Magnet awards. In a pediatric cardiac intensive care unit, Benedict and Griffin[34] reported staff perception of professionalism as being high or very high increased 32% after receiving the Beacon Award for Excellence, and significant improvement also was documented in teamwork and collaboration between nurses.

Implementation of HWE Standards

The 2018 study provides evidence that implementing the AACN HWE standards makes a difference. The results confirm significant relationships between implementation of the HWE standards and important outcomes such as job satisfaction, quality of care on the unit, top-of-license practice, appropriate staffing, communication and collaboration, opportunities to influence decisions, and intent to leave (Table 3). These findings support other positive results of HWE implementation. For example, Nayback-Beebe et al[35] found that after changes were implemented based on the AACN HWE standards in an intermediate care unit, outcomes included a 49% decrease in staff absenteeism and a 75% decrease in patient falls.

One of the simplest ways to begin implementing the HWE standards is to assess the unit. Participation in the assessment does not have to be, and should not be, limited to only RNs; all team members should be included in the assessment. In a study of the interprofessional use of the AACN Healthy Work Environment Assessment Tool, an 18-item survey that can be used to assess the work environment and provide a blueprint to guide improvement, Connor et al[36] found the tool reliable and valid (Spearman correlation coefficients of 0.50-0.68 and a Cronbach α of 0.77 overall) for use with interprofessional team members.

Job and Career Satisfaction and Career Plans

The results of this study are consistent with those of previous studies regarding job and career satisfaction. Nurses are highly satisfied they chose nursing as a career, but less satisfied with their current jobs. The results of this study provide information on how job satisfaction can be improved. Attention must be paid to the implementation of all the AACN HWE standards (ie, communication, collaboration, effective decision-making, appropriate staffing, meaningful recognition, and authentic leadership), tolerance of verbal and physical abuse must decrease, and frontline nurse managers need to be educated and supported in their roles.

The finding that 33% of the participants intend to leave their current positions in the next 12 months and another 22% say they intend to leave in the next 3 years is concerning. Nurses who expressed intent to leave in the next 12 months likely have more concrete plans than those who expressed an intent to leave in the next 3 years. The opportunities to positively influence those who intend to leave, especially in the next 12 months, are evident in the data comparing the work environments

reported by those who have no plans to leave to work environments reported by those who intend to leave in 12 months and 3 years. In addition, organizations can develop strategies to retain nurses who wish to return to school. Although few nurses are planning to leave nursing, the results indicate a shortage of direct-care nurses should be anticipated and planned for. The good news is that many of those planning to leave have described what it would take for them to reconsider: notably better staffing, better leadership, higher salary and benefits, and more respect from administration.

Limitations

The AACN Critical Care Nurse Work Environment Study uses an online survey and a convenience sample. The respondents were invited to participate via email. Because the respondents were not chosen randomly, the sample may not be representative of the population. Therefore, the generalizability of the findings may be limited.

Implications

Implementation of the AACN HWE standards is significantly related to nurse outcomes and should be pursued vigorously. The increasing evidence of the relationship between the health of the work environment and patient outcomes intensifies the need to prioritize the improvement of nurses' work environments.

Both inadequate staffing and verbal and physical abuse are major concerns and need to be addressed. These issues contribute to the expressed intent of more than half of the respondents to leave their positions in the next 12 to 36 months. Turnover increases financial costs, decreases stability, and adds stress to the nurses who remain.

Examples of immediate solutions to address work environment issues include the following:

- **Collaborate** to implement a specific plan to tackle work environment challenges so all members of the health care team are engaged in the endeavor.
- **Measure** the unit's progress on improving the health of the work environment regularly.
- **Innovate** to create more realistic budgets and approaches to unit staffing.
- **Ensure** that systems and processes are in place so that RNs practice at the top of their license.
- **Educate** others on the relationships between HWEs and patient, nurse, and organization outcomes.
- **Ensure a safe environment** for nurses and other health care providers (having zero-tolerance policies of which everyone is aware, applying them to everyone, and having plans of action for when incidents occur; caring for the victim and his or her colleagues after incidents).
- **Improve leadership** competencies and better prepare nurses who are moving into administrative positions.
- **Engage** direct-care nurses and other stakeholders as partners in decisions about patient care.
- **Provide** meaningful recognition.
- **Address** the perceived lack of respect between health care professionals (eg, educate them on each other's roles, knowledge, and expertise; call out disrespect when it occurs).

Conclusion

Nurses are uniquely positioned to evaluate and influence the environment in which patients are cared for. Nurses spend more time on hands-on patient care than do members of any other health care discipline. The results from this fourth national study of critical care nurse work environments show improvement and are encouraging. The finding that workplaces that have actively implemented the AACN HWE standards have superior results to those that have not compels us to action.

Creating and maintaining an HWE are everyone's responsibility—from the bedside to the boardroom. From the resolution of conflicts to appropriate staffing, to retention of nurses, and effective decision-making, tackling the challenge of ensuring an HWE matters. It is time for bold, intentional, and relentless efforts to create and sustain HWEs that foster excellence in patient care and optimal outcomes for patients, nurses, and other members of the health care team. CCN

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See also

To learn more about healthy work environments, read "Interprofessional Use and Validation of the AACN Healthy Work Environment Assessment Tool" by Connor et al in the *American Journal of Critical Care,* September 2018;27:363-371. Available at **www.ajcconline.org**.

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