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Healthy Nurse, Healthy Nation™ (HNHN): Background and first year results

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1. Purpose

The purpose of this research is to reveal the current state of nurses' health in the United States, and to identify and explore opportunities for improvement.

2. Background

As the most trusted profession and the largest group of health care workers, nurses are vital to America's healthcare system (Brenan, 2017). They protect, promote, and optimize the health of their patients by preventing illness and injury, facilitating healing, and alleviating suffering. Nurses should exemplify health to serve as role models for their patients, colleagues, families and communities. Their well-being is intrinsically interwoven with the health of our nation.

However, the health of American nurses is frequently worse than that of the general population, particularly in major indicators such as nutrition, sleep, stress, and physical activity (ANA, 2015; ANA & ICG, 2016; BLS, 2017; Carpenter & Dawson, 2015; Carpenter & Dawson, 2018; Roberts & Grubb, 2014).

Part of this trend can be attributed to the internal and external environments of nursing. The expectations and job responsibilities for nurses continue to grow, as do the feelings of depletion and burnout. Inherent to the nursing role is the emotional strain of caring for sick and dying patients and bearing witness to others' pain and suffering, and those that are external to the act of caregiving per se, such as perceived lack of leadership support, stressful work conditions, resource limitations, inadequate staffing, long shifts, moral adversity, heavier workloads, excess administrative work, insufficient time to focus on core responsibilities and poor work–life balance (Press Ganey, 2018). This chips away at the health and well-being of the nurse and negatively impacts patient care. The bottom line is that healthcare systems need to pay more attention to nurses' and other clinicians' health and well-being. The level of health among our nation's caregivers affects the quality of care they can deliver (Melynik et al., 2018).

In response to these circumstances, the American Nurses Association (ANA) Enterprise launched the Healthy Nurse, Healthy Nation™ Grand Challenge (HNHN) in May 2017. This initiative is designed to transform the health of the nation by improving the health of the nation's nurses.

2.1. Collective impact

HNHN was planned by a national steering committee using the grand challenge methodology, which is informed by research of Christina D. Economos and others as a framework to develop a social movement designed to positively impact behavior in large populations. This evidence-based systems approach tackles bold and complex issues through collaboration and cooperative leadership, and can be leveraged for social change (Economos et al., 2001).

An emerging technology also applied was the collective impact model, which brings together a group of individuals from different sectors for a common agenda to solve a specific problem by using a structured form of collaboration. Key elements of the collective impact model include a common agenda, a backbone support organization, shared measurement systems, mutually reinforcing activities, and continuous communication (Kania & Kramer, 2011).

The ANA Enterprise serves as the backbone support organization, providing the infrastructure to implement the initiative with the common agenda of improving the health of nurses. Shared measurement is accomplished through the HealthyNurse® Survey, described below. An online platform, social media, newsletters, articles, annual reports, conference calls, in-person events, webinars, and podium presentations are utilized to provide continuous communication among nurses and organizational partners. Organizational partners and individuals commit to a multitude of mutually-reinforcing activities in support of the shared goal.

2.2. The HNHN experience

The aim of the initiative is to connect and engage nurses and organizations to take action within five domains: physical activity, rest, nutrition, quality of life, and safety. The web platform is used to inspire

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action, cultivate friendly competition, provide content and resources, gather and share data, and connect participants, employers, and organizations. Although the primary target audience of the initiative is nurses, nursing students and other health care workers are welcome and encouraged to join. The HNHN initiative is provided at no cost to the individual or organization.

When individuals join HNHN, they are directed to the online platform where they can create a profile page, assess their health, make a commitment in one or more of the domains, join bimonthly challenges, engage in discussion boards and access resources and blogs. The social networking functionality of the site provides opportunities for nurses to seek and provide interpersonal support. In addition to the online platform, participants are invited to join a private Facebook group and can also subscribe to health tips via text messaging.

A partnership model has been developed to scale HNHN nationally. Currently there are 458 organizational partners (employers of nurses, state nursing association, schools of nursing and specialty nursing associations) that have joined the initiative. Organizational partners can join at the Champion, Collaborator or Connector levels. Organizations that join the initiative as Champions or Collaborators are asked to make a specific commitment to their nurses and set metrics for success. They submit quarterly progress reports, engage in the web platform and share information about our initiative, encouraging nurses to join. In return, they are recognized on a dedicated website, have their success stories featured, and gain access to content and resources.

HNHN aims to facilitate connections between these organizations with the shared goal of improving the health of nurses. Emphasis is placed on identifying and sharing of best practices, collaborating on innovative programming, and collecting and analyzing data.

3. Research methods

Data is gathered through the HealthyNurse® survey, a 99 question IRB-approved electronic questionnaire that provides a comprehensive assessment of the health, safety, and wellness of nurses. The survey incorporates questions that are comparable with existing national data. After completion, participants immediately receive a heat map of results and their own HealthyNurse® Index score. This is a summary number that can be used for comparison over time. They can also compare their results to the ideal standard as well as national averages. Participants can follow links to educational materials aimed at improving health for identified risk areas. The survey can be repeated periodically to allow for longitudinal tracking of results.

This instrument facilitates shared measurement, which is a key element of collective impact initiatives (Kania & Kramer, 2011). Through the HealthyNurse® survey, hundreds of organizations are using a common set of measures to track progress.

HNHN partners receive quarterly reports of HealthyNurse® survey data of nurses affiliated with their organization. This aggregated and de-identified information provides the organization actionable insight into the health, safety, and wellness of their organization. In order to protect confidentiality, organization-specific data are not shared unless there are > 25 survey responses in the sample.

3.1. Methodology detail

An analysis of the first year of data from the HealthyNurse® survey was conducted to provide a baseline and identify key trends related to the health, safety, and wellness of nurses. This analysis is a summary of national trends and does not include organization-specific findings.

The following content was drawn directly from a report commissioned by ANA.

3.2. Descriptive statistics

Standard descriptive statistics, including frequencies and means, are used to report the findings.

Percentages (frequencies) listed on graphs are rounded, while averages are reported based on narrative relevance. The term “average” constitutes the arithmetic mean. For descriptive statistics, the five-point Likert-scale questions were combined into the categories **agree** (Strongly Agree/Agree), **disagree** (Strongly disagree/Disagree), or **neutral** (Neither Agree nor Disagree). When reporting frequencies, the “don't know/Unsure” and “Not Applicable” responses were reported if present, but these responses were not included in the advanced analysis.

A few different segments were constructed to test for differences on the HNHN variables. These different segments were constructed based on relevant criteria, and then all variables were analyzed to explore nuanced differences.

3.3. Independent variables

- Nursing Title. This segment was a nominal level variable measured at the beginning of the survey. Participants were asked which title best described their current position. Those who weren't nurses were discarded from analysis.
  - o Registered Nurses (RN)
  - o Advanced Practice Registered Nurse (APRN)
  - o Licensed Practiced Nurse or Licensed Vocational Nurse (LPN/LVN)
  - o Student Nurses
- Group Membership. This segment was a nominal level variable measured at the beginning of the survey. Participants were asked which group they were a member of:
  - o Nurses from organizations that are designated by the ANCC Magnet Recognition Program®
  - o Nurses from organizations that are designated by the Pathway to Excellence® Program
  - o Member of both groups
  - o Member of neither group
- Tenure as a Nurse. This was a composite measure of different items from the survey. The three groups were assigned based on level of workplace stress (measured in the survey as a dependent variable), amount of experience as a nurse, and current title.
  - o Nurses with 2 years or less of experience
  - o Nurses with between 3 and 30-years' experience
  - o Nursing leader with over 21 years' experience
- Age. This demographic was measured as a nominal level variable in the survey.
  - o 19 to 25-years-old
  - o 26 to 32-years-old
  - o 33 to 40-years-old
  - o 41 to 50-years-old
  - o 51 to 60-years-old
  - o 61-years and older
- Gender. This demographic variable was measured as a nominal level variable in the survey.
  - o Male
  - o Female
- Race. This demographic variable was measured as a nominal level variable in the survey.
  - o White/Caucasian
  - o Black/African-American
  - o Hispanic/Latino
  - o Asian
- Region. This was a nominal level variable measured by asking which state the participant practices nursing.

3.4. Dependent variables

- *Health and General Wellness*. This variable consisted of questions

asking self-perceptions of health, level of support available to them at work, and feelings of sadness or depression. This variable also consisted of self-reported Body Mass Index (BMI), frequency of allergies, lower back pain, and other various health concerns that may impact workplace health. Each question was treated as dependent variable.

- *Workplace Dynamics and General Wellness*. This variable consisted of questions asking different shifts that nurses work, and how certain workplace activities can impact general wellness. These include if nurses work night, day, or both shifts, if nurses work through breaks to finish their assigned workload, staying late to work, and level of workload assigned. Each question was treated as dependent variable.
- *Exercise and Nutrition*. This variable consisted of questions asking nurses how often they exercise with low, moderate, or heavy weights. These consisted of questions surrounding vigorous exercising, strength training, or aerobics training, and how often nurses participate in those activities. Also, nurses were asked about specific dieting and nutrition, for example who often nurses eat fruit, vegetables, or whole grains. Questions were also asked about how often nurses eat at home or at restaurants.
- *Workplace Bullying*. This variable consisted of questions asking nurses how often they encounter workplace bullying by coworkers, figures of authority, or patients, as well as how often they've received training on bullying, and how comfortable they are with reporting workplace bullying.
- *Workplace Safety*. Nurses were also asked about how safe they feel at work, and how appreciated nurses feel at work. These questions included familiarity with workplace safety regulations, overall health concerns while at work, as well as how nurses feel about reporting workplace injuries. This variable also consisted of questions asking about perceptions and feelings of respect, dignity, and recognition.
- *Risks on the job*. Nurses were also asked about perceptions surrounding stress while at work, injuries relating to lifting heavy objects, standing for long periods of time, increased levels of fatigue, and sharps injuries. Specifically, sharps injuries refer to questions asking nurses how often they were injured by sharp objects (i.e. needles). As with all other dependent variables, each question was analyzed on its own.
- *Health Care*. These were questions surrounding access to health care, specific treatment (i.e. cancer treatment if diagnosed), and likelihood of implementing doctor

3.5. Data analysis

The data analysis procedure consisted of analyses of variance (ANOVA), cross tabulation analysis (chi-square tests of independence), OLS (least squares) regression, and descriptive statistics (frequencies, means).

For the ANOVA analyses, non-parametric analyses were used to test for significance between each segment. For example, each independent variable and each dependent variable (each individual question, single-item measurements) were inserted into an ANOVA. Significant results were identified at levels of $p < .05$, and with an n^2 *(eta-squared)* value (effect size) > .05 (moderate; Cohen, 1988).

Dependent variables used in this analysis were measures that used internal, or Likert-Scale type questions. If the analysis fostered unacceptable *p-values* or measurements of *effect size*, the finding was considered significant. For the cross-sectional testing, nominal-level dependent variables were inserted with the independent variables. Significant results were determined based on chi-square values and Cohen's F (effect size; < .05; moderate; Miles & Shevlin, 2001).

Lastly, the OLS regression was used with Workplace Safety single-item measures as independent variables, and the single-item measure of *employer valuing health* as the dependent variable. Beta coefficients, R-squared values, and significance levels were analyzed to determine significant results.

3.6. Types of segment analysis

For categorical variables, meaning those without a true order, Chi-Square Test for Independence was used. For ordinal variables, meaning those with a true order or ranking system, non-parametric statistics were used; Mann-Whitney's *U* Test for segments with 2 subgroups (i.e. gender) and the Kruskal-Wallis Test for segments with > 2 groups (i.e. tenured segments). For interval level data (i.e. BMI), *t*-tests were used for segments with 2 groups and analyses of variance (ANOVA) were used for those segments with > 2 groups.

3.7. Effect sizes

Due to the large sample sizes, almost every segment test was significant at a $p < .05$ level. To strengthen the report, only those results with acceptable effect sizes were reported. Thus, segment finding significant at the $p < .05$ level with an acceptable effect size were reported.

3.8. Regression analysis

The OLS regression was used with Workplace Safety single-item measures as independent variables, and the single-item measure of *employer valuing health* as the dependent variable.

Beta coefficients, R-squared values, and significance levels were analyzed to determine significant results.

This analysis was conducted to determine what specific variables drive perceptions of employer concern and level of care regarding workplace safety. The Likert-scale items meant to measure Workplace Safety were inserted as independent variables in a model that included the dependent variables of “my employer values my health and safety.” Regression coefficients were standardized so they could be reported as percentages. The regression model accounted for 67.4% of the variance in the employer perception outcome variable.

4. Results

The HNHN first year report captured and analyzed data on 9117 nurses: 95% are female affiliating with white ethnicity (79%), 75% are Registered Nurse (RN) which represents the most common degree of respondents and 47% have between 3 and 20 years of experience.

4.1. Health and general wellness

Most respondents believe they are in good health (76%). They feel there is usually/always good access to emotional support (61%), and only a quarter reports feeling sad, down, or depressed for more than two consecutive weeks. Three in five believe they get the mental health support they need. However, some respondents (10%) claim physical or mental health prevented them from doing daily activities. The average BMI of respondents is in the overweight range at 28.8, with an average weight of 173 lbs. Allergies (32%), low back pain (19%), depression (18%), and anxiety (18%) are common complaints from respondents. They feel their health conditions are controlled (varying by condition from 75% to 89%).

4.2. Workplace dynamics and general wellness perceptions

The day shift (72%) is the most commonly-worked shift for the respondents, and more than four in five (83%) report working between 8 and 12 h per shift. Per week, most work between 40 and 60 h. Nursing leaders work longer hours than other segments of nurses. Younger nurses are more likely to work up to 40 h per week, while those over

Table 1
General wellness.[a]

Questions	Agree	Neutral	Disagree
I often have to work through breaks to complete my assigned workload.	53%	18%	30%
I often have to arrive early or stay late to get my work done.	52%	18%	29%
I feel obligated to come to work even when I feel sick or injured.	50%	16%	34%
I am often assigned a higher workload than I am comfortable with.	26%	28%	46%

[a] Frequency answering each.

40 years old are more likely to work up to 60 h. Although most nurses do not feel that their work load is overwhelming, most work through breaks (52%) and come early and/or stay late to complete their daily jobs (53%), and about half feel obligated to report to work despite illness or injury. (See Table 1.)

4.3. Exercise and nutrition

Moderate exercise for about 30 min per session 6–10 times per week is the most common practice among younger nurses, and most nurses only report exercising 0–5 times per week. However, one in five (19%) reports zero light-to-moderate aerobic workouts per week; and nearly half (45%) reports never engaging in vigorous activity or in weightlifting/strengthening (45%). (See Table 2.)

Healthful nutrition choices consisting of fruits and vegetables are typically enjoyed in the amount of 1–3 servings per day, however only 14% eat the federally recommended 5 or more daily servings. Whole grains are on the menu with 1–2 servings per day. There is generally good access to workplace-sponsored wellness programs, but participation is under 40%. Access to exercise facilities is also limited to about 40% of respondents, and while healthy food choices are available for a majority, the offerings tend to be more expensive. Three in four tend to eat out at between one and four times per week. (See Table 3.)

4.4. Workplace bullying

The majority (56%) reports having received training on workplace violence prevention protocols and procedures, and most (64%) are comfortable reporting any bullying that occurs. In the cases of workplace violence, they report peers being verbally or non-verbally aggressive (29%) and threats from a patient or patient's family (29%). Only one in five (22%) claims violence or aggression from an individual in a position of authority, and 10% reported having been assaulted. (See Table 4.)

4.5. Workplace safety

There are two major underlying concepts in safety:

- o Workplace Safety: the actual reporting and perceptions of the safety within the workplace.
- o Workplace Appreciation: the feelings of appreciation and respect that nurses feel they are afforded at work.

There is widespread familiarity with safety guidelines and practices, and respondents feel encouraged to report injuries and general health concerns. They feel that safety devices and equipment are readily available, and that they generally are not concerned about their safety. Furthermore, nurses report being treated properly, with dignity and respect and receiving good recognition for their efforts. Additionally, they feel their health and safety are valued, but they tend to place the health and safety of their patients above their own.

Table 2
Exercise frequency and type.[a]

Questions	0–5 times/week	6–10 times/week	11–15 times/week
Strength	98%	2%	0.2%
Vigorous	98%	2%	0.2%
Light/Moderate	92%	8%	0.5%

[a] Frequency answering each.

Table 3
Daily nutrition.[a]

Servings	Fruits/Vegetables	Whole grains
None	2%	9%
1	15%	32%
2	28%	36%
3	26%	17%
4	16%	5%
5+	14%	2%

[a] Frequency answering each.

Nurses from designated organizations (those designated by the ANCC Magnet Recognition Program® and the Pathway to Excellence® Program) are more likely to report that their employers value safety, safety devices are available, reporting of injuries is encouraged, unsafe conditions are quickly identified, and they have opportunities in safety planning, when compared to nurses not from these groups. Further, nurses from designated organizations have greater access to Safe Patient Handling and Mobility (SPHM) technology and have received more training and education on the use of that technology. (See Table 5.)

4.6. Safety risks on the job

Workplace stress (60%) is the single greatest risk nurses perceive on the job. It is a greater concern than lifting and/or repositioning heavy objects (28%), prolonged standing (26%), and needle sticks or other injuries from sharps (24%).

Risks from pathogens and infectious diseases are more concerning than the risk of other injuries on the job, such as from falls, violence, or bullying. Students are less likely to know if their facility has a SPHM program and are less aware of the immediate steps to take in the event of a sharps injury or needlestick. (See Table 6.)

Nurses with two years or less of experience report more stress than nurses in other tenure segments. Nursing leaders experience lower levels of stress. Nurses from designated organizations report lower levels of stress and lower levels of depression when compared to nurses not from these groups.

4.7. Health and wellness care

Self-health care remains important for nurses, as more than three-fourths of respondents are up to date with screening and preventive care measures. Allergies are the most common self-reported health issue. One in five reports low back pain or depression, as well. < 5% of respondents reports tobacco use, and more than half of them report trying to cease. For those nurses whose health care professional has recommended health changes, nearly half has implemented at least one change. An additional 12% plans to make at least one recommended

Table 4
Bullying and aggression.[a]

Questions	Agree	Neutral	Disagree	N/A
I am comfortable reporting instances of workplace bullying.	64%	19%	17%	0%
In my current work environment, I have received education and training on bullying and violence prevention protocols and policies.	56%	21%	17%	0%
During the past year, I have experienced verbal or non-verbal aggression from a peer.	29%	9%	55%	0%
During the past year, I have been verbally and/or physically threatened by a patient or family member of a patient.	29%	8%	52%	6%
During the past year, I have experienced verbal or non-verbal aggression from a person in a higher level of authority.	22%	9%	63%	0.1%
During the past year, I have been assaulted by a patient or family member of a patient while at work.	10%	5%	78%	7%

[a] Frequency answering each.

change. (See Tables 7–9.)

4.8. Feeling safe and appreciated on the job

- The Likert-scale items meant to measure Workplace Safety were inserted as independent variables in a model than included the dependent variables of "my employer values my health and safety." The regression coefficients were standardized so they could be reported as percentages. The regression model accounted for 67.4% of the variance in the employer perception outcome variable. Being treated with dignity and respect, ability to identify and correct hazardous conditions, and receiving recognition are the key drivers of respondent perceptions of employer concern and level of care in workplace safety. (See Table 10.)

5. Conclusion

Our findings identify problematic trends related to the health of nurses in the U.S. High levels of stress, workplace violence, lack of rest breaks, and insufficient nutrition and exercise are most notable.

While concerning, the results also illustrate areas for improvement related to personal health habits and work environments. HNHN provides a framework to harness the collective impact of nurses and organizations throughout the country.

In 2019, nurses will be able to retake the HealthyNurse® survey, which will provide a mechanism for longitudinal tracking of progress. Future data analyses will allow us to report on the overall impact of this initiative. In the meantime, anecdotal feedback is gathered daily through the online platform and the results are encouraging. When asked how this initiative has inspired change nurses responded that they are more amenable to self-care and making healthy decisions. Organizational partners continue to measure and report on their efforts to improve the health of nurses. These success stories and best practices continue to be gathered and shared broadly. As HNHN grows, our ability to scale this collective impact initiative will be amplified, supporting a positive trajectory of the health, wellness, and safety of nurses.

Table 6
Risks on the job.[a]

Risks	Percent experiencing
Workplace stress	60%
Lifting/repositioning heavy objects	28%
Prolonged standing	26%
Sharps injuries	25%
Excessive fatigue	24%
Blood-borne pathogens	23%
Infections disease agents	21%

[a] Frequency answering each; *Only depicting risks with > 20% mention.*

Table 7
Current with preventative care.[a]

Completely up-to-date	53%
76–99%	23%
51–75%	9%
26–50%	6%
11–25%	4%
Not current at all	6%

[a] Frequency answering each.

Table 8
Medical history – health conditions, diagnosis, and effective control.[a]

Medical condition	Diagnosed with condition	Diagnosed and controlled
Allergies	32%	25%
Lower back pain	19%	11%
Depression	18%	14%
Anxiety	16%	13%
Hypertension	16%	15%
Migraines	15%	10%
Asthma	13%	9%

[a] Frequency answering each*; Only depicting conditions with > 10% mention.*

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Table 5
Workplace safety and appreciation.[a]

Questions	Agree	Neutral	Disagree
I am worried for my physical safety.	10%	20%	70%
I have an opportunity to be involved in safety planning.	61%	25%	14%
I put the health, safety, and wellness of my patients before my own.	64%	20%	9%
I am recognized and thanked for my efforts at work.	72%	17%	11%
My employer values my health and safety.	75%	18%	8%
Unsafe conditions and other hazards are quickly identified and corrected.	78%	16%	6%
I am treated with dignity and respect.	80%	13%	7%
Safety devices and protective equipment are available to me.	83%	8%	4%
Reporting of injuries and health concerns is encouraged.	86%	10%	4%
I am familiar with written safety guidelines and policies.	90%	7%	3%

[a] Frequency answering each.

Table 9
Implementation of HCP-recommended health changes.[a]

Recommended changes	Percent answering Yes
My health care provider has not suggested any changes.	36%
In the process of making changes.	29%
Have made at least one change.	20%
Am planning on making changes.	12%
Do not intend to make changes.	3%

[a] Frequency answering each.

Table 10
Key factors driving the perception that employers value health and safety.[a]

I am treated with dignity and respect.	20%
Unsafe conditions and other hazards are quickly identified and corrected.	19%
I am recognized and thanked for my efforts at work.	19%
I am familiar with written safety guidelines and policies.	14%
Reporting of injuries and health concerns is encouraged.	11%
Safety devices and protective equipment are available to me.	8%

[a] Beta coefficients normalized as percentages.

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