ANALISYS OF THE NURSING SHORTAGE SINCE THE AFFORDABLE CARE ACT OF 2010

by

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A Capstone Project Presented in Partial Fulfillment

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Master of Science in Healthcare Administration

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It is hereby recommended that the project prepared by Dana Threadgill entitled Analysis of the Nursing Shortage Since the Affordable Care Act of 2010 be accepted in partial fulfillment of the requirements for the degree of Master of Science in Healthcare Administration.

THESIS/PROJECT APPROVED by

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Thesis/Project Instructor/Supervisor Date

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MHCA Executive Director Date

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Dean of the College of Health Sciences. Date

Abstract

The nursing shortage in the United States spans well beyond the dates of the Affordable Care Act (ACA). However, since the ACA's inception in 2010, the need for qualified, available nurses continues to make headlines. This demand for nurses remains a hot topic in every administrative board room because it is linked to quality, safety, and efficiency in all healthcare settings. As healthcare became more accessible, the need for healthcare professionals increased. This paper aims to identify the key components that have formed historical barriers to meeting nursing demands and how this affects patient care quality. Results from statistical data show that a high number of nurses continue to inch closer to retirement. At the same time, the luster and appeal of nursing faculty have become a challenge for academic institutions. Further literature review of adverse events demonstrates a potential correlation between the number of available nursing staff and the safety and quality of patient care, reflecting on medication errors, readmission rates, infection, and even death. Identifying the reason for the shortage is only the beginning, finding solutions has been an ongoing challenge.

Acknowledgement

I would like to take this opportunity to thank my work family at Genesis Cancer and Blood Institute for the reminders of my purpose and the encouragement to be a better person and a better leader. Additionally, to the many mentors from my past that believed in me and cultivated my professional development. I want to acknowledge the many instructors at the University of Arkansas Fort Smith that contributed to my educational journey, especially Dr. Cheryl Holden and Dr. Jim Dockins. Your guidance and support have allowed me to achieve my lifelong goals. And finally, I would like to note my appreciation for the opportunity to work in the healthcare field surrounded by a community of compassion, empathy, and dedication to the lives of others. I will continue to push myself to provide the highest quality service to those that depend on me.

Dedication

First and foremost, I dedicate this project to my amazing family, my husband Mike and daughters Micaela and Kaitlyn. This educational journey would not have been possible without your unwavering love and support. Your encouragement during the challenging times gave me strength to persevere. I would also like to recognize the reason why I do what I do. To the patients and families that enter our clinic doors each day and hold an expectation and standard of receiving high quality care, for you are the reason I put my heart and soul into this profession. Lastly, I would like to dedicate this to those individuals who put their dreams on hold to manage the life in front of them. You are never too old to accomplish a lifelong dream. Believe in yourself, be patient, and trust the process.

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Introduction

In 2010, it was reported that 46.5 million Americans were uninsured, compared to 27.5 million in 2021 (Drake et al., 2022). From the ACA to the pandemic, it has been identified that the number of available nurses does not meet the demands of the population. As far back as 2011, the Institute of Medicine's seminal report recommended an 80% increase of bachelor-level nurses by 2020 to enhance safe, quality care. The United States has yet to reach that goal, only meeting 65.2% (Spring Arbor, 2023). Ten years after the ACA, the effects of the pandemic took a toll on the country, broadening the factors contributing to the shortage. The American Hospital Association (AHA) (2021) reports a decrease of 94,000 employees since the beginning of the pandemic following an already 30% increase in job vacancies in 2019. Over 60% of nurses report higher stress levels and burnout from mental and physical exhaustion associated with understaffing (Pickle, 2021). In addition, a review of the research shows that higher nurse-to-patient ratios have an increased risk of medication errors, mortality rates, risk of infection, and readmission rates (Morris, 2023).

Professional nursing organizations and published studies report similar factors attributed to the nursing shortage: an aging population, an aging workforce, nursing burnout, family obligations, and a shortage of nursing educators. This paper will focus on nurse attrition, retirement, and the lack of adequate educators. As these play a role in the nationwide nursing shortage, it can compromise the safety and quality of care provided in medical facilities. This systematic review investigates the extent to which the nursing shortage has played on healthcare facilities since the ACA and beyond.

Definition of Terms

Affordable Care Act (ACA)-A comprehensive healthcare reform law enacted in March 2010 with a purpose to increase health insurance coverage for the uninsured and implement reform to the health insurance marketplace.

Adverse event-A harmful or negative outcome followed by medical care or the use of a medical product or device.

American Association of College of Nursing (AACN)-A national organization of nurses dedicated to advancing nurse education by establishing and implementing quality standards and promoting public support for professional nursing education, research and practice.

Burnout-A state of emotional, mental, and physical exhaustion brought on by prolonged or repeated stress.

Nurse Educator-A specialized nursing professional who utilizes their clinical nursing experience to teach and mentor nursing students, new nurses, or other healthcare professionals.

The National Council of State Boards of Nursing-A not-for-profit organization that represents the boards of nursing in the US states and territories. It acts and counsels on matters of common interest and concern affecting public health, safety and wealth fare, including the development of nursing licensure examinations.

U.S. Bureau of Labor Statistics (BLS)-A unit of the US department of labor that collects, processes, analyzes, and disseminates essential statistical data to the American public.

U.S. Census Bureau (USCB)-A principal agency withing the US Federal Statistical System with the primary goal to produce data related to the American people and the economy.

The Joint Commission-A non-profit organization that accredits and certifies healthcare organizations in the US and internationally.

Registered Nurse (RN)-An individual in the medical industry that has graduated from an accredited nursing program and received licensure in the state they practice. Within a scope of practice, they administer hands-on care to patients in various healthcare settings.

Situation Review

The degree of analysis that serves as the basis of this project includes national statistical data related to the population and demographics of registered nurses and the amount of nursing faculty available in educational settings over the past ten years. The information was then correlated to the number of adverse events related to inadequate staffing. This systemic review utilizes multiple research methodologies to establish foundational information and data correlation. The data was collected from highly respected organizations, including the National Council of State Boards of Nursing, the U.S. Bureau of Labor Statistics, the American Association of Colleges of Nursing, the Census Bureau, and The Joint Commission.

Problem Statement

Although the number of individuals entering the nursing field is estimated to increase by 6% over the next ten years, this does not address the number of nurses leaving the profession due to retirement or choosing a different career path. With the average age of a registered nurse being 52, it is estimated that 1 million RNs will retire by 2030 (AACN, 2024). The answer may sound simple: increase the number of student nursing programs; however, since the pandemic, a 30% decline in nursing faculty has resulted in less availability in nursing programs (Noguchi, 2021). According to the American Hospital Association (2021), 80,000 quality nursing applicants are not accepted to accredited programs due to the number of available educators, sites, and funding. Although a vast amount of literature identifies the causes of the nursing shortage, there is a gap in finding a solution. Research and recommendations show little signs of slowing the mass exodus of nurses and opening more opportunities for those aspiring to be one. The challenge is to

find successful solutions to combat the need. If academic institutions cannot supply the number of nurses to meet the demands in the field, research shows that patient care can suffer. This is seen in Glette et al.'s (2017) research, which found several nursing tasks left undone at the bedside during understaffing, such as neglecting proper skin care, oral hygiene, medical record documentation, and alarm response time. These directly affect patient safety and quality of care.

Purpose Statement

The purpose of this study is to review past historical changes in healthcare and evaluate the effects they have had on the demand for registered nurses, nurse educators, and the ability to provide quality healthcare. By identifying the trends and present challenges in hospital settings, this study will provide suggested solutions to slow down and improve the nurse staffing dilemma.

Capstone Research Question(s)

- How is the aging nursing population contributing to the nationwide nursing shortage?
- How does the number of nurse educators contribute to the nursing shortage dilemma throughout the United States?
- How do acute care setting nursing ratios influence medical errors, readmission rates, and mortality?

Hypothesis

H_0: The availability of registered nurses has a direct effect on medical errors, readmission rates, and mortality.

H_a: The availability of registered nurses does not have an effect on medical errors, readmission rates, and mortality.

Literature Review

In reviewing the literature, it is essential to identify one of the significant milestones in U.S. history that impacted American's access to healthcare. The Affordable Care Act of 2010 led the way to advancement of health equity in the United States (HHS, 2023). As most healthcare entities saw the challenges and strain the Affordable Care Act would have on the healthcare community, they needed to prepare to manage the amount of insured that would be searching for a primary care physician or would fill their local emergency rooms. In an already identified shortage of nursing staff, this accentuated the gap throughout the nursing community and additional stress on administrators to address this need at an emergent level. They were confronted with finding the potential causes of the nursing shortage and solutions to keep the current population engaged and satisfied. Good or bad, the ACA has made an impact on quality care, and the nursing profession (NursingJournal, 2023). Going into the 21st century, the United States reported over 4.3 million nurses working in every aspect of healthcare (Jurascheck et al., 2019). It is hard to believe that this number of nurses cannot meet the demand. However, this supply cannot keep up with the rising openings of employment and the accelerating retirements. The U.S. Bureau of Labor Statistics projects a 9% growth in nursing employment with 194,500 registered nurse openings between 2020 and 2030. Reaching out to nursing schools to fill the gap, community leaders discovered aspiring nurses were being turned away due to low faculty rates. Faculty shortages has been a growing concern throughout the nursing and healthcare communities. With a doctorial level degree required to teach at many nursing programs, these levels of nurses are entering retirement age or returning to bedside nursing for various reasons. Fang and Kesten (2017) project that a third of all nursing educators will retire in the next 10

years. All these challenges continued into 2020 with another national economic and personnel dilemma formed by the pandemic putting a spotlight on nursing conditions and burnout. With a wide range of stressors, nurses' site traumatic experiences due to lack of equipment, increased violence, excessive workloads, and lack of supportive services (Costa & Friese, 2022). After reviewing the causes of the nursing shortage, additional literature was examined to correlate with safety practices and delinquencies that affect the time and attention necessary to provide quality care. Even before the pandemic, understaffing of nurses poses a risk factor for hospitalized patients (Glette et al., 2017).

Affordable Care Act

Healthcare continues to remain one of the highest concerns by American voters (McIntyre & Song, 2019). Prior to the enactment of the Affordable Care Act (ACA) on March 23, 2010, many Americans were uninsured due to cost, access, and limitations to their existing plans. The ACA contributed to the expansion of insurance coverage by creating a state level marketplace based on competition and choice and expanded eligibility for the Medicaid program. (McIntyre & Song, 2019). Additionally, it allowed less room for discrimination and a broader range of services to include prevention, rehabilitation, prescription coverage, contraceptives, mental health, and substance abuse (HHS, 2022). It also expanded the law's dependent coverage to enable children to age 26 the ability to be covered through their parents' insurance benefiting 2-3 million young people. Section four of The Impacts of the Affordable Care Act on Preparedness Resources and Programs, The Evolving Health Workforce (2014), utilizes quality research, articles, and other resources to evaluate the state of healthcare just a few years after the passing of the Affordable Care Act. As the new healthcare infrastructure evolved, there was a shift in the needs of the patients and the healthcare setting to meet the needs of the growing

number of insured individuals. Even at the time of the article in 2014, it was projected that healthcare job growth had increased by 1.5 million since 2007, with an additional population growth anticipated at .8 percent each year. From 2010 to 2016, the number of uninsured nonelderly Americans dropped from 46.5 million to less than 26.7 million (Drake et al., 2023). This left millions of Americans searching for healthcare providers. The total effect would become evident when the baby boomers reach the ages of 75-85 years old. The Evolving Health Workforce (2014) discusses the supply and demand of patient-to-healthcare worker needs and the ability to keep up as it grows. It focuses on the big picture of the after-effects of the ACA and the need for qualified nursing staff to reach Americans in a variety of care settings. The development of telehealth, home health, and extending the workforce at home, allows for a broader definition of nursing which continues to pull nurses away from the bedside and allow less assistance in the facilities.

McIntyre & Song (2019) provides essential insight into an ongoing issue concerning the nursing shortage. As the pandemic took a toll on the world, it can be easy to forget the realization of the effects of the ACA and the number of people seeking healthcare following its passing. Looking at the statistics in 2007 and comparing them to 2023, the amount of growth is staggering. Most current data shows a continued downward trend of nonelderly uninsured individuals to 25.6 million in 2022 with a record low of 9.6% for overall uninsured (Drake et al., 2023) As the U.S. battles through some of the same challenges, the research and interventions may be beneficial to finding solutions to today's shortage.

Nursing Demographics

Although public and private healthcare organizations can research individual sources of nursing turnover, it is a nationwide problem. A vast amount of data is available from secondary

sources that address the aging nursing population through nationally recognized accredited organizations. These are publicly available through websites such as the American Hospital Association, the Bureau of Labor Statistics, and the National Council of State Boards of Nursing. Through surveys and mandated reporting, these statistics provide trends and forecasting to the public in an effort to generate continuous momentum for the problem statement above. For example, The National Council of State Boards of Nursing (2022) conducts an annual online survey to find trends related to age, diversity, and education that will affect the future of the nursing workforce. With a 79.4% response rate, nursing schools reported the level of nursing degrees they offered and the average time students found placement in the workforce following graduation. From a state or regional perspective, the Bureau of Labor Statistics (2023) publishes the number of nurses by state annually. This data provides a generous amount of information reflecting how the aging nurse population contributes to the nationwide nursing shortage. During survey year 2018, 8% of nurses were age 65 or older, while 23% were ages 55-64. Also reported by the American Hospital Association (2021), in 2017, over 50% of nurses were over the age of fifty, with an additional 30% age sixty or older. Additionally, 22.1% of participating nurses reported planned retirement within five years equaling over 757,000 nurses (Spring Arbor, 2023). Older nurses may be required to leave work before retirement due to health conditions and limitations on new technology (Tamata & Mohammadnezhad, 2022). Many other older nurses chose to retire during the demands of the pandemic and others contribute it to salary, job satisfaction, social support, progressive technology, and burnout (Haddad et al., 2023). Although the number of nurses working in the United States continues to rise, it still needs to equal the need and the number of nurses leaving the profession.

Employee Satisfaction

Gaines (2022) provides a first-hand nursing viewpoint from the results included in Nurse.org's 2021 State of Nursing Survey. In this survey of approximately 1,500 nurses, questions were asked to determine the major causes of the nursing shortages throughout the United States. With no specific correlation to specialty, age, or practice, it was found that only 12% of nurses were happy in their current work environment, and 36% required specific changes in staffing ratios and pay in order to continue in their current setting. In line with national statistics, this survey found that 87% of nurses felt burnout in the past year and high frustration levels in leadership support. During a 2021 survey conducted by the American Association of Critical Care Nurses, 66% of nurses considered leaving the profession due to unsafe work environments (Costa & Friese, 2022). The survey found that nurses' responses to leaving the bedside are most related to inadequate staffing related to patient safety. These surveys are helpful in addressing the contributing factors of nursing shortages related to burnout and patient safety. It provides information directly from nurses working in the field who are face-to-face with the challenges they deal with.

In a systemic review by Tamata & Mohammadnezhad (2022), 43.8% of the articles reviewed shared a vision that nursing turnover is directly correlated to lack of social support, work overload, and low employee engagement. In addition, 20.83% contributed turnover to poor salaries and working conditions. Nurses reported concerns that shortages are contributing to the safety of the patients and the employees' mental health. 29.2% of articles reviewed found the major issues affecting the nursing shortage are contributed by increased stress, anxiety, worry of patient safety, burnout, and back and psychosomatic disorders. To encourage future individuals

to the profession, current nurses need to display a positive view of the profession. Then there needs to be an availability in the educational environments to accommodate the students.

Nurse Educators

Nurses require specialized education, training, and licensure. To receive this, they must attend an accredited school that is often limited in the number of students accepted based on the size of the academic institution and the number of teaching faculty. In the face of the nursing shortage dilemma, a large amount of secondary data is available to the public that outlines how many and how often students enter nursing programs, the amount of active adjunct faculty, and acceptance rates concerning overall applicants. This secondary information, derived from admission records, may be available in each educational facility to review regionally or nationally through organizations such as the American Association of Colleges of Nursing. For this paper, secondary information was reviewed at a national level to identify the impact throughout the United States. One reason for the decline of nurse educators is retirement and succession. According to Fang & Kesten (2017), faculty at the age of 55 or older are more likely to hold the title of professor and have achieved a doctoral degree. These individuals have been found more likely to retire within the next 5 years. Factors contributing to faculty retirement are identified as financial status, workplace issues, personal and family health, and attitudes about retirement (Fang & Kesten, 2017). In the face of the pandemic, the AACN reported that over 90,000 qualified nursing candidates were not placed in programs due to unavailable faculty, preceptors, and classroom space (Munday, 2023). Noguchi (2021) surveyed 91 community colleges in the state of California and found the nursing faculty declined 30% during the pandemic. Faculty shortages have trended upward, slightly increasing from 8% in 2021 to 8.8% in 2022 (Munday, 2023).

Since 2000, The American Association of Colleges of Nursing (2024) has been collecting data and providing it to the public to track and trend the state of the nurse faculty shortage. This insightful study provides statistical data to review year-by-year to trend and correlate. In the most recent Special Survey on Vacant Positions for Academic Year 2023-2024, 1091 schools were asked to participate with a 84.5 % response rate. During the 2022 to 2023 school year, faculty vacancy rates decreased overall by 7.8%. Almost 80% of these vacancies required a doctoral degree. The most common issues reported by recruitment were noncompetitive salaries and difficulty finding the right specialty mix. 59.4% of participating schools reported vacant full-time faculty positions with a higher rate in western region institutions. The 2023 Study revealed the most critical issues in recruiting for the school year with almost half reporting due to noncompetitive salaries. The appropriate number of nurses depend on the availability of nurse educators. Without these, quality in healthcare organizations can suffer.

Safety

Understaffing was a problem well before the Affordable Care Act; however, with the increase in available health insurance and the effects of the pandemic, hospitals and clinics report that understaffing is a daily concern. This can be detrimental to patients if it affects their level of care. According to Glette et al. (2017), under the law, hospitals and medical facilities have a professional responsibility to furnish an appropriate work environment for their health workers to provide safe practices. This includes adequate staffing to carry out quality care. Even minor misses can lead to extended hospital stays, increased risk of infection, and financial burden on the patient and insurance companies. A vast amount of secondary data that outlines a potential correlation between staffing and patient safety is available to the public. This is often found through adverse event reporting and open-text formats. A review of Glette et al. (2017) findings

from databases Chinal, Medline, Cochrane Library, Isi Web of Science, and Academic Search Premiere during the time period of 2014-2016 addressed implications of understaffing on patient safety concerning mortality, pressure ulcers, deep vein thrombosis, and hospital-related infections as well as medication administration and quality time for patient needs. During an evaluation of thirty-three studies, a direct relationship was found between understaffing and patient safety. 16 studies reported an increased risk to the patient due to understaffing in the areas of pneumonia, urinary tract infections, and hospital-related infections. Additionally, Glette et al. (2017) observed 6 studies showing that understaffing affected basic quality care and medication errors.

In a retrospective longitudinal observational study conducted by Griffiths et al (2018), an association was determined between the daily levels of registered nurses and hospital mortality rates. Hazard of death increased by 3% each day the nursing mean fell below its target. It increased to 5% each time admissions exceeded 125%. Additionally, since 1996, The Joint Commission has had a Sentinel Event Policy in place for JCAHO-accredited facilities to report sentinel events, allowing the data to be analyzed and aggregated to provide cause and develop strategies for prevention. Included in the The Joint Commission 2022 Sentinel Event Data Review (2023) 3 of the top 10 most prevalent events reported contribution by inadequate staff-to-staff communication during handoffs. `

Nurses at any level are considered essential and contribute significantly to a variety of healthcare services. From prevention to hospice care, nurses are needed to guide patients and families through the most delicate health episodes. Whether it is bedside nursing or academia, they are needed on high demand. The lack of nursing production and the inability to replace the exiting nursing population compromises the quality and safety of the patients. Although the

Affordable Care Act came in with great intentions, it may have left Americans with a void not easily filled. Recovering from the pandemic, the United States continues to be challenged the inability to keep up with the demands, provide adequate salaries for all positions involved, and levelize the input and output of nurses to provide quality care. As the world continues to shed light on nurses working conditions, additional attention is drawn to the affects and treatment of employee satisfaction and burnout.

Research Methodology

Utilizing a quantitative approach to the statistical data available through secondary sources, the most appropriate research design to address this question is descriptive. Surveys and national statistical data describe the nurse population through observation and measurement without control or manipulation (Aggarwal & Ranganatham, 2019). Several studies were reviewed in response to the research questions. This provided a combination of cross-sectional and correlational studies based on the status of retiring nurses versus trended studies comparing the aging population over the past ten years. It also allows for identifying the characteristics and trends in the academic sector. The use of official records from academic nursing institutions aids in the gathering of statistical information reported by the registrar's office without control or manipulation. From a top-down approach, highlighting staffing ratios and their results on individual safety measures aids in understanding the relationship between patient safety, quality care, and adequate nursing coverage. After reviewing the literature, I found that the data comes from credible secondary sources reporting adverse events.

Data Collection

The study's target population included registered nurses in both healthcare and academic settings. The researcher collected publicly available data from various secondary sources through surveys and national census information. This data was collected to provide an overall perspective of the demand for nurses at the bedside and in faculty positions and its overall effect on quality healthcare. The researcher examined three primary studies responding to the research questions, including foundational data from the United States Bureau of Labor Statistics (B.L.S.) and the Health Resources and Services Administration (HRSA). The B.L.S. provides a breakdown of nursing types and the number found in each state throughout the U.S.A. (BLS, 2023). The American Nurses Association website links directly to the HRSA's National Sample Survey of Registered Nurses, which breaks down the number of registered nurses by demographics (age, race, ethnicity, sex, etc.) (ANA, 2017). Another valuable dataset was found through the American Association of Colleges of Nursing's (AACN) Special Survey on Vacant Faculty Positions. This survey produced by the AACN provides data since 2008 regarding faculty trends in vacancies by position and educational level and addresses issues in recruitment and retention (AACN, 2022). Finally, The Joint Commission provides essential data obtained through annual reviews of sentinel events found in a thorough review of hospital accreditation site surveys (TJC, 2023). A compilation of these surveys displays an overall viewpoint of the past and present state of nursing and its contribution to quality healthcare.

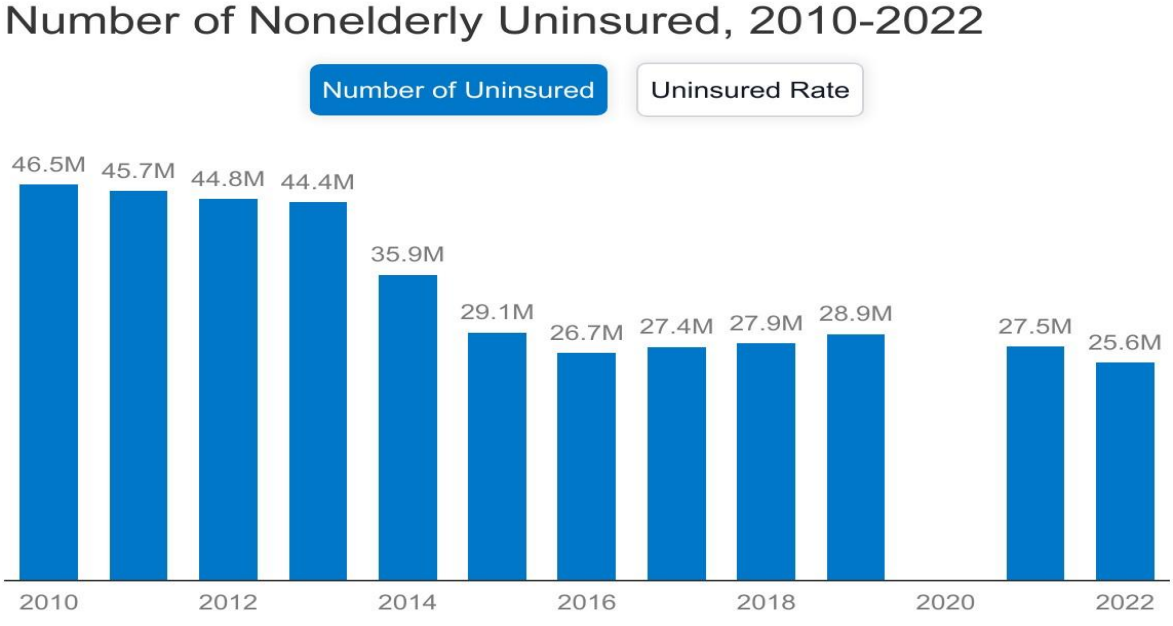
Ethical Considerations

Although human subjects may have been involved in the primary studies, the use of secondary data does not include the direct use of human subjects. In addition, the names and identifiers of the subjects were not disclosed; therefore, they were not mentioned in the following research. No personal or identifiable information was disclosed by any nurse or faculty participants.

Results/Findings

The findings from this study confirm a significant increase in the number of insured Americans since the enactment of the ACA in 2010 that continues to improve. Demonstrated in figure 2, the number of non-elderly uninsured fell from 46.5M in 2010 to 25.6M in 2022 (Drake et al., 2022). However, in an already challenged state of available medical personnel, an increase in registered nurses has not solved the staffing dilemma.

Figure 1



After a thorough literature review, the findings are somewhat inconclusive as the data shows an increase in nursing staff but a consistent percentage deficit in relation to the number needed in facilities. In 2021, the number of active RN licenses equaled 5,066,932. In just one year it saw an increase in 2022 to 5,328,873 and an even bigger jump in 2023 to 5,643,150 (figures 3-5) (NCSBN, 2024). A continued focus highlights the number of aging nurses and the ability to replace those retiring over the next ten years.

Figure 3-5

NUMBER OF ACTIVE RN LICENSES BY STATE

Counts as of December 31, 2021

Jurisdiction	Number of RN Licenses	Percent of RN Licenses	Jurisdiction	Number of RN Licenses	Percent of RN Licenses
ALABAMA	94,029	1.86%	NEVADA	51,606	1.02%
ALASKA	18,102	0.36%	NEW HAMPSHIRE	25,656	0.51%
AMERICAN SAMOA	166	0.00%	NEW JERSEY	139,719	2.76%
ARIZONA	102,364	2.02%	NEW MEXICO	30,160	0.60%
ARKANSAS	45,016	0.89%	NEW YORK	356,083	7.03%
CALIFORNIA-RN	466,414	9.21%	NORTH CAROLINA	149,005	2.94%
COLORADO	80,946	1.60%	NORTH DAKOTA	16,777	0.33%
CONNECTICUT	81,242	1.60%	NORTHERN MARIANA ISLANDS	3,618	0.07%
DELAWARE	19,211	0.38%	OHIO	220,800	4.36%
DISTRICT OF COLUMBIA	30,222	0.60%	OKLAHOMA	52,039	1.03%
FLORIDA	347,136	6.85%	OREGON	73,418	1.45%
GEORGIA	139,314	2.75%	PENNSYLVANIA	232,528	4.59%
GUAM	1,606	0.03%	RHODE ISLAND	27,272	0.54%
HAWAII	26,785	0.53%	SOUTH CAROLINA	77,288	1.53%
IDAHO	25,815	0.51%	SOUTH DAKOTA	19,237	0.38%
ILLINOIS	219,409	4.33%	TENNESSEE	110,427	2.18%
INDIANA	118,822	2.35%	TEXAS	363,865	7.18%
IOWA	58,571	1.16%	UTAH	40,201	0.79%
KANSAS	53,662	1.06%	VERMONT	20,320	0.40%
KENTUCKY	72,058	1.42%	VIRGIN ISLANDS	1,309	0.03%
LOUISIANA-RN	65,167	1.29%	VIRGINIA	112,482	2.22%
MAINE	27,942	0.55%	WASHINGTON	117,351	2.32%
MARYLAND	86,804	1.71%	WEST VIRGINIA-PN		0.00%
MASSACHUSETTS	153,862	3.04%	WEST VIRGINIA-RN	33,047	0.65%
MINNESOTA	119,829	2.36%	WISCONSIN	111,192	2.19%
MISSISSIPPI	50,436	1.00%	WYOMING	8,873	0.18%
MISSOURI	116,230	2.29%	**TOTALS**	**5,066,932**	**100.00%**
MONTANA	20,261	0.40%			
NEBRASKA	31,238	0.62%			

Jurisdictions not Nursys Licensure Participating in 2021: Michigan

NUMBER OF ACTIVE RN LICENSES BY STATE

Counts as of December 31, 2022

Jurisdiction	Number of RN Licenses	Percent of RN Licenses
ALABAMA	98,929	1.86%
ALASKA	16,885	0.32%
AMERICAN SAMOA	167	0.00%
ARIZONA	107,827	2.02%
ARKANSAS	46,069	0.86%
CALIFORNIA-RN	497,668	9.34%
COLORADO	85,041	1.60%
CONNECTICUT	89,876	1.69%
DELAWARE	21,199	0.40%
DISTRICT OF COLUMBIA	36,368	0.68%
FLORIDA	361,134	6.78%
GEORGIA	140,535	2.64%
GUAM	1,287	0.02%
HAWAII	33,322	0.63%
IDAHO	28,778	0.54%
ILLINOIS	213,163	4.00%
INDIANA	128,358	2.41%
IOWA	57,757	1.08%
KANSAS	53,240	1.00%
KENTUCKY	73,649	1.38%
LOUISIANA-RN	65,627	1.23%
MAINE	28,803	0.54%
MARYLAND	87,672	1.65%
MASSACHUSETTS	168,951	3.17%
MINNESOTA	129,302	2.43%
MISSISSIPPI	52,437	0.98%
MISSOURI	122,150	2.29%
MONTANA	21,792	0.41%
NEBRASKA	31,180	0.59%
NEVADA	56,601	1.06%
NEW HAMPSHIRE	26,654	0.50%
NEW JERSEY	142,471	2.67%
NEW MEXICO	31,667	0.59%
NEW YORK	386,331	7.25%
NORTH CAROLINA	154,397	2.90%
NORTH DAKOTA	17,440	0.33%
NORTHERN MARIANA ISLANDS	3,678	0.07%
OHIO	239,491	4.49%
OKLAHOMA	50,453	0.95%
OREGON	80,932	1.52%
PENNSYLVANIA	245,377	4.60%
RHODE ISLAND	29,294	0.55%
SOUTH CAROLINA	79,061	1.48%
SOUTH DAKOTA	19,672	0.37%
TENNESSEE	113,294	2.13%
TEXAS	380,867	7.15%
UTAH	44,154	0.83%
VERMONT	22,020	0.41%
VIRGIN ISLANDS	1,111	0.02%
VIRGINIA	116,181	2.18%
WASHINGTON	126,460	2.37%
WEST VIRGINIA-PN		0.00%
WEST VIRGINIA-RN	34,492	0.65%
WISCONSIN	118,015	2.21%
WYOMING	9,594	0.18%
TOTALS	**5,328,873**	**100.00%**

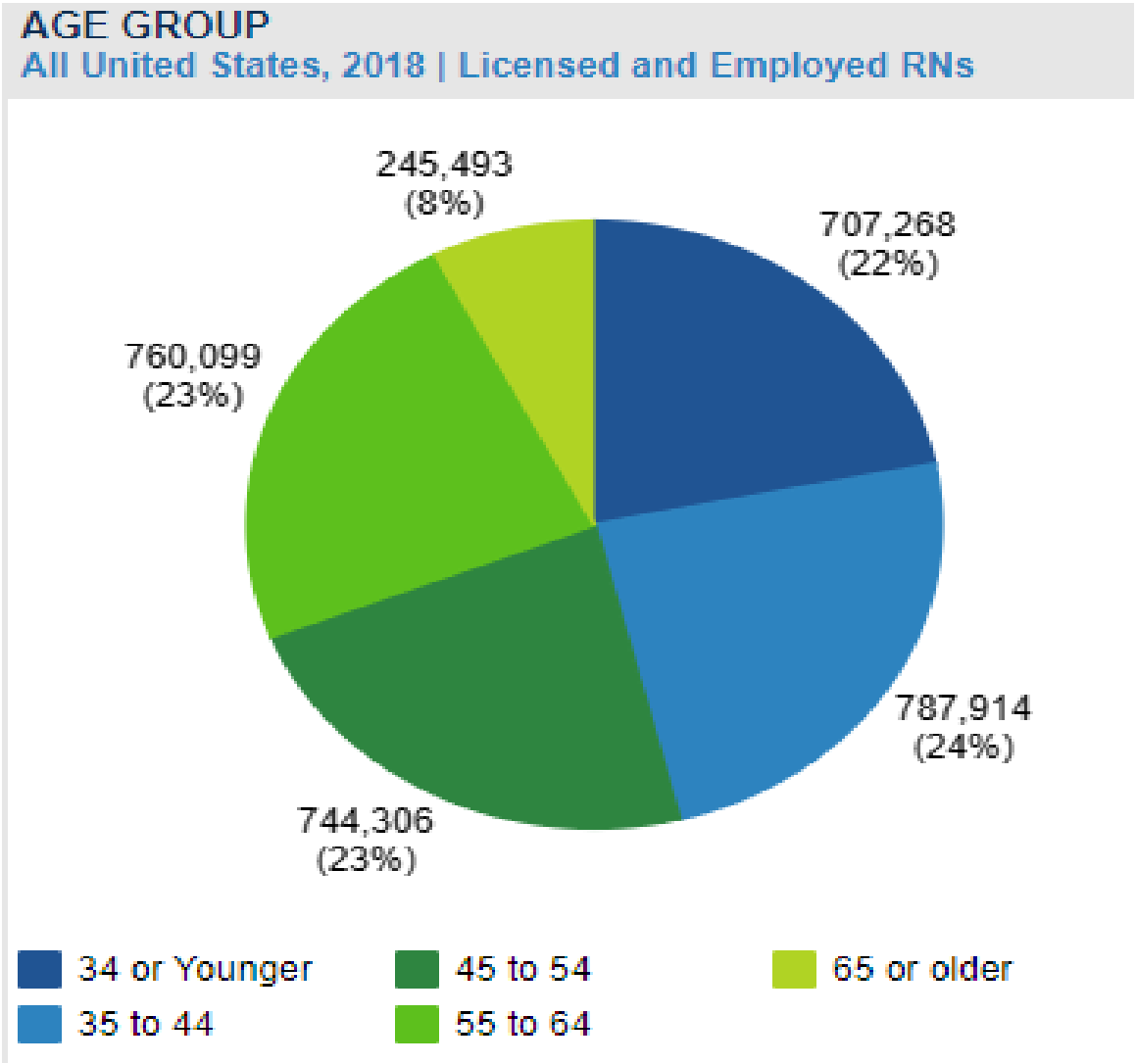
Jurisdictions not Nursys Licensure Participating in 2022: Michigan

Counts as of December 31, 2023

urisdiction	Number of RN Licenses	Percent of RN Licenses
LABAMA	104,695	1.86%
LASKA	20,800	0.37%
MERICAN SAMOA	168	0.00%
RIZONA	111,992	1.98%
RKANSAS	46,960	0.83%
ALIFORNIA-RN	523,864	9.28%
OLORADO	87,295	1.55%
ONNECTICUT	80,219	1.42%
ELAWARE	19,658	0.35%
ISTRICT OF COLUMBIA	43,947	0.78%
LORIDA	375,078	6.65%
EORGIA	143,998	2.55%
UAM	1,053	0.02%
AWAII	31,615	0.56%
DAHO	27,297	0.48%
LINOIS	235,502	4.17%
NDIANA	123,464	2.19%
OWA	58,116	1.03%
ANSAS	53,256	0.94%
ENTUCKY	74,145	1.31%
OUISIANA-RN	66,616	1.18%
AINE	28,785	0.51%
ARYLAND	89,483	1.59%
ASSACHUSETTS	161,279	2.86%
ICHIGAN	173,905	3.08%
INNESOTA	134,563	2.38%
ISSISSIPPI	52,355	0.93%
ISSOURI	118,954	2.11%
ONTANA	23,451	0.42%
NEBRASKA	33,044	0.59%
NEVADA	58,554	1.04%
NEW HAMPSHIRE	26,837	0.48%
NEW JERSEY	146,031	2.59%
NEW MEXICO	33,260	0.59%
NEW YORK	439,616	7.79%
NORTH CAROLINA	158,174	2.80%
NORTH DAKOTA	17,894	0.32%
NORTHERN MARIANA ISLANDS	4,163	0.07%
OHIO	221,760	3.93%
OKLAHOMA	53,376	0.95%
OREGON	84,255	1.49%
PENNSYLVANIA	241,328	4.28%
RHODE ISLAND	29,974	0.53%
SOUTH CAROLINA	84,701	1.50%
SOUTH DAKOTA	19,800	0.35%
TENNESSEE	115,507	2.05%
TEXAS	401,653	7.12%
UTAH	44,324	0.79%
VERMONT	11,958	0.21%
VIRGIN ISLANDS	1,671	0.03%
VIRGINIA	118,430	2.10%
WASHINGTON	120,813	2.14%
WEST VIRGINIA-PN		0.00%
WEST VIRGINIA-RN	36,539	0.65%
WISCONSIN	118,033	2.09%
WYOMING	8,942	0.16%
TOTALS	**5,643,150**	**100.00%**

According to the National Sample Survey of Registered Nurses, in 2018 1,749,898 nurses were over the age of 45, while 1,495,182 nurses were 44 years old and younger (figure 6). If this gap of 254,716 continues, the shortage will not improve.

Figure 6



Utilizing data from the Nurse.Org survey (Gaines, 2022), 1,500 nurses provided input into the thoughts and feelings directly from bedside nurses regarding working conditions, mental status, and employee engagement. With only 12% surveyed expressing happiness in their current working environment, the others reported the following:

- 87% feel burnt out
- 84% are frustrated with administrators
- 84% feel they are underpaid
- 83% feel their mental health has suffered
- 77% feel unsupported at work
- 61% feel unappreciated
- 60% have felt uncomfortable having to work outside of their comfort zone in the past year
- 58% of nurses have felt frustrated with their patients
- 58% of nurses have felt unsafe at work in the past year

A longitudinal study provided by the AACN has trended the number of nursing faculty vacancies since 2008. Regardless of the amount of active faculty, the findings remained consistent. Responding academic institutions reported on average 7% vacancies within their registered nursing programs. They named the top three barriers to hiring additional faculty as insufficient availability of funds, recruitment, and access to quality candidates (AACN, 2023). In addition, recruitment/retention challenges are shown in figure 7

Figure 7

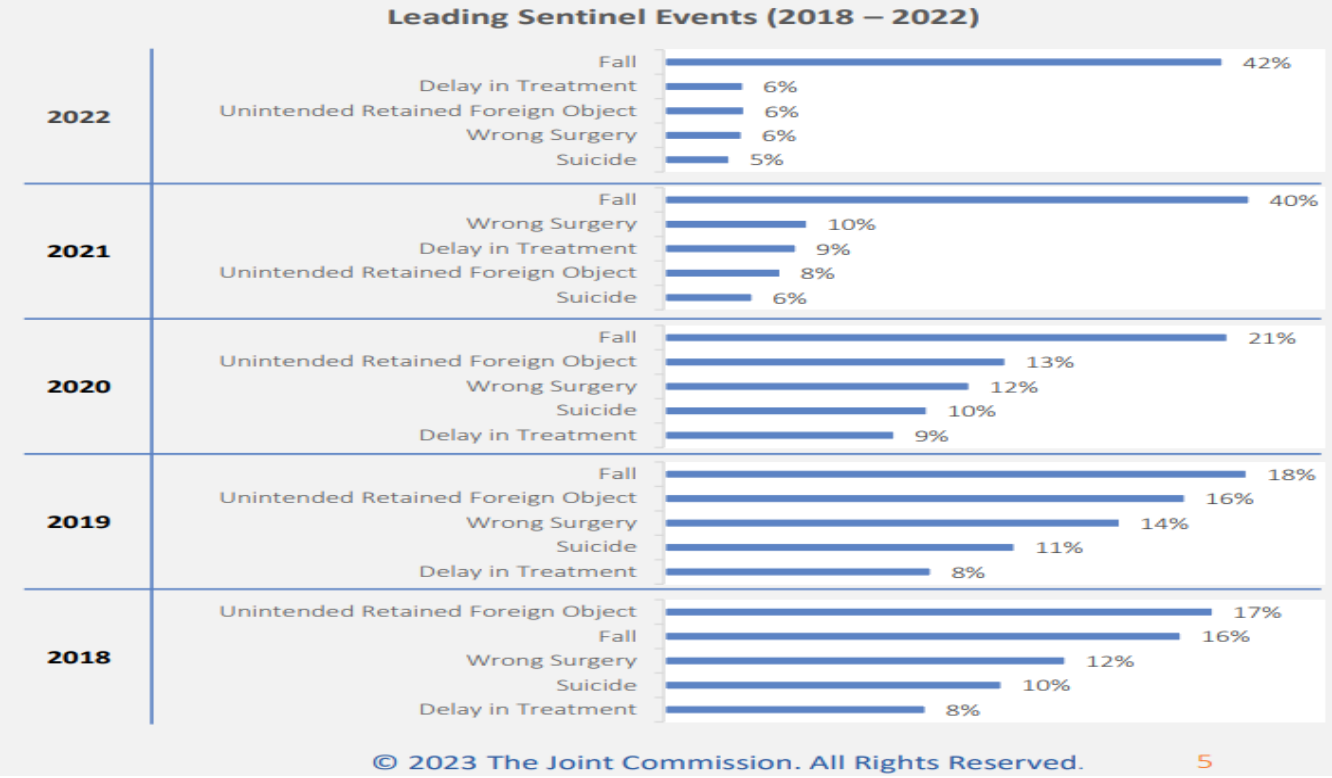
MOST CRITICAL ISSUES SCHOOLS REPORTED RELATED TO FACULTY RECRUITMENT FOR ACADEMIC YEAR 2023-2024

Most Critical Issue Related to Faculty Recruitment	Percent/Number
Noncompetitive salaries	47.1% (N=428)
Finding faculty with the right specialty mix	18.3% (N=166)
Limited pool of doctorally-prepared faculty	11.6% (N=105)
Finding faculty willing/able to teach clinical courses	10.3% (N=94)
Other	7.8% (N=71)
Finding faculty willing/able to conduct research	4.0% (N=36)
High faculty workload	2.4% (N=22)

American Association of Colleges of Nursing
The Voice of Academic Nursing

The final data reviewed shows a correlation between adequate nursing ratios and patient safety. With 3-5 percent increased mortality rates associated with high census levels and low staffing rates, it can be determined that nursing ratios can affect the quality and safety of care provided. The Joint Commissions Annual Sentinel Event Data shows a drastic increase in falls along with the current trend related to delays in treatment (Figure 8). Each can be attributed to a lack of adequate observation and available assistance at the bedside.

Figure 8



The Role of Healthcare Administrators

Healthcare leadership plays a critical role in employee engagement, patient safety, and building relationships with community leaders to ensure quality access and services to a variety of stakeholders. This requires a team of leaders throughout the industry to continue a focus on the growth and development of registered nurses and the trends that develop by age and demographics. The ongoing study of nursing mental health will contribute to improving employee satisfaction and address the number of nurses leaving the profession. It is also their responsibility to advocate to government leaders for increased support though the academic sector to allow funding for additional educators to impact the number of nurses entering the profession.

Limitations/Future Research

The literature review encompassed peer-reviewed studies from a variety of demographics. Many nationally based statistics do not provide information for those individuals that did not participate. Additionally, many medical errors and adverse events are commonly unregistered and non-identifiable that could change the results of the surveys and statistical data. Limitations of this study also exist in the timing of its information. The most current data is available during the peak of the pandemic and may not be accurate to post-pandemic environments for inpatient, outpatient, and academic settings. This also does not address the nurses choosing early retirement during this trying time and the inflation of pay for bedside nurses that may affect the availability of nurse educators. It will be crucial to continue research in the areas of nursing ratios and availability of nurse educators to compare at a post-pandemic level.

Conclusion

Healthcare remains the highest employer in the United States. Many men and women aspire to be healthcare workers, namely nurses. With the passing of the Affordable Care Act in 2010, Americans had more access to healthcare, which correlates to longer life expectancy. This, as positive as it sounds, has caused a strain on the healthcare community. Nursing, a professional field, requires a specific level of education that cannot be obtained quickly or by just anyone. It takes a skill set in intelligence, problem-solving, critical thinking, communication, and social skills. Even with those in mind, one must be accepted into a school of nursing that is often highly competitive with limited spots available. Here lies the dilemma: More nurses are retiring or leaving the profession than are graduating from nursing programs. Over the past ten years, research has identified this problem, but healthcare administrators and educators have been

unable to successfully fill the nursing gap to a sustainable level. As the pandemic entered 2020, additional concerns revolved around staffing ratios and quality patient care. The research in this proposal identifies that each question depends on the other. To address the loss of nurses, there needs to be a solution to replace them. Nursing programs cannot produce the number of nurses needed without the resources to teach the classes. Ultimately, patients can only receive quality care with a safe amount of nursing staff to meet the needs of the healthcare facilities. Looking to the future, post-pandemic, healthcare is gaining momentum. New designs are developing to meet the needs of the nation. Continuous research aides in providing administrators the tools to recruit and retain valuable nursing staff while rebuilding a strong, quality healthcare system.

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