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Improving Staffing at a Southern Virginia Hospital Using Bardach's Policy Analysis and
the IHI Triple Aim Framework

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A Clinical Research Project Submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Doctor of Nursing Practice

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FACULTY COMMITTEE:

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Dedication

I dedicate this to my dear husband, Ben Crowder, and my two beautiful children, Kinsley and Karlin, who have offered unwavering support and encouragement throughout my doctorate degree. They have cheered me on when I was exhausted and discouraged. My family is my greatest gift.

I also want to offer thanks to my Mom, Sandra Pearce, who has been a constant cheerleader throughout every academic and personal endeavor in my life. Thanks, Mom, for believing in me and encouraging me to strive for my dreams.

Acknowledgements

Thank you to my advisor, Jeannie S. Garber, who helped me navigate this gratifying journey and find the next step in my nursing career. My project would have never become a success without her constant support and patience.

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Abstract

Nurse staffing is a major concern for healthcare organizations. Ensuring adequate staffing is crucial to providing quality, patient-centered care. The purpose of this project was to explore staffing policy options at a Southern Virginia Hospital using Bardach's policy analysis and the IHI Triple Aim as frameworks. This policy analysis was conducted to offer a solution for staffing. The current staffing model at this rural Southern Virginia hospital resulted in ongoing, escalating costs that cannot be sustained over time. The three staffing options reviewed included: allowing the current staffing plan to stay in place, implementing a staffing committee, and implementing a supplemental pool. Organizations need flexible and experienced nurses to ensure the safety of their patients. Without proper staffing, hospitals experience higher patient mortality, lower quality of care and unsustainable increasing costs.

Keywords: Supplemental nurse pool, agency nurses, contract nurses, travel nurses

Introduction

Nurse staffing has been a major concern for healthcare organizations. Without proper staffing, hospitals have been impacted with higher patient mortality and lower quality of care. The purpose of this project was to explore staffing policy options at a Southern Virginia Hospital using Bardach's policy analysis and The Institute of Health (IHI) Triple Aim as frameworks. This hospital utilized supplemental, permanent, traveler, contract, and temporary nurses. To help fight staffing battles, hospitals have started using short term or temporary (per diem) and long term 'traveling' nurses which are temporarily employed at organizations by agencies to meet staffing needs. A permanent employee is a person that has been hired to fill a position without a time limit. Temporary employees differ from permanent employees given that temporary employees have a predetermined period of employment (Business Dictionary, 2019). Floating or supplemental nursing is generally defined as the reassignment of staff from one nursing unit to another based upon patient census and acuities (Roach, Tremblay, & Carter, 2011). In 2018, this hospital suffered from over 1,000 nurse absences in one calendar year and declared diversion status 17 times because there was not enough staff to safely care for patients (Gill, 2019). This resulted in the increase of contract nurses from 31 to 49 (Coker, 2018). The hospital spent \$4,668,598 for contract nurses in one year (Gill, 2019). To address these escalating costs, potential staffing models and policy options were evaluated.

Background and Significance

A national nursing shortage from 1998 to 2007 resulted in a dramatic increase in the use of travel nurses and was seen as an effective solution to address staffing needs. Some of the reasons hospitals have had to maintain the use of travel nurses over time include: experienced nurses have more job opportunities especially in areas that require advanced skills and critical thinking (Rubenfire, 2015), desperate facilities hire new graduates who gain experience before moving onto newer employment after one year, and experienced nurses are paid less than a temporary worker. Although travel nurses are most likely needed when a hospital has a large number of unfilled positions that can no longer be covered by current staff working overtime or on-call hours, it is not a long-term solution to the problem.

The current staffing model, using travel nurses, at this rural Southern Virginia hospital has resulted in ongoing, escalating costs that cannot be sustained over time. In this hospital, sustaining adequate staffing has been challenging since 2015. According to the Institute of Medicine, rural hospitals play a major role in communities and are the only care available at all hours. This hospital serves five counties and the next closest Virginia hospital is 58 miles away (MapQuest, 2019). Rural area hospitals are smaller and have fewer resources but are more inclined to serve patients with multiple chronic diseases (Institute of Medicine, 2005). Because of these challenges, the hospital needed to find a solution so that care can continue to be provided in this rural area.

The cost of providing adequate staffing in this rural hospital increased dramatically over the past three years. In 2016, the hospital utilized 31 contract nurses

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and the following year the number increased to 49 (Coker, 2018). In the 2015-2016 fiscal year, the hospital spent \$1,217,485 for contract nurses and the following 2017-2018 fiscal year that cost drastically increased to \$4,490,096. Furthermore, in the 2018-2019 fiscal year, the organization spent \$4,668,598 for contract nurses (see figure 1; Libby, 2019). The highest utilization unit was acute care followed by labor and delivery and then the emergency department (ED). The facility utilized contract nurses 63% of the time because this organization had multiple permanent positions unfilled. Less than 0.4% of the hospital use of contract nurses was because of scheduled paid time off (PTO). Patients were held in the ED an average of 3 hours and 12 minutes while waiting for an in-patient bed, which caused issues related to patient care and quality. Hospital census increased by 27% during the 2018-2019 fiscal year but staffing levels remained unchanged. The current staffing standards varied by unit and created numerous challenges. In spring 2018, an employee engagement survey was conducted at this Southern Virginia hospital. A main theme identified was directly related to the stress that results from inadequate staffing. The survey consisted of questions applying the Likert scale using 1 = Never, 2 = Sometimes, 3 = Neutral, 4 = Regularly and 5 = Always. The specific question asked: "Is your work area/unit adequately staffed?" That question resulted in scores ranging from 2.0 to 2.88. This score was below the national average of 3.28 (Burnette, 2018).

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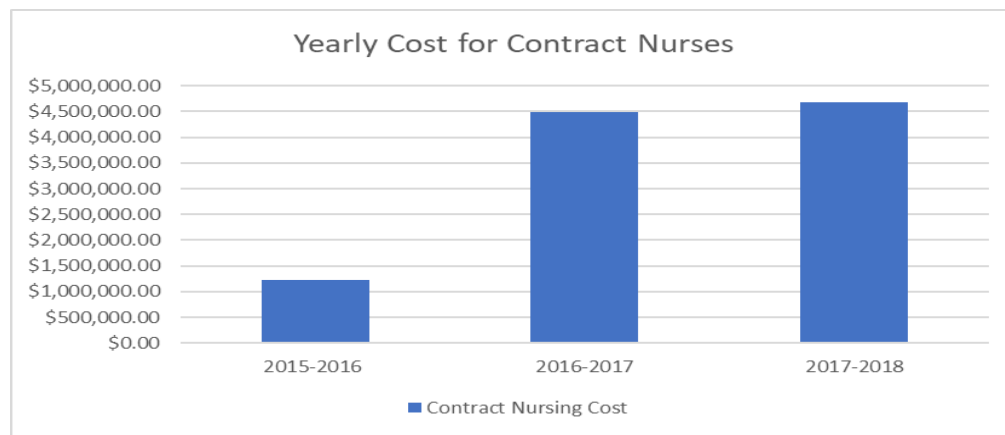


Figure 1. Yearly Cost for Contract Nurses

Without proper staffing, hospitals experience higher patient mortality rates and lower quality of care. Currently, there is no state law in Virginia regulating staff although fourteen other states have addressed staffing laws. Seven states have required hospitals to have staffing committees. California is the only state that strictly regulates a required minimum nurse to patient ratio to be enacted at all times. In addition, Massachusetts has a law specific to intensive care units (ICU) requiring 1:1 or 1:2 nurse/patient ratio depending on the patient's condition (American Nurses Association, 2015). There is a federal regulation that requires hospitals providing Medicare to follow the 42 Code of Federal Regulations (42CFR 482.23(b) supporting to "have adequate number of licensed registered nurses, licensed practical (vocational) nurses, and other personnel to provide nursing care to all patients as needed." However, this federal regulation is extremely vague and continues to be a point of contention in Congress because 'adequate' has no clear definition (American Nurses Association, 2015). Therefore, it is important for administrators to frequently evaluate nurse staffing levels to maintain adequate staffing ratios for the hospital. A policy analysis will be used to explore the best staffing models/options to solve the problem at this Southern Virginia Hospital.

State the problem

At this rural Southern Virginia hospital, ongoing and escalating costs due to the utilization of contract or travel nurses was identified as an operational issue that must be addressed in order for the organization to remain viable. To date, travel nursing has been utilized as a long-term solution at this organization in Southern Virginia. (Sukyong & Spetz, 2013). A search for a solution in the literature, resulted in the discovery of three policy options that were examined to determine the best staffing method for this hospital.

Literature Review

A review of the literature associated with staffing included travel nurses and supplemental nurses was used to conduct this policy analysis. Another word for supplemental staffing that is used in the literature is 'floating' and 'agency' which is pertaining to travel nurses. A search of the Cumulative Index to Nursing and Allied Health Literature (CINAHL) electronic database identified 112 publications based on the key terms 'float nurse', 'supplemental nurse pool', 'agency nurse', 'contract nurse' 'nursing shortage' 'travel nurse' and 'shared governance'. Also, another search was conducted using the same key terms in PubMed that yielded 68 results. Forty-eight articles were reviewed for this literature review. Inclusion criteria for articles to be reviewed required a correlation with nurse staffing. Additional literature was reviewed specific to the IHI Triple Aim and Bardach/Collins frameworks being used for the analysis.

Staffing Literature

Using nurses who are cross trained to move to various units is a cost-effective means of addressing fluctuating patient census. This could be done in place of using

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agency nursing or calling nurses into work at an overtime rate. Having adequate staffing has remained crucial to nursing units to provide optimal patient care. Many staffing structures are outdated and not flexible. The number of patients assigned to a nurse is not a direct reflection of the 'workload.' There are many factors when considering staffing on a unit: patient complexity, acuity, number of admissions, discharges, and transfers. As a smaller institution, a new staffing plan was needed to decrease cost and reduce the use of travelers. The American Nurses Association (ANA) is a professional organization that represents nurses and realizes that hospitals spend at least 40% in operating cost to pay the nurses. However, the ANA stresses that reducing nurse labor hours is not a cost saving measure for the hospital because this tactic has a negative impact on safety for patients. Inadequate staffing leads to avoidable events such as hospital-acquired infections, readmissions, surgical complications and even patient deaths. Furthermore, the data supports that having adequate RN staffing will decrease the odds of a patient having a cardiac arrest by 28% in the ICU. The evidence continues to support that patients will have 30% reduction of hospital-acquired pneumonia. Overall, length of stay is reduced 24-31% by having increased RN staffing (American Nurses Association, 2015). The Agency for Healthcare Quality and Research supported a hospital survey that reports 67% of staff felt their units used more travel nurses than what was best for quality of care and patient safety (Aiken, Xue, Clarke, & Sloane, 2007).

“In 2004, 2.3% of RNs provided their services through a temporary agency, as opposed to being employed by the organization or organizations through which they delivered care” (Page, 2008). McKenna, Clement, Thompson, Haas, Weber, Wallace, and Roda (2011) created supplemental staffing to help cover higher acuity level, which

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are patients that require a higher level of care, and varying vacancy rates, which are unfilled job openings by eliminating agency personnel. Guidelines were set for supplemental staffing and evaluated daily according to emergent coverage needs, long term needs to cover a vacancy or leave, or a deficiency in the schedule that created a 'hole' (McKenna, Clement, Thompson, Haas, Weber, Wallace, & Roda, 2011). It is reported that an increase in travel nurses can increase the workload of the nurses that are permanently staffed who must supervise and assist temporary nurses in addition to their normal workload (Sukyong & Spetz, 2013). Schulman, Pledger, and Douglas (2009) reviewed 182 hospitals of various sizes, and the data showed that 25% of RNs choose to float on their own will. Having float nurses allows the hospitals to respond quickly to staffing needs (Schulman, Pledger, & Douglas, 2009).

Defining the Context

Rural hospitals play a major role in communities and are the only care available around the clock. These areas are smaller and have fewer resources but are more inclined to serve patients with multiple chronic diseases (Institute of Medicine, 2005). With regard to staffing, this hospital had 81 full time registered nurses (RN) in acute care, ED, ICU, and oncology. The hospital also had 49 travelers and two supplemental nurses. The supplemental pool encompassed 1.5% of total staffing. The ED had 14 beds plus two trauma rooms, the acute care floor had 54 beds, and ICU had ten beds. Also, in the outpatient oncology clinic, there were eight chairs and five exam rooms. The average daily census of patients in acute care was 37; ICU 7; ED 65; and oncology 35 (Coker, 2018).

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Virginia state average per hour for a RN is \$31 (Nurse.org, 2017). The national RN hourly rate is \$35.36 (Nursing Salary Guide, 2019). The hourly salary for core bedside nurses at this organization is \$20.80-\$44.09. Supplemental nurses are permanent employees and their wages are calculated based on nursing experience. As an incentive, they are compensated \$10 more an hour to float to all areas. They must be willing to be reassigned to various units in four-hour increments based on hospital needs. This also requires additional training to be familiar with the policies and procedures of different areas. No permanent nurse at this organization receives any premium for working specialty areas, for instance ED or ICU (Coker, 2018). In comparison, this hospital paid \$66-\$70 per hour for travel nurses (Coker, 2019). Consequently, a travel nurse costs an organization more than double as much as a regular staff nurse (Vecellio, 2005). During low census, a supplemental nurse can be utilized in a different area to better suit the needs of the patients and organization (Aiken, Xue, Clarke, & Sloane, 2007). Staffing could remain the same or the hospital could explore the two new options: implementing a staffing committee or implementing a supplemental pool.

Analysis Methodology Defined

Collectively, the Bardach/Collins Method and the IHI Triple Aim framework were applied to this DNP project to help conduct a policy analysis and improve outcomes (Collins, 2005). This framework will serve as the basis for finding desirable outcomes and consequences of policies (Collins, 2005). This method has been successfully used in a health policy analysis developing a strategy to combat obesity. (Tuah, Qureshi, Shillo, & Majeed, 2011). Additionally, Bardach/Collins Method was successfully used by a Doctorate student on Leadership Advanced Research Models (Lavery, 2014). Projects

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that were guided by the Triple Aim included communities: tackling high levels of obesity, heart disease, infant and neonatal mortality, preventable infections and communicable diseases (Whittington, Nolan, Lewis, Torres, 2015).

Bardach/Collins Method

Bardach/Collins eight steps of policy analysis include: (1) define the problem; (2) assemble the evidence; (3) construct the alternatives; (4) select the criteria; (5) project the outcomes; (6) confront the tradeoffs; (7) decide; and (8) tell your story (see Table 1). These eight steps define the problem so that the problem can be clearly understood and outlined. The problem was researched to identify evidence that supports three policy solutions. After identifying these three policy options, the outcomes were predicted on how each policy affected the cost of nurse staffing (Bardach, 2012). For the purpose of this project, the problem identified was the current staffing model resulted in ongoing and escalating costs that could not be sustained over time. The escalating costs served as a strong incentive to determine the most cost-effective method of staffing. Three feasible policy options were identified and analyzed. Outcomes were projected with predictions made on how the staffing model would impact the dimensions of the Triple Aim at this rural hospital.

Table 1. <i>Bardach/Collins Method Eightfold Path</i>
1. Define the Problems
2. Assemble Some Evidence
3. Construct the Alternatives
4. Select the Criteria
5. Project the Outcomes
6. Confront the Trade-Offs
7. Decide
8. Tell your Story

The Triple Aim

The Triple Aim Framework was formulated by The Institute for Healthcare Improvement with a goal to have healthier populations. The Triple Aim is a three-dimensional improvement system that is focused on advancements in health care and lower cost for patients. The specific dimensions are improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care (see figure 2; Institute of Health, 2019). The Triple Aim has been used as structure for many organizations and communities.

Nurse staffing in hospitals is commonly carried out independently for each clinical area. Nurse staffing is multidimensional because hospitals are faced with nursing shortages and competing priorities for healthcare dollars. Nurse staffing should not be viewed only as an operational expense but a requirement for patient safety and outcomes. In the presence of inappropriate staffing, complications and even death can occur. Using this framework will help identify problems and solutions in acute health care. By reducing cost, the hospital can be more competitive, lessen the pressure for grants, and increase their financial stability. Picking the best staffing option for the hospital will decrease avoidable events, such as hospital readmissions or infections. Population health is important because this hospital is in a rural community hospital in Southern Virginia serving 38 zip codes These areas have a combined population of 83,526 (Community Health Solutions, 2015).

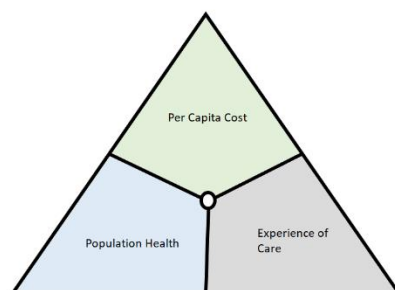


Figure 2. Triple Aim (Institute of Health, 2019).

Project the Outcomes

The Bardach/Collins Policy Analysis methodology and the IHI Triple Aim were used as evaluative frameworks for this DNP project. The three policy options allowing the current staffing plan to stay in place, implementing a staffing committee, and implementing a supplemental pool were analyzed to determine the potential impact on the patient experience, quality of care being delivered and the associated costs (Institute of Health, 2019). Using this criteria allowed for a systematic approach to the policy analysis that led to a proposed improved staffing plan for this rural hospital.

A summary of the analysis, using Bardach/Collins Policy Analysis methodology and the IHI Triple aim as evaluative frameworks. The content of table 2, 3 and 4 reveals the detailed analysis process that was used to guide the decision regarding the best staffing option. The tables each define the problem of how the current staffing models resulted in ongoing, escalating costs. The evidence for the problem remained the same for all three options. The analysis weighed the pros and cons for the criteria, outcomes, and trade-offs. Then using the analysis, a decision point was reached. Using these tables, the writer was able to look at data, draw accurate conclusions and make an informed

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decision. Healthcare must deliver quality outcomes in conjunction with improved population health because this will lead to lower cost per capita for receiving care (Berwick, Nolan, & Whittington, 2008).

It is necessary to address gaps in population health related to the nursing supply. Nurses serve as the advocate for patients, families, and communities. Focusing on population health in a rural community is vital because it allows nurses to identify patients who do not receive care. Without adequate nurse staffing, outreach efforts cannot be made to help decrease current gaps (Health Resources and Services Administration, 2016). Shortcomings in nurse staffing directly correlate with the experience of care. No single staffing model is ideal in every setting, but hospitals must adjust accordingly to the patients' needs. Reviewing different staffing models will more closely match patients' needs with professional skill mix, experience, and the conditions that nurses can provide care.

Policy Option I: Allowing the Current Staffing Plan to Stay in Place

Health organizations have been facing staffing crisis requiring the addition of travelers which in turn increases cost. At this Southern Virginia hospital, travel nurse agencies charge \$66 per hour for acute care and \$70 per hour for ICU and other specialized areas; therefore, a minimum 13-week contract costs the organization \$30,888. In 2016, the ED had nine contract nurses and that number increased to 16 the following year. That same year, the ICU had three contract nurses and that number increased to seven the next year. In addition, there were two oncology contract nurses and that number increased to three the following year. Acute care was the leading area of contract nurses which went from 17 to 23 the subsequent year. At any given time, there was an additional

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12-15 travel nurses that worked as needed that were excluded in this data. On average, 75% of the contract nurses signed their contracts at least two to three times which extended over 26 to 39 weeks. This data had to be adjusted because the hospital moved to a brand-new building in the year 2017. Due to this learning curve of a new environment as well as a new computer system, training and workload of moving, the hospital approved their contract nurses to increase staff that year for each area: acute care increased by ten contract nurses, ICU increased by two, oncology increased by one and ED increased by four nurses. Unfortunately, this number increased during the hospital move but each of these contract nurses extended after the conversion ended due to vacancies and volume. Subsequently, 38% of the hospital staff were travelers (Coker, 2018).

The current staffing standards varied by unit and created difficult challenges. At this facility, the expected staffing level in the ICU was two patients; however, it was common for nurses to have three. On acute care, nurse to patient ratio was one to four but instead they frequently had six. The ICU was a closed staffing unit which meant the nurses do not float outside their specially trained area (Strayer & Daignault-Cerullo, 2008). The ED nurses had four patients regardless of acuity. Oncology had a varying workload of two or three patients, but those patients arrived at staggered scheduled times which helped decrease the burden. The acute care as well as ED charge nurses were not included in staffing; yet, the ICU and oncology charge nurses were included in staffing. This staffing plan varied from day to day and did not include individual needs, such as psychiatric patients requiring one on one care or any influx of patients, such as multiple trauma cases. Bedside nurses were not required to float to other units. Furthermore, the

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staffing plan did not account for unplanned nurse absences. In addition, in the last 12 months the hospital announced diversion 17 times due to nursing shortage versus only twice for critical care diversion for reaching maximum capacity of beds in ICU only.

Diversion is defined as a change in status that alerts local emergency medical personnel that the hospital is at capacity and cannot safely handle more patients (Diversion Status, 2002.) Currently, the hospital is relying on travel nurses to meet daily staffing needs (Coker, 2018).

Policy Option I Analysis: Allowing Current Staffing Plan to Stay in Place

Using Bardach/Collins Policy Analysis methodology and the IHI Triple Aim as evaluative frameworks, it was concluded that this option has numerous undesirable outcomes (see Table 2). Allowing the current staffing plan to stay in place has created ongoing, escalating costs. The hospital was spending an exorbitant amount of money. The Triple Aim recognizes that excessive cost limits care in a rural setting. This organization has been battling excessive nurse absences that led to closing units and declaring diversion because they were not able to safely care for patients. In fact, limited care contradicts the Triple Aim. These factors necessitated administration to search for improved staffing models to create financial stability for the future. This hospital's standard did not include floating beside nurses. Without change, cost would continue to be an issue. In addition, the current staffing model resulted in a negative employee engagement survey. Furthermore, the patient experience of care matters the results from the Press-Ganey and the employee engagement survey identified that there is room for improvement with the current staffing plan at this organization (Burnette, 2018). The Press-Ganey results were reviewed for the 2018-2019 year and revealed that the hospital

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can improve patient satisfaction. The nursing department could improve in controlling pain, listening to patients, informing patients about their treatment, and overall nursing courtesy (see Figure 3; Press-Ganey, 2019). Continuing with this current staffing model is not a feasible option.

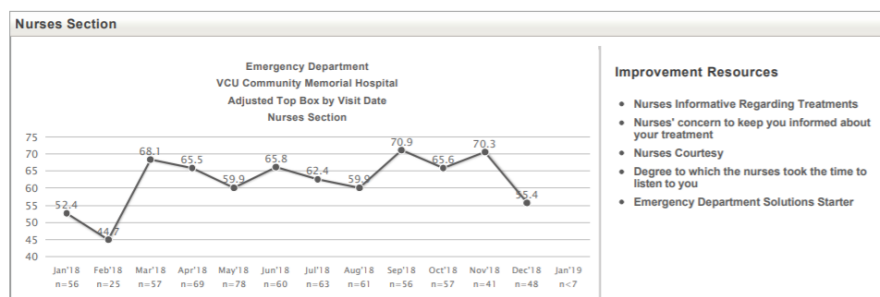


Figure 3. The Press-Ganey Report (above) from January 2018-January 2019 shows the impact of the patient experience at this hospital (Press-Ganey, 2019).

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Table 2		
<i>Allowing the Current Staffing Plan to Stay in Place: Using Bardach's Policy Analysis and The Triple Aim Framework</i>		
<i>Triple Aim</i>	<i>Bardach/Collins Method</i>	<i>Analysis</i>
Per Capita Cost- Hospitals need to lower cost especially in a rural setting where it is the only care available.	Define the Problem	<ul style="list-style-type: none"> Current staffing model resulted in ongoing, escalating costs.
	Assemble the Evidence	<ul style="list-style-type: none"> Hospital spent \$4,668,598 for contract nurses in one year. Hospital suffered from over 1,000 nurse absences in one year. Declared diversion status 17 times because there was not enough staff to safely care for patients. Utilizes travel nurse agencies which charge \$66 for acute care & \$70 per hour for ICU.
Population Health- Patients need better health but nurses must be available to provide care. Nurses can educate patients how to manage their diseases and care for themselves.	Construct the Alternatives	<ul style="list-style-type: none"> Allowing the current staffing plan to stay in place. Implementing a supplemental pool. Implementing a staffing committee.
	Select the Criteria	<ul style="list-style-type: none"> Current staffing plan does not float bedside nurses.
Experience of Care- The project plans to enhance the patient care experience (including quality, access and reliability.)	Project the Outcomes	<ul style="list-style-type: none"> Cost would continue to be an issue.
	Confront the Trade-offs	<ul style="list-style-type: none"> An employee engagement survey identified that staff are unhappy with the number of staffing on their unit. Results from the Press-Ganey and the employee engagement survey identified that there is room for improvement with the current staffing plan at this organization
	Decide	<ul style="list-style-type: none"> Using Bardach's Policy Analysis and the IHI Triple Aim Framework.
	Tell Your Story	<ul style="list-style-type: none"> The outcome of this project could play a key factor in the financial viability for this organization. The organization simply cannot afford to spend \$4,668,598 annually on travel nurses.

The current staffing plan is not a sustainable option for the organization. For three concurrent years, the amount spent on contract nurses had steadily been on the rise. The cost reached a high point in the fiscal year 2018 with \$4,668,598 spent for travel nurses (0). An employee engagement survey identified that staff are unhappy with the number of

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staffing on their unit. Hospital census was increasing and staffing levels needed to increase to meet the demand of the patients (Burnette, 2018). According to the *ANA's Principles for Nurse Staffing*, the number of nurses providing care affects the nurse's ability to deliver safe, quality care in their setting (American Nurses Association, 2012). Care has been limited because this hospital suffered from over 1,000 nurse absences in one calendar year and declared diversion status 17 times because there was not enough staff to safely care for patients which limited care in a rural area. Unfortunately, travel nursing was a perceived long-term solution at this organization in Southern Virginia; nevertheless, a better solution must be found.

Policy Option II: Implementing a Staffing Committee

A staffing committee is defined as a team of nurse leaders and nursing administrators who meet on a routine basis to determine suitable staffing levels for their hospital based on the needs of the patients and skills and experience of nursing personnel (American Nurses Association, 2015). The ANA recommends that at least fifty percent of direct care providers are involved in staffing and scheduling decisions at the institutional level; therefore, implementing a staffing committee would help meet that recommendation. Further, ANA supports empowerment of direct care nurses to be an integral part of staffing because they are aware of the unique demands of their hospital. Hospitals are charged with creating staffing plans that maximize a safe environment for patients and nurses. The number of patients assigned to a nurse is not a direct reflection of the workload. There are many factors when considering staffing on a unit: patient complexity, acuity, number of admissions, discharges, and transfers. The development of a staffing committee and the exploration of cost-effective staffing models will provide an

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avenue to implement organizational level change. Seven states have required hospitals to have staffing committees (American Nurses Association, 2015).

Staffing and scheduling committees empower nurses throughout the organization. Staffing and scheduling are directly correlated to patient care outcomes. Implementing a staffing committee increases nurse satisfaction and retention efforts. The ANA highly supports the development of staffing and scheduling committees (ANA, 2015). The American Nurses Credentialing Center (ANCC) recognizes that scheduling is an important component for nurses' work life balance. Staff engagement has a direct correlation to higher staff retention rates and organizational benefits. The argument for better nurse staffing has led to federal and, in some cases, state regulatory requirements. Bedside nurses are well positioned to note problems with staffing and make suggestions for improvements. Without a staffing committee these problems will go unresolved. Making these changes can improve a unit's work flow and influence nurses' ability to practice within the full scope of their license. Not having enough time to educate patients directly affects population health. Another unresolved issue would be nurses cutting corners due to time constraints which would affect the experience of care and then patients would not recommend the hospital to others (ANCC, 2019).

Policy Option II Analysis: Implementing a Staffing Committee

The findings from the Bardach/Collins Policy and IHI Triple Aim analysis indicate that this option could potentially have a long-term major impact by stabilizing staffing by providing an opportunity for a shared governance approach to staffing (see Table 3). It is acknowledged by the Triple Aim that efficient operational expenses are

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paramount in rural healthcare settings. By developing a staffing committee, nurses would be empowered to make staffing decisions that would address the various needs of the units, such as nurse absences and vacancies. This option could also potentially lead to increased knowledge and staff involvement in decision making that would enhance quality of care by ensuring safe patient care ratios and continuum of care. The staffing committee could explore options to tackle excessive overtime and mandatory shifts. This option could prevent nurse burnout and improve nurse turnover since involvement in decisions creates increased engagement and ownership for problem solving. The Triple Aim supports adequate staffing; therefore, these staffing challenges must be addressed. The staffing committee has potential to improve the staffing approach Without proper staffing, hospitals have been impacted with higher patient mortality and lower quality of care exposing avoidable events such as hospital-acquired infections, readmissions, surgical complications and even patient deaths (American Nurses Association, 2015). Implementing a staffing committee would take strong leadership and time to experience any direct improved staffing results. The escalating costs would not be impacted until after a committee implementation as well as an agreed upon intervention. There would be an increase in costs during the implementation phase therefore, this policy option could be considered in the future but is not a feasible option to decrease staffing costs quickly.

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Table 3		
<i>Implementing a Staffing Committee: Using Bardach's Policy Analysis and The Triple Aim Framework</i>		
<i>Triple Aim</i>	<i>Bardach/Collins Method</i>	<i>Analysis</i>
<u>Per Capita Cost-</u> Hospitals need to lower cost especially in a rural setting where it is the only care available.	Define the Problem	<ul style="list-style-type: none"> • Current staffing model resulted in ongoing, escalating costs.
	Assemble the Evidence	<ul style="list-style-type: none"> • Hospital spent \$4,668,598 for contract nurses in one year. • Hospital suffered from over 1,000 nurse absences in one year. • Declared diversion status 17 times because there was not enough staff to safely care for patients. • Utilizes travel nurse agencies which charge \$66 for acute care & \$70 per hour for ICU.
<u>Population Health-</u> Patients need better health but nurses must be available to provide care. Nurses can educate patients how to manage their diseases and care for themselves.	Construct the Alternatives	<ul style="list-style-type: none"> • Allowing the current staffing plan to stay in place. • Implementing a supplemental pool. • Implementing a staffing committee.
	Select the Criteria	<ul style="list-style-type: none"> • Implementing a staffing committee would allow nurses to be active in decision making.
<u>Experience of Care-</u> The project plans to enhance the patient care experience (including quality, access and reliability.)	Project the Outcomes	<ul style="list-style-type: none"> • Implementing a staffing committee has potential to help identify current staffing problems and identify safe nurse to patient ratios for each area.
	Confront the Trade-offs	<ul style="list-style-type: none"> • Exploring options to reduce overtime and mandatory shifts, prevention of nurse burnout, and improvement in nurse turnover. • The staffing committee could explore ways to better control labor costs and decrease or possibly eliminate the use of contract personnel.
	Decide	<ul style="list-style-type: none"> • Using Bardach's Policy Analysis and the IHI Triple Aim Framework.
	Tell Your Story	<ul style="list-style-type: none"> • Hesitation remained because implementing a staffing committee is not an immediate solution. • The organization would continue to spend \$4,668,598 while the staffing committee formulates a solution. • Additional expenses would be incurred during staffing committee implementation. • Staffing committee should be considered in the future.

The short-term goals of a staffing committee would be to revise staffing matrix tools, address staff morale, seek improvements in staffing models, examine any staffing occurrence complaints, and schedule processes review. The long-term goals of a staffing committee would include maintaining a staffing committee, recruiting new members, measuring the impact on nurse morale and turnover. A staffing committee would also

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evaluate the cost of various staffing models and seek opportunities for savings without adversely affecting patient care.

However, this policy analysis identified challenges with implementing a staffing committee as the solution to the escalating costs of contract nurses. Exploring and implementing the ANA model would be a long-term solution because of the current model recommendations lack specific staffing plans and require a great deal of up-front organizational work. (ANA, 2015). Without exact staffing standards, many variables could restrict the scheduling committee's ability to meet the needs of the individual units. Unfortunately, implementing a staffing committee has an unknown delayed cost savings.

Policy Option III: Implementing a Supplemental Pool

The primary purpose of supplemental nurses is to support adequate staffing throughout the healthcare facility. Hospitals face challenging shortages in nursing care related to absences due to illness, changes in patient acuity, and chronic vacancies. According to the Institute of Medicine, "the dynamic state of healthcare requires that every nurse within a healthcare institution practice to the fullest extent of their education and training. It then follows that supplemental nurses can be an even greater resource when empowered to practice to their maximum potential. Being empowered changes the way we view our nursing world; it improves our practice and increases our dedication to organizational change" (Rainess, Archer, Hofmann, & Nottingham, 2015). Supplemental nurses are a better long-term solution because they are more cost effective and better orientated to the hospital (Dziuba-Ellis, 2006).

Policy Option III Analysis: Implementing a Supplemental Pool

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Using Bardach/Collins Policy Analysis methodology and the IHI Triple Aim as evaluative frameworks, the projected cost savings for this option makes it the most appealing solution to the problem. This option could potentially have a major impact by stabilizing staff (see Table 4). It has been noted that direct nurse labor cost continued to rise. Implementing a supplemental pool could result in an estimated \$33,901/yr (\$18.11/hour) for just one supplemental nurse as compared to one contract nurse. The Triple Aim identifies that hospitals should minimize expenses. Hospitals should have a plan in place to cover unplanned absences especially since this hospital reported over 1,000 nurse absences in one calendar year. Supplemental nurses offer value because they have increased skill set and float. Supplemental nurses are invested in the workplace whereas travel nurses only offer abbreviated nurse coverage for 13-week periods. Supplemental nurses are a better return on investment because they cost the organization only \$47.89 compared to \$66.00 per hour for contract nurses. The use of travel nurses produced staffing gaps when their contracts ended which created additional staffing needs that resulted in overtime. Reliable staffing patterns are vital in the Triple Aim to ensure patients have access to healthcare. Potential benefits of utilizing supplemental nurses may result in increased employee engagement results and Press-Ganey scores due to adequate nurse coverage. Currently, the staffing plan has room for improvement to enhance the patients experience of care which aligns with the Triple Aim. Absences will always exist; the supplemental pool cannot eliminate these absences but instead created a cohesive and reliable group of assets that can be deployed to any area in the time of a planned or unplanned absence.

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Table 4		
<i>Implementing a Supplemental Pool: Using Bardach's Policy Analysis and The Triple Aim Framework</i>		
<i>Triple Aim</i>	<i>Bardach/Collins Method</i>	<i>Analysis</i>
<u>Per Capita Cost-</u> Hospitals need to lower cost especially in a rural setting where it is the only care available.	Define the Problem	<ul style="list-style-type: none"> • Current staffing model resulted in ongoing, escalating costs.
	Assemble the Evidence	<ul style="list-style-type: none"> • Hospital spent \$4,668,598 for contract nurses in one year. • Hospital suffered from over 1,000 nurse absences in one year. • Declared diversion status 17 times because there was not enough staff to safely care for patients. • Utilizes travel nurse agencies which charge \$66 for acute care & \$70 per hour for ICU.
<u>Population Health-</u> Patients need better health but nurses must be available to provide care. Nurses can educate patients how to manage their diseases and care for themselves.	Construct the Alternatives	<ul style="list-style-type: none"> • Allowing the current staffing plan to stay in place. • Implementing a supplemental pool. • Implementing a staffing committee.
	Select the Criteria	<ul style="list-style-type: none"> • Supplemental pool would offer flexible nurses with increased skill set. • Supplemental pool could decrease or eliminate overtime. • Supplemental pool could decrease or eliminate travel nurses.
<u>Experience of Care-</u> The project plans to enhance the patient care experience (including quality, access and reliability.)	Project the Outcomes	<ul style="list-style-type: none"> • The benefits of supplemental staffing may result in reduction of overtime. and mandatory shifts, prevention of nurse burnout, and improvement in nurse turnover.
	Confront the Trade-offs	<ul style="list-style-type: none"> • Exploring options to reduce overtime and mandatory shifts, prevention of nurse burnout, and improvement in nurse turnover.
	Decide	<ul style="list-style-type: none"> • Using Bardach's Policy Analysis and the IHI Triple Aim Framework
	Tell Your Story	<ul style="list-style-type: none"> • Implementing a supplemental pool could help cover higher acuity, varying vacancy rates, and nurse absences. • Supplemental pool could decrease or eliminate overtime after full implementation. • Analysis concludes reduction in cost could potentially improve nurse satisfaction.

For the staffing model that was evaluated, supplemental nurses are permanent employees and their wages are calculated based on nursing experience. As an incentive, they would be compensated extra money and be willing to work anywhere. The additional costs for supplemental nurses was considered in the analysis and may serve as a retention and motivating factor. Table 5 shows a base cost savings of \$33,901 for each

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supplemental nurse as compared to a contract/traveler nurse over a period of a year. In 2017, the hospital used 49 travelers at a cost of \$4,490,096. If a supplemental staffing option was implemented, there is a projected potential savings of \$1,661,149.

Table 5		
Cost Analysis		
Compensation	Supplemental Nurses	Contract Nurses
Hourly	\$20.89 Minimum Hourly Rate	\$66.00 Minimum Hourly Rate
Benefits	\$17.00 Cost of Benefits Per Hour	Not Applicable
Incentive	\$10.00 Hourly Incentive Pay	Not Applicable
Total	\$47.89 Per Hour	\$66.00 Per Hour
Cost Savings	Contract Nurse (\$66.00) - Supplemental Nurse (\$47.89) = \$18.11 Per Hour Estimated Cost Savings of \$33,901 for a Single Supplemental Nurse Per Year	

Weigh the Outcomes

Conjointly using Bardach's policy analysis methodology and the IHI Tripe Aim framework, staffing solutions that may improve the patient experience and outcomes as well as reduce costs can be offered. The current staffing plan for the organization was no longer feasible. Implementing a staffing committee or implementing a supplemental pool would be more beneficial for cost. There was hesitation with implementing a staffing committee because the ANA does not have clearly defined staffing recommendations or standards. The staffing committee would take time to develop. More work would be required to measure the outcomes of the cost and quality of the staffing committee. Policies and staffing structures should be in place; however, the productivity of implementing a staffing committee remains unknown. In considering this policy analysis and according to the literature, significant reduction in cost associated with implementing a supplemental pool have been realized. Unanticipated benefits from implementing a supplemental pool would be a better alternative to help cover higher acuity, varying

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vacancy rates, and nurse absences. Also, supplemental nurses were a better investment than agency personnel because they were invested in the organization. Supplemental nurses are reliable because of their level of expertise and training. Whereas travel nurses do not receive the same level of training. Supplemental nurses are familiar with the organizational policies and procedures and their premiums are not as high (O, Connor, 2017).

High cost was attributed to the current staffing plan, which was a short-term staffing solution that used temporary nurses. This hospital had reported limiting patient volume due to inadequate staffing. A staffing committee would have decided on a strategy to address staffing. A staffing committee would take longer to implement and have sustained impact and are not absolute.

Plan for Dissemination

The findings of this policy analysis will be disseminated to the CNO (Chief Nursing Officer) and administrative team at a meeting with the date to be determined. The leader of this project is no longer employed at the project site but will present the project analysis and recommendations to allow for administrative approval for implementation. If this project is implemented, then it will be monitored and evaluated.

Conclusion

Nurse staffing is a major concern across the nation. Numerous staffing options have been used by hospitals with varying degrees of success. Every aspect of nursing care has changed over time including: patient complexity, acuity, number of admissions, discharges, and transfers, but the nurse staffing strategies often remain the same. Many

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hospitals have fluctuations in census that require staffing adjustments. The need to improve staff flexibility comes to the forefront at times when staffing is critical. The use of agency staffing at this facility, has resulted in a significant cost to the organization that cannot be sustained long term. The three staffing options considered in this policy analysis were: allowing the current staffing plan to stay in place, implementing a staffing committee, and implementing a supplemental pool.

The hospital reported negative patient satisfaction and employee engagement surveys. This Southern Virginia Hospital was in desperate need of discovering a creative way to address their staffing shortages and scheduling challenges. By using Bardach's policy analysis and the IHI Triple Aim as frameworks, three possible solutions were analyzed. Implementing a supplemental pool provided the hospital with a flexible, cost efficient solution. The outcome of this project could play a key factor in the financial viability for this organization. Alternative staffing strategies are necessary not only to fill staffing gaps when they occur but to ensure the best operational and executive resources are available. The supplemental pool strategy will allow hospitals to customize staffing to meet both patient and nurse needs and decrease cost. It is anticipated the hospital will adopt this policy.

Without exact staffing standards, many variables can restrict the scheduling committee's ability to meet the needs of the individual units. The current staffing model could benefit from restructuring to ensure patients receive excellent care. As a smaller institution, a new staffing plan was needed to decrease cost, and reduce the use of travelers, with the possibility of increasing nurse satisfaction. This needed change was brought to the forefront by the employee engagement survey, Press-Ganey and financial

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records. (Burnette, 2018; Libby, 2019; Press-Ganey. (2019). The development of a supplemental pool will ensure the hospital is able to meet the present-day patient demands and dramatically decrease costs. It is imperative to select a staffing model that will meet the increasingly complex needs of patients to achieve safe, effective, patient-centered, timely, efficient, and equitable care. Based on the results of this policy analysis, it is concluded that the best option to decrease costs at this small, rural hospital is to implement a supplemental pool. This solution provides an opportunity for this small facility to continue to meet the needs of the community while positively impacting the overall financial success of the organization.

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Appendix A

Timeline for Staffing Improvement Project

<u>Tasks</u>	<u>Date</u>
Identify target population	June 2016
Literature review	June 2016
Needs assessment	June 2016
Create a manual for floating to the various unit	June 2016
Pilot supplemental program for two years	June 2016-2018
IRB application	June 2019
IRB approval	July 2019
Graduate	December 2019
Follow up	January 2020

Appendix B

IRB Form

TO: Caitlin Crowder

CC:

FROM: IRB Panel A

RE: Caitlin Crowder ; [HM20016810](#) Improving Staffing at a Southern Virginia Hospital Using Bardach's Policy Analysis

To be subject to the regulations, a study must meet the definitions for BOTH "*human subject*" AND "*research*". While your study may fit one of these definitions, it does not fit both. Therefore, your study is not subject to the regulations and no IRB review or approval is required before you proceed with your study.

Section 45 CFR 46.102(l) of the HHS Regulations for the Protection of Human Subjects defines **research** as "*a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program which is considered research for other purposes.*"

Section 45 CFR 46.102(e)(1) of the HHS Regulations for the Protection of Human Subjects defines a **human subject** as "*a living individual about whom an investigator conducting research:*

- *Obtains information or biospecimens through intervention or interaction with the individual, and uses, studies, or analyzes the information or biospecimens; or*
- *Obtains, uses, studies, analyzes, or generates identifiable private information or identifiable biospecimens.*"

Thank you for informing us of the project. If we can be of service with respect to future research studies, please contact us.

If you have any questions, please contact the Office of Research Subjects Protection (ORSP) or the IRB member(s) assigned to this review. Reviewer contact information is available by clicking on the Reviewer's name at the top of the study workspace.

Appendix C

JMU IRB

From: <researchintegrity@jmu.edu>
Date: July 8, 2019 at 4:49:26 PM EDT
To: <crowdecp@dukes.jmu.edu>
Subject: IRB - Review Not Required

It has been determined that the protocol referenced below does not meet the definition of research with human subjects set forth in Federal Regulations at 45 CFR 46.102. For this reason, the protocol does not fall within the scope of James Madison University (JMU) Institutional Review Board (IRB) purview, and the project may proceed without further review from this office.

Protocol ID: 20-1078
Principal Investigator: Caitlin Crowder
Protocol Title: Improving Staffing at a Southern Virginia Hospital Using Bardach's Policy Analysis
Department: Nursing Department

If you have any questions about this determination, please contact researchintegrity@jmu.edu or call (540) 568-7025.