The Effect of Education on the Barriers Nurses Face When Calling Rapid Response Teams (RRTs) at a Small Midwestern Hospital

By

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A Directed Scholarly Project Submitted to the

Department of Nursing

In the Graduate School of

Bradley University in

Partial fulfillment of

The requirements for the

Degree of Doctor of Nursing Practice

Peoria, Illinois

2019

Acknowledgements

To my husband—Nick—thank you for all that you have done to keep me going over the last four years. Through the tears, tears, and more tears, you have kept me strong and I couldn't be more thankful.

To Rhett—my handsome son—thank you for always making mommy smile and giving endless cuddles which made the last four years much more bearable.

To my family—especially Mom, Dad, Terah, and Kayla—thank you for all you have done over the past four years to make this possible. I love you all!

To Dr. Peggy Flannigan—you had the hardest job of them all! Thank you for showing endless patience while working with me on this project and showing me your expertise. I sincerely appreciate it.

DNP Project Team Approval Form

Bradley University
Department of Nursing

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has been approved

May 30, 2019

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Abstract

A goal of healthcare is to provide patients with safe care. Policies are in place to make sure this happens such as Rapid Response Teams (RRTs). However, there is ample research that suggests barriers often prevent nurses from calling RRTs. Through this project, 47 nurses were surveyed regarding their perceptions on the RRT. Potential barriers were identified, and education was provided to attempt to eliminate these barriers. A two-week post-education survey was administered to assess for any changes in perceptions. Positive changes occurred in nurses knowing when to call an RRT, nurses understanding their role in an RRT, nurses knowing what to do during an RRT, and nurses understanding the hospital RRT policy. Through this DNP scholarly project, it has been demonstrated that education can be effective at reducing the barriers that nurses face when deciding to call an RRT.

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Chapter I: Introduction

Providing care that keeps patients safe is important in the current health care industry. However, when protocols are broken and allow patient safety to be jeopardized, it is important to identify the knowledge and research gap. Once identified, it is crucial to plan interventions to close the gap and restore patient safety. Education may be effective in closing the gap and breaking down the barriers that keep nurses from calling RRTs.

I will explain a DNP scholarly project aimed to close this research gap. I will look into the effect of education on barriers that prevent nurses from calling RRTs. I will also explain furthering education's role in breaking down the barriers. I expect this project to make an impact on nursing practice by identifying if education is an effective intervention. By addressing this issue, patient safety can be restored.

Background and Significance

Those who practice in the healthcare field have a responsibility to provide safe care to patients. Protocols are put in place to help health care professionals provide safe care to patients. An example of protocols that helps keep patients safe are Modified Early Warning Signs (MEWS) and Rapid Response Teams (RRT). If these protocols are not followed as they should be, patient safety is put at risk.

According to researchers Mapp, Davis, and Krowchuk (2013), patients exhibit changes in vital signs up to eight hours before a significant change in their condition occurs. MEWS scores are used to prevent this from happening. As nurses enter their patient's vital signs at least once per shift, the numbers are then put through calculations to determine whether or not this patient is at risk for an adverse event. Once given a

MEWS score, nurses then base their next action off protocols provided by the facility where they are working. Researchers found the use of this protocol to not only decrease hospital mortality rates, but also decrease the number of ICU stays (Mapp, Davis, Krowchuk, 2013).

Once the MEWS score is calculated, many times an RRT is warranted. Rapid response teams are used to bring expert clinicians to the bedside to decide the best course of treatment. According to Dobuzinsky (2017), the goal of the RRT is rapid intervention for the patient who could be deteriorating. Dobuzinsky explains that effective use of the MEWS and RRTs can decrease patient mortality (Dobuzinsky, 2017).

Protocols are in place to keep patients as safe as possible. However, barriers exist, which keep nurses from fully implementing protocols, as they should. A literature search was conducted to answer the questions, "For nurses working on medical-surgical units, what barriers exist that affect the initiation of a rapid response team on a patient with a change in status, who is clinically deteriorating, or whose MEWS score warrants the RRT", and "On the medical-surgical unit, what interventions can be implemented to stop the barriers from preventing nurses from calling RRTs?" When barriers prevent nurses from calling rapid response teams, safe care is not being provided. This is a significant problem as providing safe patient care should be the goal of healthcare facilities around the world.

The nursing profession is greatly impacted by this problem. Not only are nurses the ones that are forced to deal with these barriers day in and day out, but also their licenses are on the line for any mistakes made while not following the protocol.

The barriers revealed by researchers underscore the importance of intervention. Nurses and other health care providers need to receive successful education to help break down these barriers and to put patient safety at the forefront of the care provided.

It is important to take the next step and find the most effective way to break down barriers. As this knowledge gap continues to allow barriers to come in the way of nurses calling RRTs, patient safety is put at risk. Through the literature search, researchers and nurses suggested using education to close the knowledge gap. This DNP scholarly project will look into the effectiveness of education to close the gap.

Problem Statement

Salamonson et al (2006), Leach and Mayo (2013), and Roberts et al (2014) found in current nursing practice, barriers are being allowed to get in the way of nurses calling rapid response teams. This practice puts patient life and safety at risk. This is alarming, and intervention is needed to break down barriers and restore patient safety. Care that is provided to patients must be safe; therefore, it is suggested that an exploration of education effectiveness be carried out. There is currently little to no research on the effectiveness of education on the barriers that keep nurses from calling RRTs. Also, I have seen barriers prevent nurses from calling RRTs that results in negative outcomes. For these reasons, it is important to get started to make sure barriers are eliminated.

Project Aims/ Objectives

My purpose was to accomplish three main goals. First, the barriers that exist at the small midwestern hospital will be identified. The objective that serves this aim is, "By May of 2019, barriers that keep nurses from calling RRTs at the small, midwestern hospital will be identified through analysis of surveys."

The second goal was to provide education to assist nurses in breaking down barriers that prevent them from calling RRTs. The objective for this aim is, "By May of 2019, education will be provided to all medical surgical nurses involved in the project to help break down barriers to calling RRTs."

The third goal was to assess for effectiveness of education. This was evaluated through post education surveys. The objective that follows this aim is, "By May of 2019, all medical-surgical nurses will participate in a post-survey to assess the effectiveness of the education given."

Clinical Question

The first clinical question that will be answered is, "What barriers exist to calling an RRT at the small midwestern hospital?" This question was answered through surveys given to nurses on the medical-surgical units at the hospital. After surveys were analyzed, barriers were identified that affect the initiation of RRTs at this institution.

This project was aimed to answer the PICOT question, "For nurses working on a medical-surgical unit, does further education help to reduce the barriers nurses face when deciding to call an RRT?"

Congruence with Organizational Strategic Plan

According to the small midwestern hospital's mission statement, they strive to provide patients with excellent and safe care. To make sure excellent and safe care is provided, it is important to do everything one can to break down barriers to nurses calling RRTs. As this project was carried out, the hospital benefitted as barriers were broken down and nurses had restored confidence in their ability to call RRTs.

Synthesis of Evidence: Search Strategy

For the literature search, CINAHL, Google, and the Wiley Library were used. The terms RRTs, barriers, nursing, effectiveness, burdens, decisions, and outcomes were searched. All articles used were peer reviewed, research articles. Articles were also limited to the English language due to a language barrier of the searcher. From this search, 25 articles were found, 20 were reviewed and 11 were synthesized. Four of the articles were discarded due to many limitations of the studies. The other four were not applicable to the research topic. To determine credible sources were used, ten of the eleven articles used were from nursing journals and the other was published on the adult medical surgical certification webpage. One extra article was sited due to its use in explaining the importance and effectiveness of MEWS protocol and the use of RRTs.

Synthesis of Evidence

An in-depth synthesis of evidence was done after this literature search to identify similar and contrasting areas between these articles. Topics that emerged through the synthesis of evidence include; effectiveness of RRT, barriers present, and the need for further nursing implications.

Through the synthesis of evidence, one of the most glaring similarities between the articles is that all researchers have an opinion on the effectiveness of the RRT. For example, Astroth et al (2013), Braaten (2015), Leach, Jenkins, and Woith (2015), Leach and Mayo (2013), and Mayo, and O'Rourke (2010), all found RRTs to be effective in decreasing mortality rates for patient in the hospital. Leach and Mayo (2013) found through RRTs, hospital mortality rates can be reduced by up to 21.4%. On the other hand, Brown, Anderson, and Hill (2012) and Salamonson et al (2006) found there to be no change in mortality rates with the use of RRTs.

Another similarity found throughout the research is the barriers that prevent nurses from calling an RRT. Astroth et al (2013) and Leach and Mayo (2013), found that one of the most common barriers present was lack of communication. Bagshaw et al (2010), Brown, Anderson, and Hill (2012), Jenkins, Astroth, and Woith (2015), Leach, Mayo, and O'Rourke (2010), Roberts et al (2014), and Salamonson et al (2006), and all found the most common barrier that prevents nurses from activating an RRT to be fear of criticism. On the other hand, Shearer et al (2012) found the most prevalent barrier to be sociocultural norms. Lastly, Braaten (2015), found that lack of information kept nurses from activating the RRT.

The last common theme that emerged from the research was the need for further nursing implications. Although all researchers suggested further education to prevent barriers from keeping nurses from calling RRTs, the focus of the education varied. For example, Astroth et al (2013), Braaten (2015), Brown, Anderson, and Hill (2012), and Jenkins, Astroth, and Woith (2015), all suggested providing education that focuses on clearing up the protocol of activating an RRT. On the other hand, Leach and Mayo (2013), Salamonson et al (2006), and Shearer et al (2013), and suggest providing education that includes critical thinking strategies to help nurses become more confident. Lastly, Roberts et al (2014), suggests educating nurses on effective decision-making skills.

Theoretical Framework

This DNP scholarly project was adapted after King's Theory of Goal Attainment. This theory describes the relationship that allows patients and nurses to grow and attain goals. This relationship can be affected by roles, stress, space, and time (Petiprin, 2016).

Under Imogene King's Theory of Goal Attainment are three interacting systems. They include, personal, interpersonal, and social. Many factors, such as, perception, communication, stress, roles, authority, decision-making, and interactions can allow goals to not be achieved (Petiprin, 2016). In this theory, King stressed the importance of continual interaction between the three systems. If effective interactions take place, goals can be attained, which allows satisfaction to occur. This can help patients, nurses, and groups grow in their roles.

Because the interactions occur between the patient, nurse, and other coworkers, it is very important to promote effective communication to allow goals, such as providing safe patient care to be obtained. King outlines barriers to effective communication between the interacting systems, which can hinder goal success (Petiprin, 2016).

I believe that this theory mirrors my goals in this scholarly project. Imogene King believed it was important to keep nurses, patients, and groups on the same page to accomplish a goal. For this reason, I feel that this theory will mirror goals for my scholarly project. The theory of goal attainment also highlighted the focus of nursing being on the patient (Petiprin, 2016). Due to the fact that the focus is on the patient, it is important to make sure that nurses can provide safe care, thus barriers to calling RRTs must be eliminated. Third, this theory highlights the fact that nurses must be open for communication with their environment. This project is going to make sure communication barriers are not an issue and promote healthy communication in the workplace. Lastly, the theory of goal attainment promotes growth on the personal, societal, and interpersonal levels (Petiprin, 2016). My project is going to promote

identification of barriers that prevent this growth in nursing practice and help nurses to eliminate them, thus promoting growth.

By eliminating barriers with education, I can accomplish my goal of getting all nurses to practice by one standard. It is important to get all nurses on the same page regarding calling RRTs to make sure safe care is provided to patients.

Chapter II: Methodology

Methods

Needs Assessment. The effectiveness of providing education to nurses in order to break down the barriers that keep nurses from calling RRTs was evaluated to ensure safe care is always provided to patients. Whether education is the solution or not, steps were taken to attempt to break down these barriers.

This scholarly project was necessary and has made an impact on the nursing care provided to patients today. As the synthesis of evidence outlines, barriers keep nurses from calling RRTs on patients. The goal of nursing care is to provide safe care to patients; however, safe care is not provided if barriers keep nurses from calling RRTs. If this project is successful, education will be effective in eliminating these barriers. This will allow nurses to more confidently call RRTs, thus providing safer care to patients.

A SWOT analysis was completed to assess for strengths, weaknesses, opportunities, and threats of the facility being used. Strengths (S) of this facility include; RRTs being used to identify changes in patient status, administrative support regarding this project, and access to many modes of education. Weaknesses (W) of this facility include the fact that it is only an 89-bed hospital. Many opportunities (O) came from this facility such as; nurses being more confident in their ability to call an RRT, better communication among staff members, and clearer policies. Unfortunately, threats (T) can also come forth with this setting. Examples of potential threats include, education not working due to the fact that there will only be 47 nurses surveyed. Through this analysis, I do believe that this scholarly project was needed, and this facility was an excellent facility to carry the project out.

Project Design. This scholarly project was a pilot project that used surveys to gather nurses' perceptions and knowledge of RRTs and whether or not barriers exist. An additional survey was used to assess nurses' perceptions and knowledge after education was provided to analyze whether or not the education was helpful.

Setting. This scholarly project took place at a small, 89-bed, midwestern hospital. This setting was chosen for convenience and willingness of director of nursing and managers to support and promote the scholarly project.

Population/Sample. Nurses working on the medical surgical floors were asked to participate in the project. Inclusion criteria included nurses that have five years of medical-surgical experience or less. There are 47 nurses employed at this facility that meet this criterion. Exclusion criteria include having more than five years of medical-surgical experience. The nurse participation in the surveys was voluntary, however, the education was strongly encouraged by managers, the director of nursing, and the education department through multiples modes. This population was very similar to those described in the literature.

Collection Tool. The Rapid Response Team Facilitators and Barriers Survey (RRT-FBS) (Appendix A) was used to assess nurses' opinions and knowledge of an RRT**.** This survey contains 32 questions which participants answered using a five-point Likert scale. This survey was formulated and used by Astroth, Jenkins, and Woith (2015). According to Astroth, Jenkins, and Woith (2015), "this tool rated as satisfactory by a Cronbach's alpha coefficient of .84." Mean statistics were calculated allowing changes in answers to be identified. This allowed researchers to identify common answers from those who participated in the survey. I have received permission to use this

tool and plan on analyzing data in the same manner (Appendix B). By using this tool in my scholarly project, further validation of the instrument will be attained. Surveys were administered with a consent form (Appendix C)

The same survey, The Rapid Response Team Facilitators and Barriers Survey (RRT-FBS) was used for the post-survey. This allowed me to identify changes in participants' answers from before to after the education.

Project plan. This scholarly project began by informing nurses of the upcoming events. Advertisements went sent through email, posters around the hospital, and pieces of information in each morning's huddle on both medical-surgical units. These means of advertisement aimed to get nurses interested and excited about the project in hopes for good participation. A survey was given to all nurses that have five or less years of medical-surgical experience. Surveys were distributed in envelopes to each nurse that qualified. Participants were given one week to return the survey. To return the survey, nurses were asked to place them in a box in the break room. A name was not required on the survey to maintain confidentiality. The next step of the project included providing education to all medical-surgical nurses at the facility. Education was provided through many different means (Appendix D). For example, education was communicated through the morning huddle, badge cards (Appendix E) were handed out, RRT simulations were held (Appendix F), and a poster presentation was available. Through these various methods, I educated nurses on RRTs and on how to make RRTs more effective, therefore, increasing patient safety. Two weeks after the education was completed, I provided the nurses with post-education surveys. The second survey was

administered in the same manner as the first surveys. This data was analyzed to examine effectiveness of the education.

Data analysis. Data received from both surveys was collected and analyzed. By analyzing information received, I viewed percentages of how nurses answered each question, which will made comparison simple. Graphs and tables were used to make results easier to view for readers.

Institutional Review Board. This project was submitted to and approved by Bradley University's Committee on the Use of Human Subjects in Research.

Ethical Issues. Ethics have been upheld during this study by keeping nurses' perceptions confidential by not requiring identification with returned surveys. Participation is also voluntary, so nurses have not felt forced to complete the survey. Patient data has not been used in this scholarly project, so HIPPA is not a concern. Data is reported in aggregate.

Chapter III: Organization Assessment and Cost Effectiveness

Organizational Assessment

This small, midwestern hospital has greatly benefitted through this DNP scholarly project. The director of nursing and managers of the floors were made aware of the project and helped in making a change to provide safer care to patients.

Through the project, collaboration with managers and other employees of the hospital was important to facilitate progress. Also, clear and concise communication was needed as the project progresses to keep everyone on the same page. Barriers arose that inhibited communication such as differences in opinion. To make sure communication was effective, I made sure to be clear in all communication and welcomed all questions or comments throughout the project.

On the other hand, barriers presented themselves throughout the journey. Barriers such as low nurse participation and unclear communication had the potential to hinder the project and make progress difficult, and therefore, were avoided. To avoid low nursing participation, I worked to provide advertisements for the surveys and education to any nurses with fewer than three years of medical-surgical experience. I made fliers, sent emails, and spoke personally to the nurses to engage their participation.

Collaboration was needed through this project. The director of nursing of the hospital was consulted and aware of the project. The collaboration helped as further assistance was needed throughout the project. Managers of the units were consulted and used as resources throughout the project. Collaboration with the education department was also used to provide the education to the nurses.

Through this research project, I have decreased the number of barriers that nurses have to overcome before calling an RRT. Collaboration during this project was important to make sure all barriers were broken down.

Cost Effectiveness

This project used little monetary resources. Paper and ink for surveys cost around 30 dollars. The education materials that were used, such as; posters, and Huddle notes, and badge cards cost around 70 dollars. This made the total project cost 100 dollars that was an out of pocket expense.

Chapter IV: Results

Analysis of Implementation Process

The implementation process went smoothly overall. The project was carried out primarily by myself. The surveys were distributed as planned and the nurses were given one week to return them. Of the 47 that were distributed, 33 pre-education surveys were returned. The education was then provided over a period of 3 months through posters, RRT simulations, and badge cards. The poster was available in the break rooms and included information such as; reasons to call an RRT, a nurse's role in an RRT, what to include when calling the doctor, and the hospital's protocol regarding RRTs. During the RRT simulations, nurses were able to practice identifying situations when an RRT needed to be called and were able to practice carrying them out. Volunteers assisted in the RRT simulations by acting as patients. The badge cards included similar information as the poster, however are smaller, more accessible versions.

Once all components of the education were completed, the post-surveys were then distributed. There were fewer participants in the post-education survey than in the pre-education survey. Surveys were distributed to the same group of 47 nurses as the pre-education survey. Of the 47 surveys distributed, only 24 participants returned the survey. One reason for the lower return on the follow-up survey could be that nurses recognized it as being the same as the initial survey. Some did not understand the rationale for completing it a second time and therefore, did not return it.

One change that had to be made in the project was to include the use of RRT simulations during the education period. During the project it became apparent that the nurses would benefit more from the educational phase of the project if I added RRT

simulations. This was not in the original plan submitted to CUSHR but I recognized it to be an essential part of the education. I felt that the simulations were necessary to allow nurses to practice running an RRT before one actually were to happen. This change was submitted as a modification of the project to CUSHR.

Analysis of Project Outcome Data

The data collected from the surveys were nurses perceptions based on a 4-point Likert scale. The pre-survey was administered, and nurses were given one week to return surveys.

The education took place over a period of three months. The poster was in the breakrooms of the units involved throughout this time. Once a month, I scheduled the simulations to occur. These simulations were announced through email and all nurses were invited to attend. Two different RRT simulation scenarios were implemented each month, demonstrating what nurses should do in an RRT. This was a valuable learning tool that allowed the nurses to play through scenarios before they had a real RRT to call.

The post-education surveys were administered about 2 weeks after the education was complete and about four months after the first survey. The pre- and post- surveys were the same surveys, making changes in perceptions noticeable after the education was provided.

Chapter V: Discussion

Results

Through analysis of the pre-education and post-education surveys, I had found that most of the results did not change. Most of the questions that did not change were regarding the effectiveness of RRTs and other staff involvement in RRTs. After analyzing further, I realized that these questions were not related to the education provided.

On the other hand, large differences in answers were found in four of the 32 questions. The first question that had a significant difference in answers was question 22. Prior to education, 75.8% (25/33) of nurses answered (Strongly agree or agree) they felt they would know when they should call an RRT. After education, 83.3% (20/24) of nurses responded in this manner. The second question, nurses understand their role in an RRT also changed. Prior to education, 72.7% (24/33) of nurses answered agree or strongly agree. After education, 87.5% (21/24) of nurses responded, "agree or strongly agree." The third question, nurses know what to do during an RRT call, also changed significantly. Prior to education, 69.7% (23/33) of nurses answered agree or strongly agree. After the education was provided, 83.2% (20/24) of nurses answered this way. The fourth question is that nurses understand the hospital RRT policy. Prior to education, 78.8 % (26/33) of nurses answered strongly agree or agree. After education was provided, 87.5 % (21/24) of nurses answered this way. These changes in answers and perceptions demonstrate an increase in knowledge, confidence, and positive perceptions regarding the RRT.

Table 1

Comparison of Pre-Education Responses to Post-Education Responses

Question Number	Pre-Education Response (SA/A)	Post-Education Response (SA/A)
22	25/33 or 75.8%	20/24 or 83.3%
23	24/33 or 72.7%	21/24 or 87.5%
24	22/33 or 69.7%	20/24 or 83.2%
25	26/33 or 78.8%	21/24 or 87.5%

Results Linked to Project Objectives

All three objectives were met through the project. The first objective, to identify barriers that prevent nurses from calling RRTs, was met as evidenced by nurses revealing their perceptions in the pre-education survey. To identify barriers, surveys were administered, and results were analyzed. In the case of the hospital involved, lack of confidence and knowledge prevented the nurses from initiating an RRT the most.

To meet the second objective, was to eliminate barriers by providing education. The education was provided through posters, RRT simulations, and badge cards.

Lastly, the third objective, assess the effectiveness of the education. The effectiveness of the education was evident from being able to compare statistics from the pre-education and post-education surveys.

Limitations or Deviations from Project Plan

There were limitations attached to this project. The sample was limited to only one hospital. By allowing involvement of nurses from multiple hospitals, results may vary.

Second, the sample size could be considered a limitation. There were 33 nurses that returned the first survey, and 24 nurses that returned the second survey. If a larger sample size was obtained, more reliable results would have been found.

Deviation from the original plan also occurred during the implementation of the project. Once the survey was completed, I found in the results that a common theme was that nurses were not comfortable in their role and when to call an RRT. This was evident by examining the results. Twenty-four percent of nurses said they "disagreed or strongly disagreed" that nurses knew when to call an RRT. Twenty-seven percent of nurses said they "disagree or strongly disagree" that nurses knew their role during an RRT. Information from the pre-education survey was useful in making the decision to add RRT simulations to the education phase of the project. The modification was submitted to and approved by CUHSR.

Implications and Impact to Practice

Based on the findings of this project, education can be successful in reducing the barriers that nurses face when deciding whether or not to call an RRT. As found in my project, with the education the nurses felt more confident in themselves, more understanding of when to call, more understanding of their role, and more comfortable of the process as a whole. Prevalent barriers may not be the same at each hospital. This possible difference makes it important to look into potential barriers and to provide education to help eliminate these barriers.

Chapter VI: Conclusion

Value of the Project

Through this DNP scholarly project, the importance of providing education regarding RRTs has been highlighted. Now that researchers know that education helps eliminate barriers such as low nursing confidence or knowledge, education should be provided regularly to make nurses more comfortable with RRTs at each facility. This scholarly project has provided means for health care systems to begin eliminating barriers that nurses face when deciding whether or not to call a Rapid Response Team. While providing education such as the education that was provided in this project, patient safety can be maintained.

DNP Essentials

All of the eight DNP essentials have been met through the implementation of this DNP scholarly project. Two essentials mirror my DNP scholarly project the most. First, DNP essential II, Organizational and Systems Leadership for Quality Improvement and Systems Thinking, was demonstrated through the implementation of this project. This essential describes the use of leadership to improve the quality and systems throughout health care. To increase the quality of care is one of the goals of this project. By eliminating barriers that prevent nurses from calling RRTs, the quality of care is improved. This will allow patient safety to increase and for care to be more effective.

The second DNP essential that more specifically applies to this project was VI, Interprofessional Collaboration for Improving Patient and Population Health Outcomes. This essential states that through collaboration, better care is provided to patients. This collaboration results in better outcomes for patient. Because the RRT is a group of

various professionals that collaborate to stabilize a patient and get them the care they need, I feel that this DNP essential was perfectly reflected. One of the main goals of this project is to increase patient safety and therefore, increase health outcomes. This essential aspect of DNP education was illustrated in the project.

Plan for Dissemination

Dissemination of the project will include a synchronous virtual presentation of this DNP scholarly project and will allow for a question and answer session. This dissemination will allow sharing of findings with colleagues in the nursing program. The next step is submission of the project to the DNP Repository.

Attainment of Personal and Professional Goals

Through this DNP scholarly project, I have proven to myself that I can do anything that I set my mind to. In the very beginning of this project, I thought there was no way I was going to be able to accomplish all that I have during this project. Through helping other nurses become more confident in their use of an RRT, I have strengthened my leadership skills, communication, and skill level. This project has shaped my professional goals, as I now know what I am capable of. I have been pushed to so many limits, forced to go outside of my comfort zone, and have become a better person and nurse. Because of this project, I feel that my future has been opened up to many possibilities.

Appendix A

The Rapid Response Team Facilitators and Barriers Survey (RRT-FBS) include 32 Likert-scale questions. Participants answered each question on a scale of strongly disagree to strongly agree. The survey is listed below.

Directions: Circle the number you believe best answers the question.

KEY: SA- Strongly agree, A- Agree, D- Disagree, SD- Strongly Disagree

1. Nurses believe that RRT brings help more quickly.
   SA. A. D. SD.

2. Nurses believe that RRT decrease code blues.
   SA. A. D. SD.

3. Nurses believe that RRT facilitates transferring seriously ill patients to a higher level of care when needed.
   SA. A. D. SD.

4. Nurses see patients benefit from RRT.
   SA. A. D. SD.

5. My unit leaders support nurses calling RRT.
   SA. A. D. SD.

6. Other nurses on my unit encourage calling the RRT.
   SA. A. D. SD.

7. Other nurses on my unit help out when a nurse is tied up with an RRT call.
   SA. A. D. SD.

8. Nurses fear that calling RRT indicates an inability to care for one's patients.
   SA. A. D. SD.

9. Nurses with fewer years of experience are more likely to call RRT.
   SA. A. D. SD.

10. Nurses with more years of experience are more likely to call RRT.
    SA. A. D. SD.

11. Nurses believe that experienced nurses do not need the RRT.
    SA. A. D. SD.

12. Nurses believe that members of the RRT have more expertise at managing seriously ill patients than unit nurses.
    SA. A. D. SD.

13. Nurses believe that members of the RRT are better at assessing failing patients than unit nurses.
    SA. A. D. SD.

14. Nurses believe that member of the RRT are better at diagnosing the patient's problem than unit nurses.
    SA. A. D. SD.

15. Nurses believe that members of the RRT are better at explaining the patient's condition to the physician that unit nurses.
    SA. A. D. SD.

16. Nurses know members of the RRT will treat nurses with respect.
    SA. A. D. SD.

17. Nurses know the members of the RRT will be supportive to the unit nurses who call.
    SA. A. D. SD.

18. Nurses expect the ICU nurses to complain during the RRT call.
    SA. A. D. SD.

19. Nurses expect the ICU nurses on the RRT to be condescending.
    SA. A. D. SD.

20. Nurses believe the ICU nurses on the RRT will think that call was unnecessary.
    SA. A. D. SD.

21. Nurses believe the ICU nurses will expect too much of the unit nurses during the RRT call.
    SA. A. D. SD.

22. Nurse know when they should call an RRT.
    SA. A. D. SD.

23. Nurses understand their role in an RRT.
    SA. A. D. SD.

24. Nurses know what to do during an RRT call.

SA. A. D. SD.

25. Nurses understand the hospital RRT policy.
    SA. A. D. SD.

26. Nurses know the RRT has protocols to manage failing patients.
    SA. A. D. SD.

27. Nurses receive regular RRT continuing education.
    SA. A. D. SD.

28. Nurses receive inadequate continuing education on RRT.
    SA. A. D. SD.

29. Nurses believe that the patient's physician should be called before calling an RRT.
    SA. A. D. SD.

30. Nurses believe that the patients physician expects to be consulted before calling an RRT.
    SA. A. D. SD.

31. Nurses believe calling RRT increases their workload.
    SA. A. D. SD.

32. Nurses believe ICU patients will suffer if the ICU nurse leaves to response to an RRT call.
    SA. A. D. SD.

Appendix B

Permission was granted to use The Rapid Response Team Facilitators and Barriers Survey (RRT-FBS) from Dr. Astroth, Dr. Jenkins, and Dr. Woith.

Taelor Coughlin <tcoughlin@mail.bradley.edu>

to sjenkin, wlwoith, Peggy, kmastro

Dear Dr. Jenkins,

(Cc- Dr. Astroth, Dr. Woith, and Dr. Flannigan)

Hello. My name is Taelor Stuedemann and I am a graduate student at Bradley University in the DNP-FNP program. We are currently working on our scholarly DNP projects. I take a special interest in the barriers that prevent nurses from calling rapid response teams, as this is something that I see quite often in the hospital where I work. For my project, I am focusing on the effect further education can have on the barriers that prevent nurses from initiating a RRT.

While performing a literature search, I came across your article, Non-Critical-Care Nurses' Perceptions of Facilitators and Barriers to Rapid Response Team Activation. I would like to ask for your permission to use the instrument you used, The Rapid Response Team Facilitators and Barriers Survey. I feel that this instrument will help me to gather nurses' opinions regarding RRTs on my unit. I will then base the education off data collected from the survey. I look forward to talking with you.

Sincerely,
Taelor Stuedemann

Astroth, Kim <kmastro@ilstu.edu>

to Sheryl, Wendy, me, Peggy

It is fine with me.

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Illinois State University – Mennonite College of Nursing
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Office: 309.438.2367 | Cell: 309.287.5550 |Fax: 309.438.2620 | Email: kmastro@ilstu.edu

to me, Wendy, Peggy, Kim

Hi Taylor,

Dr.s Astroth, Woith and I are happy to let you use our RRT instrument. Best wishes for your project!

Dr. Sheryl Jenkins

Sent from my LG Phoenix 3, an AT&T 4G LTE smartphone

Appendix C

The Effect of Education on the Barriers Nurses Face When Calling Rapid Response Teams (RRTs) at a Small Midwestern Hospital

You are invited to participate in a research study. The purpose of this study is to assess for barriers that prevent nurses from calling RRTs, provide education to assist nurses in eliminating these barriers, and analyze how effective the education is. This study consists of a pre-education survey and a post-education survey to assess nurses' perceptions of the RRT. Your participation in this study will take approximately 10 minutes per survey. This will be an anonymous survey and there is not a link between your name and results. Taking part in this study is voluntary. You may choose not to take part or may leave the study at any time. You may also choose to not answer specific questions throughout the survey. There is not compensation for participation in this scholarly project.

Questions about this study may be directed to the research advisor in charge of this study: Dr. Peggy Flannigan at (309) 677-2566 or at pnflan@fsmail.bradley.edu**.** If you have general questions about being a research participant, you may contact the CUHSR office at (309) 677-3877.

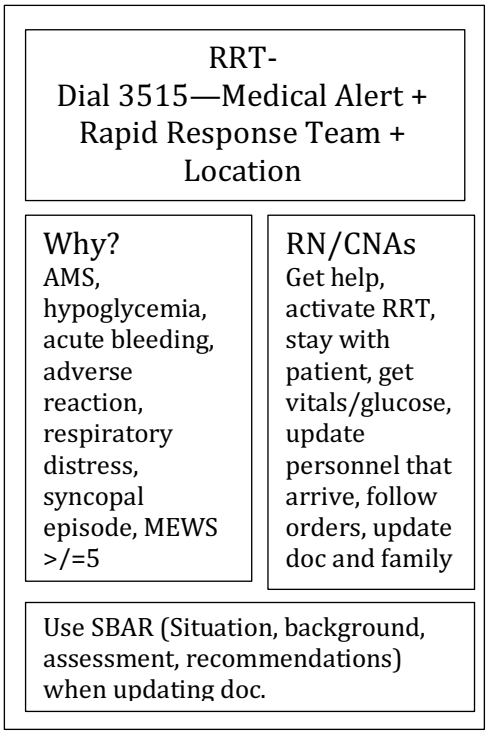
You are voluntarily making a decision to participate in this study. Your submission of the survey means that you have read and understood the information presented and have decided to participate. Your submission also means that all of your questions have been answered to your satisfaction. If you think of any additional questions, you should contact the researcher(s).

Appendix D

Education will be delivered through multiple modes, each with difference information. I have created a table to detail what information will be given through each mode.

Huddle Notes	- Reminds nurses of deadlines, why RRTs are important for them, quick information on communication, protocol
Badge Card (2)	- Badge card will be available for nurses to refer to for information in the future. Information on the card includes; why to call an RRT, what to do, and how to approach calling the doctor.
Poster Presentations	- Presentation by myself that went over effective communication, RRT protocol, why to call RRT, what to do during a RRT, and how to call the doctor.
Simulations	- These occurred on three different occasions at different times during the day. They provided the nurses with an opportunity to practice identifying the need for a RRT and carrying it out.

Appendix E


RRT-
Dial 3515—Medical Alert + Rapid Response Team + Location
Why?
AMS, hypoglycemia, acute bleeding, adverse reaction, respiratory distress, syncopal episode, MEWS >/=5
RN/CNAs
Get help, activate RRT, stay with patient, get vitals/glucose, update personnel that arrive, follow orders, update doc and family
Use SBAR (Situation, background, assessment, recommendations) when updating doc.

Appendix F

CASE #1
Mrs. Jones is a 38-year-old female who had a total hysterectomy (EBL 350) yesterday by Dr. Smith. This patient has NKDA.
Assessment:
Lungs- Clear to auscultation
Alert and oriented x 3
Bowel sounds- active
Patient is passing gas
Medical History- Dysmenorrhea

Notes- Passing large clots and large amounts of blood on pad
Urine output 120 ml in the last 8 hours per Foley catheter
Pt reports feeling dizzy, lightheaded, and nauseated.
VS- 86/38, 106 beats per minute, 98.0, 92% RA, 24 respirations

CASE #2
Mr. Jones is a 65-year-old who had a total left knee replacement (EBL 50) two days ago by Dr. Smith. This patient has NKDA
Assessment:
Lungs- diminished
Alert and oriented x 3
Bowel sounds- active
Urine output 600 in last 8 hours
Patient is passing gas
Medical History- arthritis, hypertension, high cholesterol, PE, COPD, DM

Notes- Pt reports feeling short of breath, especially with activity
VS- 150/86, 110 bpm at rest and 130-140 with activity, 90% RA, 24 respirations

Case #3
Mrs. Jones is a 96-year-old that fell on the ice when leaving a doctor's office today. She presented to the ER where they found she has a left hip fracture. The patient is allergic to penicillin. The nurse reporting off states that the patient was just given 100 mcg of fentanyl for pain 5 minutes ago.

Medical History- hypertension, high cholesterol, PE, DVT, pneumonia, arthritis

Notes- Pt is difficult to arouse, lethargic, obtunded.
VS- 76/38, 82 beats, 6 respirations, 98.0, 86% RA

Case #4
Mr. Jones is a 56-year-old male that came in with hyperglycemia. The patient's blood sugar in the ER was 650. The patient is a diabetic (type 2). The patient has been started on new insulin—both Humalog and lantus. The patient reports that he has never been on insulin before and has just used oral medications. A1C is 8.6. NKDA
VS- 136/86, 86 beats per minute, 18, 98.0, 98% RA
Medical History- Diabetes- Type 2, hypertension, high cholesterol, cellulitis

Notes- Pt is non-responsive.
Pt does have a pulse.

Case #5
Mrs. Jones is an 80-year-old that came in with hypertensive urgency. This patient's blood pressure in the ER was 198/116. Pt was given IV vasotec in ER. Pt is allergic to sulfas.
Assessment-
Patient is alert and oriented x 3.
Lungs clear
Bowel sounds active
Pt did report headache (6/10) and was given 650 of PO Tylenol.
Medical History- hypertension, high cholesterol, afib, arthritis

Notes- Pt is confused, disoriented, and has right facial droop.
VS- 200/98, 112, 90 RA, 98.0, 20 respirations

Case #6
Mr. Jones is a 52-year-old patient that reported to the ER with worsening pain, redness, and swelling to his right lower extremity. Pt reports that he hit his foot on his bedrail 3 week ago and it has been getting worse ever since. The patient states that the pain is 9/10. NKDA
Assessment-

The patient is alert and oriented x3.
Lungs clear
Bowel sounds active
RLE reddened, swollen, tender
Patient very tired.

Medical History- Diabetes, hypertension, obesity

Notes- Disoriented.
VS- 60/28, 112, 103.0, 22, 90% RA

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