

USING TEAMSTEPPS® TO IMPROVE INTERPROFESSIONAL COLLABORATION IN
THE OUTPATIENT PSYCHIATRIC CARE SETTING

A Scholarly Project

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

Amy Michele Wadsworth

Liberty University

Lynchburg, VA

September 2019

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Scholarly Project Chair Approval:



4 October 2019



Date

ABSTRACT

The AACN has identified in their QSEN competencies that collaborative teamwork and patient-centered care are two qualities that skilled nurses must exhibit to provide high-quality care. The IOM has made a call to action that healthcare professionals must exhibit patient-centered care in interdisciplinary team settings to achieve high-quality care. At a community resource program in the mid-Atlantic region, a recent qualitative job satisfaction survey revealed that employees identified issues with interprofessional collaboration and a lack of teamwork at the facility. Using the Iowa Model, this EBP project involves the use of a cohort study with a pretest-posttest design, where the TeamSTEPPS® evidence-based teamwork methodologies were implemented. At pre-intervention and post-intervention, a sample of outpatient psychiatry professionals completed the T-TAQ and JSS, to assess their attitudes and knowledge about teamwork concepts, as well as their job satisfaction. The Office Champion provided three weekly trainings on TeamSTEPPS® methodologies and strategies were implemented into the office setting. Results demonstrated an increase in mean total score for the T-TAQ and increases in scores related to team structure, mutual support, and situation monitoring, indicating that attendance of the training is key for improvement. Results of the JSS were inconsistent, showing an increase in satisfaction with pay, promotion, contingent rewards, and coworkers. An increase in mean total score was noted. However, results were incongruent with attendance. Mean scores decreased as attendance increased. TeamSTEPPS® methodologies were adopted by the community resource program as an outcome.

Keywords: TeamSTEPPS®, interprofessional, team, communication, problems

Dedication

The completion of this Scholarly Project is dedicated to God, my parents, and my best furry friend. Thank you, God, for always being there for me every second of every day throughout this project. You always knew just what I needed to make it through. To my Dad, who is watching proudly from above and joining in heavenly celebration with our Lord, as I complete this project, thank you for making me the person that I am today! And, to my Mom... you gave me a shoulder to cry on any time I needed it, inspired me to keep going, and took on a lot of my responsibilities when I was perpetually short on time! I am filled with gratitude and could never repay you for all that you do. I love you! And, a big thank you to my biggest supporter and best friend with fur, Daphne, for your endless love and making me laugh every single day.

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List of Abbreviations

American Association of Colleges of Nursing (AACN)

TeamSTEPPS® Teamwork Attitudes Questionnaire (T-TAQ)

Institute of Medicine (IOM)

TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety)

Agency for Healthcare Research and Quality (AHRQ)

Robert Wood Johnson Foundation (RWJF)

Quality and Safety Education in Nursing (QSEN)

Knowledge, Skills, and Attitudes (KSAs)

Department of Defense (DoD)

Advanced Practice Registered Nurses (APRNs)

Evidence-Based Practice (EBP)

Job Satisfaction Survey (JSS)

Licensed Clinical Social Worker (LCSW)

Chronic Kidney Disease (CKD)

Statistical Package for the Social Sciences (SPSS)

Assertive statements using “Concerned – Uncomfortable – Safety Issue” Words (CUS Words)

SECTION ONE: INTRODUCTION

Effective interprofessional collaboration and teamwork are the cornerstones of healthcare in the modern world. The outpatient psychiatric setting is a clinical area that is rich in interprofessional collaboration. Due to differences in educational backgrounds, interdisciplinary team members can have trouble with effective communication.

The American Association of Colleges of Nursing (AACN) has identified that effective collaborative teamwork and patient-centered care are two qualities that skilled nurses must exhibit to provide safe, efficient, high quality care. In agreement, the Institute of Medicine has made a call to action that healthcare professionals must exhibit patient-centered care in interdisciplinary team settings to achieve a higher level of quality of care. Due to these established standards, the outpatient psychiatric care setting has an opportunity for improvement.

Learning about and implementing strategies to overcome barriers to communication is a crucial step to successfully meeting the proposed standards. TeamSTEPPS® is an evidence-based teamwork tool that has been proven by research to be effective in improving interprofessional collaboration and patient outcomes in multiple healthcare settings. If TeamSTEPPS® for Office-Based Care is found to be effective in the outpatient psychiatric care setting, it can help to improve collaboration in a setting that contains a largely interprofessional team, thereby improving patient safety and outcomes.

The following text will examine an evidence-based practice project that will occur at a community resource program in the mid-Atlantic region. Outcomes that will be measured include a pre- and post-intervention measurement of the Teamwork Attitudes Questionnaire (T-TAQ), as well as the Job Satisfaction Survey (JSS), which will provide further information on

whether the TeamSTEPPS® intervention is effective at improving knowledge and attitudes towards teamwork, as well as job satisfaction. The background involving interprofessional collaboration, a statement of the problem, and the purpose of the project will be reviewed. Finally, a clinical research question will be formulated after examining the history and background.

Background

In contemporary nursing practice, nurses are required to work in strong interprofessional environments. One clinical area where this is evident is in the outpatient behavioral health setting. At a community resource program in the mid-Atlantic region of the United States, nurses must collaborate daily with Licensed Therapists, Counselors, Psychiatrists, Psychologists, other healthcare providers, such as Physician Assistants, Advanced Practice Nurses, and many different types of clerical support staff. Although such an environment contains many beneficial services for the client with mental health disorders, interdisciplinary professionals are called upon to communicate effectively with one another, but their education lies within many different professional backgrounds. The Joint Commission reported that ineffective communication was one of the top three causes of sentinel events in healthcare from 2010 to 2013 (Agency for Healthcare Research and Quality [AHRQ], 2018). It is crucial for interprofessional team members to learn how to collaborate using a common language and to establish a team structure that facilitates open communication and mutual respect. The ability to have meaningful conversations, respectful relationships, and a work culture that promotes interprofessional learning, are critical strategies that must be present to provide high-quality care (Provost, Lanham, Leykum, McDaniel, & Pugh, 2015). Without this approach, quality of care can be compromised, leading to deficits in patient safety.

The Robert Wood Johnson Foundation (RWJF) has made significant strides with ensuring that nurses are provided with the education and tools that are needed to provide safe, efficient, high quality, and patient-centered care (AACN, 2012). Phase I of this mission began with the Quality and Safety Education in Nursing (QSEN) project, led by Dr. Linda Cronenwett, identifying the knowledge, skills, and attitudes (KSAs) that are needed by nurses to function effectively in modern-day nursing (AACN, 2012). Phase II of the mission involved the development of graduate-level safety and KSA competencies that every nurse must possess, including entry-level nurses, spanning throughout the profession to advanced practice registered nurses (APRNs) (AACN, 2012). In QSEN Phase III, RWJF partnered with the AACN to provide nursing faculty members with the ability to mentor nursing students, as well as colleagues, in providing evidence-based education that will assist them with developing the established six QSEN competencies (AACN, 2012). These competencies have transformed nursing education, as well as the entire profession.

One of the QSEN competencies that have been identified involves collaborative teamwork. This competency is defined as the nurse's ability to work effectively on both nursing and interprofessional teams, providing open communication, establishing mutual appreciation, and sharing in important decision-making processes to advance the quality of patient-centered care (AACN, 2012). The collaborative teamwork competency requires nurses to understand and value the individual role of each discipline in healthcare, as well as to analyze ways that roles may overlap, leading to the development of strategies that can foster improved collaboration (AACN, 2012). Sustained partnerships in healthcare and recognizing diversity are qualities that are crucial for success (AACN, 2012). The collaborative teamwork competency calls for nurses to have knowledge about different communication styles, paying close attention to methods of

providing good handoff communication to interprofessional team members (AACN, 2012). Recognizing that leadership has a large effect on patient safety and team collaboration, identifying potential barriers that could cause a breakdown in communication, and identifying strategies to overcome these barriers, are all KSA competencies that must be exhibited by every skilled nursing professional (AACN, 2012). The interprofessional team must have a strong collaborative relationship to support quality healthcare.

Another QSEN competency that is necessary in providing safe, high quality care is the concept of patient-centered care. This competency is defined as the understanding that the patient has control of his or her health, and he or she is viewed as an active, collaborative partner in providing coordinated care that focuses on his or her core values and preferences (AACN, 2012). First and foremost, the skilled nursing professional must be able to identify potential barriers to performing patient-centered care within a system (AACN, 2012). This involves analyzing care in the context of providing quality care coordination and care transitions with interprofessional team members (AACN, 2012). To achieve this competency, nurses must be able to work in a collaborative effort with professionals from other disciplines to effectively plan and evaluate plans of care, while maintaining the individual patient as the leader in his or her care choices.

In agreement that these competencies lead to safe, high quality healthcare practices is the IOM. The IOM developed an analytic framework to assess the quality of healthcare provided by organizations (AHRQ, 2018). They identified six domains for healthcare quality that have guided initiatives for facilities to raise the level of care provided (AHRQ, 2018). One of the aims identified is patient-centered care (AHRQ, 2018). Similarly, the QSEN competency definition, the IOM identifies this quality as providing patient-guided healthcare, ensuring that

patient values and preferences are taken into consideration when coordinating care (AHRQ, 2018). Another domain of healthcare quality is efficiency (AHRQ, 2018). When healthcare is efficient, waste is avoided. This not only includes waste of supplies and equipment; this includes waste of ideas and energy, as well (AHRQ, 2018). This concept directly supports the need for effective teamwork and collaboration, to directly avoid waste. Developing the domains of quality care offers a standardized system of measurement that assists organizations with determining if their quality of care is comparable and competitive with similar organizations.

Organizations must take steps to ensure that teamwork, interprofessional collaboration, and patient-centered care are encouraged. TeamSTEPPS® is an evidence-based teamwork system that was developed by the Department of Defense's (DoD's) Safety Program and the AHRQ to improve communication and interprofessional collaboration related to patient safety (AHRQ, 2014). It contains a resource of ready-to-use educational modules made available to the public through the AHRQ (2019). It contains scientific evidence from the last twenty years of research on effective teamwork (AHRQ, 2019). TeamSTEPPS® helps to develop highly effective interprofessional teams by clarifying roles and responsibilities, resolving conflicts, improving communication by creating a standard language for which all disciplines should engage, and removing barriers that may be preventing optimal clinical care (AHRQ, 2019). TeamSTEPPS® implementation involves three phases, including an assessment for organizational readiness, training for trainers and interprofessional team members, and implementation leading to sustainment (AHRQ, 2019). TeamSTEPPS® contains educational modules in text and PowerPoint presentation formats, a pocket guide that outlines key concepts of the course, video vignettes to provide an audiovisual illustration of concepts, and workshop materials that include a DVD and CD (AHRQ, 2019). TeamSTEPPS® contains adapted

versions of the system to accommodate different care environments. TeamSTEPPS® for Office-Based Care adapts the core concepts of the system and applies it to the medical office environment (AHRQ, 2019). Regardless of the environment, it is crucial for all healthcare professionals to focus on teamwork and collaboration.

Although TeamSTEPPS® can be facilitated by clinical or nonclinical professionals, it is evident that nursing professionals must take a leadership role in implementing this teamwork system. In the IOM report entitled *Future of Nursing*, it was identified that nurses will be the future leaders in healthcare administration, practice, research, and education (AACN, 2012). Due to increased access to healthcare and healthcare reform, the need for APRNs with terminal degrees will be in high demand (AACN, 2012). It is crucial for nurses to lead change by example and to encourage the importance of providing high quality care and an ongoing measurement of outcomes (AACN, 2012). By becoming active facilitators of the evidence-based teamwork system, TeamSTEPPS®, nurses can advance the profession by demonstrating their skills in leadership.

Problem Statement

Two of the primary QSEN competencies identified by AACN (2012) are that of collaborative teamwork and patient-centered care. These competencies, along with the remaining four, have been identified as vital to function effectively in interprofessional care environments. The IOM agrees that patient-centered care is an important healthcare aim that is a prominent characteristic of quality healthcare organizations.

The healthcare team in outpatient psychiatry shows an opportunity for improvement due to the strong interprofessional nature of this unique care setting. Interprofessional staff members

are required to work effectively on an interdisciplinary team, show mutual respect for one another's professions, and effectively share in the decision-making process. Teamwork and collaboration are critical components of high-quality patient-centered care (AACN, 2012). In such a strong interprofessional care environment, there are potential barriers to communication which can lead to ineffective teamwork and collaboration (AACN, 2012). It is the responsibility of the skilled nurse to provide leadership in identifying strategies to overcome these barriers. By implementing these methodologies, the nurse leader will fulfill not only the KSA competencies established by the AACN, but will fulfill the aims established by the IOM that have been identified as central to high-quality patient-centered care. In addition, the outpatient psychiatric care setting is an area where quality care coordination and transitions must be seamless to achieve a higher level of efficiency and quality in patient care. The interprofessional team would benefit from an intervention that will advance the concept of patient-centered care, ensuring that quality mental healthcare is provided to clients, and that collaboration is performed efficiently to eliminate waste.

Purpose of the Project

The purpose of this project is to implement TeamSTEPPS® in the outpatient psychiatric care setting, ensuring that interdisciplinary practice is improved in accordance with the IOM's call for effective and efficient interprofessional collaboration that supports patient-centered care. In addition, it will assist in meeting the QSEN competencies set forth by the AACN surrounding collaborative teamwork and patient-centered care. TeamSTEPPS® is an evidence-based tool that helps to improve these areas of practice and its implementation will help to meet the patient care needs in contemporary healthcare.

Clinical Question

The clinical practice question identified for this project states, “With mental health professionals working in the outpatient psychiatric care setting, how does the implementation of TeamSTEPPS® affect interprofessional collaboration and job satisfaction?”

SECTION TWO: LITERATURE REVIEW

Search Strategy

In a literature search completed using EBSCOhost, databases were utilized that contained articles related to the subject area of nursing & medical science. Using CINAHL Plus with Full Text and MEDLINE with full text, a search was performed limiting the results to full text, peer-reviewed research articles, published from January 2014 through April 2019. The keyword used for the search included *TeamSTEPPS®*. Thirteen results were found. A total of four studies centering on interprofessional collaboration were utilized. To locate additional results, a search was performed using ProQuest Nursing and Allied Health Database, using the search terms, *TeamSTEPPS®*, and *interprofessional*, and *team*, and *communication*, and *problems*. The search was limited to peer-reviewed, scholarly journal articles in the English language that were published within the last five years. A total of seventy-six results were yielded. The articles were examined and narrowed down to include eleven articles containing research studies that pertained to the topic of interprofessional collaboration, yielding a final total of fifteen studies that were appraised.

Critical Appraisal

Results of the literature search yielded many common themes. As illustrated in Appendix A, significant improvements were noted in multiple areas following completion of the TeamSTEPPS® intervention. Although each of the studies examined a different aspect of quality involved in patient care, the underlying themes were advancement and progress. One of the common findings of four studies was that there was an improvement in patient safety and perceptions of patient safety, following the implementation of the TeamSTEPPS® intervention. In the study by Vertino (2014), the T-TAQ showed a statistically significant increase in score following the administration of the TeamSTEPPS® intervention, including improvement in all five components of teamwork. In agreement with these findings were the studies by Foronda, MacWilliams, & McArthur (2016) and Dietz et al. (2014), where all core competencies were improved one month following the intervention. However, one year following the intervention, not all competencies were maintained, indicating a need for continuing education at regular intervals (Dietz et al., 2014; Foronda et al., 2016). Conversely, in the study by Peters et al. (2018), core competencies were maintained one year following the educational intervention. Another common theme was an improvement in the perception of teamwork, collaboration, and communication. A total of eight of the studies found a statistically significant improvement in these areas after the use of TeamSTEPPS®.

Some of the studies shared some unique themes. In a study by Fischer, Tubb, Brennan, Soderdahl, & Johnson (2015), work processes were examined following a TeamSTEPPS® intervention. Staff complaints regarding equipment, supplies, and personnel issues were monitored at San Antonio Military Medical Center following the administration of TeamSTEPPS® (Fischer et al., 2015). It was found that these issues decreased, indicating an

increase in morale and job satisfaction (Fischer et al., 2015). Canale's (2018) study showed a similar finding, agreeing that there was a correlation between TeamSTEPPS® and increased work satisfaction. O'Byrne, Worthy, Ravelo, Webb, & Cole (2014) found that medication errors in the six months following the TeamSTEPPS® intervention decreased by 57%. In the following year, in the same time frame as the baseline data, there was a 72% reduction in medication errors (O'Byrne et al., 2014). In another study, TeamSTEPPS® was implemented with the goal of determining whether it could show a correlation with improvement in the diagnosis of Chronic Kidney Disease (CKD) by improving collaboration through initiation of a common language for interprofessional team members (Hughes-Carter, Liu, & Hoebeke, 2018). A medical record audit verified the number of patients diagnosed with CKD doubled from sixteen pre-intervention to thirty-two post-intervention (Hughes-Carter et al., 2018). Many of the studies utilized TeamSTEPPS® for different reasons; however, the results maintained the common theme of consistent improvement in patient care processes and attitudes.

As a limitation, it was difficult to find randomized controlled trials or even systematic reviews on the topic of TeamSTEPPS®, which was a common finding listed in the results of the studies that were reviewed. One randomized controlled trial was identified in the literature review that showed high-quality research processes demonstrating support of TeamSTEPPS®. There was one systematic review that was found; however, it did not examine the reliability and validity of the studies utilized in the review. One of the studies was of the level 3 quasi-experimental design with a small sample size. Although it was a small-scale study, it contained high quality evidence to consider in the implementation of TeamSTEPPS®. Nine of the studies found were level 4 cohort studies, primarily with pre-/post- designs, where TeamSTEPPS® has been implemented and the effects were studied. Three level 5 integrative reviews were located,

which was helpful in compiling the data from other studies. Although level 1 and level 2 evidence were limited, there was a well-rounded amount of evidence that suggests that TeamSTEPPS® is a helpful educational tool to utilize in multiple healthcare settings.

Synthesis

When synthesizing the findings, it can be determined that TeamSTEPPS® is a safe and effective educational intervention to improve interprofessional collaboration and patient outcomes. There is enough supporting evidence to indicate a practice change. Implementation of TeamSTEPPS® at the organization can help to improve patient satisfaction, morale, and interprofessional communication.

Conceptual Framework/Model

The Iowa Model is a conceptual framework for use when performing evidence-based practice (EBP) projects and can help to guide the nurse in clinical problem-solving and decision-making (Melnyk & Fineout-Overholt, 2015). This model allows the clinician to use a step-by-step process to analyze problems, ensuring accuracy in determining results (Melnyk & Fineout-Overholt, 2015). The first step of the Iowa Model is identifying if there are any problem-focused or knowledge-focused triggers (Melnyk & Fineout-Overholt, 2015). Problem-focused triggers occur when an issue arises in clinical practice and the nursing professional questions current practice standards and determines that there is a need for change (Melnyk & Fineout-Overholt, 2015). Identifying clinical problems is a crucial step in quality improvement of patient care.

One problem-focused trigger that has been identified is that there has been a recent increase in filed patient complaints at the facility, as well as an increase in requests to change Providers. The level of patient satisfaction at a facility is a direct indicator of quality of service

in healthcare (Yanmis & Aksuoglu, 2018). Patient complaints coupled with a desire to change Providers indicate that patient satisfaction is declining at this facility, indicating a need for quality improvement.

Another problem-focused trigger involves the results of a recent qualitative employee satisfaction survey where the Executive Director asked employees to relay their job concerns in paragraph form and submit it in a confidential manner. Employees identified issues with interprofessional collaboration and a lack of teamwork at the facility. The AACN (2012) recently updated their Quality and Safety Education in Nursing (QSEN) competencies. One of the core competencies identified is Team Collaboration (AACN, 2012). With this competency nurses should be able to function on both nursing and interprofessional care teams, provide open communication, exhibit shared respect, and mutual decision-making to produce quality patient care (AACN, 2012). Teamwork and collaboration foster patient-centered care, which is another QSEN principle (AACN, 2012). In addition to Patient-Centered Care being a QSEN principle, it is one of the aims set forth by the IOM that characterizes the quality of care in a healthcare system (AHRQ, 2018). Identifying these clinical problems and recognizing national quality patient care goals indicates that the facility requires improvement to advance their current level of care.

The second step of the Iowa model calls for a decision regarding whether this issue is a priority for the organization that requires immediate attention (Brown, 2014). Due to the recent increase in patient complaints, requests to change Providers, and lagging job satisfaction, it is of the utmost importance that change is initiated. The organization is in direct agreement with this assessment. They provided a letter of support that indicates their desire to implement change and

their backing of the proposed project. Immediate attention must be paid to this issue, to prevent a further decrease in the quality of care provided at the facility.

Continuing to follow the Iowa Model, the third step involves the formation of an interprofessional care team to cultivate, implement, and assess the change in practice (Melnik & Fineout-Overholt, 2015). The team should consist of a combination of clinicians, as well as linkages with legislative committee members (Melnik & Fineout-Overholt, 2015). For the proposed project, the chosen team will consist of the DNP Candidate who will act as the Project Leader. The Project Leader will create a multidisciplinary Change Team at the facility that ensures representation from all levels of care, including therapy, nursing, ancillary staff, and administration (AHRQ, 2014). One of the key members of the team will be a staff member who has experience in performance improvement, as TeamSTEPPS® requires at least one team member to have experience in this area (AHRQ, 2014). In addition to the professionals employed by the organization, leaders in governance and policy should be aware, as well as established partners within the community, that the facility is taking active efforts to engage in quality improvement.

Continuing to utilize the Iowa Model, the clinical question has been developed, as well as synthesizing the findings of the literature review and grading the evidence (Brown, 2014). After researching the standard of care set forth by the AACN and the IOM, an evidence-based practice methodology will be implemented and evaluated (AACN, 2012; AHRQ, 2018). The project will center on implementation of the TeamSTEPPS® strategies and its effect on job satisfaction and interprofessional collaboration will be assessed.

Theoretical Framework

The theoretical framework that will be utilized will be Lewin's Change Theory. Lewin's Change Theory states that prior learning should be overruled and replaced by new learning (Petiprin, 2016). This theory contains three different concepts. The first concept, driving forces, generates a push for change (Petiprin, 2016). In this project, the driving force is the recent increase in filed patient complaints, an increase in requests to change Providers, and reportedly diminished job satisfaction. Restraining forces are the previously learned methods of communication. Each profession contains its own language and communication centers on that knowledge comfort level. Working in an interprofessional environment requires team members to share one common language, to improve collaboration and quality of care. This comfort level in learned communication standards for each discipline opposes the driving forces and elicits a struggle to accomplish change (Petiprin, 2016). In the unfreezing stage, prior learning is released, change occurs, and new methods of collaboration must become incorporated and ingrained (Petiprin, 2016). To accomplish this, the value of TeamSTEPPS® collaborative methods must be taught, to encourage professionals to communicate in a more effective manner. If staff members are resistant to change, this can create a barrier for successful implementation of the practice change.

Summary

The results of the literature review shows support that TeamSTEPPS® is a safe and effective way to improve patient safety, teamwork, collaboration, communication, and work satisfaction. Four studies showed an improvement in patient safety and perceptions of patient safety. Eight of the studies showed a correlation between improvements in teamwork,

collaboration, and communication, and the implementation of TeamSTEPPS®. Two studies found improvements in work satisfaction. Another unique finding was that medication errors decreased after the TeamSTEPPS® intervention was implemented. As a result of the literature review, TeamSTEPPS® was found to be a safe and effective method to improve interprofessional collaboration and patient outcomes, which are priorities for improvement at this organization.

SECTION THREE: METHODOLOGY

Design

The project design is an evidence-based practice (EBP) project using the Iowa Model as a conceptual framework. The Iowa Model establishes an organized step-by-step process that allows the Doctor of Nursing Practice (DNP) degree-prepared professional to analyze a clinical problem and implement interventions that are proven effective by research (Melnik & Fineout-Overholt, 2015). The practice change is evaluated by performing a pilot study.

For this EBP project, the study design involves the use of a cohort study with a pretest-posttest design, consistent with level 4 research evidence (Melnik & Fineout-Overholt, 2015). The population of interest will be mental health professionals working in the outpatient psychiatric care setting. Phase I of TeamSTEPPS® will be implemented, which consists of a site assessment to determine readiness for implementation (AHRQ, 2019). Interprofessional staff members will be informed of the upcoming EBP project, where staff members will be asked to participate in the TeamSTEPPS® educational module. Staff members will receive TeamSTEPPS® education, in addition to their regular continuing education. No incentive for individual participation will be offered.

After obtaining organizational support and providing education about TeamSTEPPS® to the staff members, participants will complete the TeamSTEPPS® Teamwork Attitudes Questionnaire (T-TAQ). The T-TAQ will serve as a baseline rating scale to determine current knowledge and impressions of the components of effective teamwork related to patient safety and quality care (AHRQ, 2017). To obtain a clearer, more scientifically-based measurement of employee satisfaction, the Job Satisfaction Survey (JSS), developed by Paul E. Spector (1994), will be administered to all employees during the pre-intervention phase. In the post-intervention phase, participants will again complete the T-TAQ and the JSS.

TeamSTEPPS® for Office-Based Care contains a set of fully developed, comprehensive modules that can be administered to interprofessional team members. It is provided in three different versions, including a classroom course, a self-paced course, and a hybrid model (AHRQ, 2019). For this EBP project, the classroom course will be used as the intervention. The DNP Candidate will serve as the Project Leader and a multidisciplinary intervention group will be designated as the Change Team. One Office Champion will be designated and trained by the Project Leader on the TeamSTEPPS® concepts and format. Three weekly face-to-face lessons are provided in the classroom module (AHRQ, 2019). For the final fourth module, an in-person training event will occur with the Office Champion and the Project Leader, to review implementation and sustainment (AHRQ, 2019). In this manner, if the intervention is deemed successful, the Office Champion can help to maintain the sustained implementation for the long-term.

Pre- and post-intervention scores of the T-TAQ and JSS for participants will be compared statistically to determine if a change in knowledge and impressions of the components of effective teamwork related to patient safety and care has occurred. If participants engaging in

the intervention are found to have a higher score, indicating an improvement in knowledge of teamwork concepts, the intervention will be deemed as successful.

Measurable Outcomes

The outcomes that will be measured involve a pre- and post-intervention comparison of scores on the T-TAQ and JSS. Research shows a correlation between participation in TeamSTEPPS® and improved teamwork, interprofessional collaboration, patient safety, communication, and work satisfaction. Therefore, the expected outcome for the post-intervention T-TAQ, as well as the JSS, is that they will reflect higher scores than pre-intervention, indicating increased knowledge of teamwork concepts, resulting in improved work satisfaction.

Setting

The project setting will be in a community resource program in the mid-Atlantic region. This organization employs over 325 professionals and serves 6,000 clients, families, and students annually. The ideal location for this EBP project will be at the Outpatient Psychiatry office. The outpatient psychiatry office employs Psychiatrists, Licensed Social Workers, professional therapists, Licensed Clinical Counselors, peer support, Registered Nurses, Nurse Practitioners, Physician Assistants, and ancillary clerical support staff.

This EBP project directly aligns with the organization's mission, vision, and values in several ways. The Mission Statement reflects that they wish to meet the emotional, mental, social, and developmental needs of the child and adolescent population in a comprehensive manner. In each of its thirty-two programs, they wish to help the child move through childhood and adolescence and even follow them through adulthood. The population of interest will be

mental health professionals working in the outpatient psychiatric care setting. The intervention employed is the TeamSTEPPS® teamwork tool. TeamSTEPPS® helps to develop highly effective interprofessional teams by clarifying roles, resolving conflicts, improving communication, and removing barriers that may be preventing optimal clinical care (AHRQ, 2019). The organization has identified that the program was developed to meet the complete needs of the child and to provide comprehensive care. To meet the emotional, mental, social, and physical needs of a patient, a strong interdisciplinary team is required. Interprofessional collaboration, teamwork, coordination of care, and care transitioning are crucial tasks that are performed daily at this organization. To meet patient care needs effectively and comprehensively, TeamSTEPPS® is needed to improve the teamwork process of the interprofessional staff.

Population

The rationale for selecting this population is due to the tremendous need for improvement with interprofessional collaboration and teamwork. With a recent increase in filed patient complaints, an increase in requests to change Providers, and reportedly diminished employee satisfaction, the organization must make changes fast. The AACN requires nurses to exhibit strong skills in collaborative teamwork and to demonstrate patient-centered care as part of the established QSEN competencies (AACN, 2012). The IOM identifies that patient-centered care is crucial for any organization to be deemed successful and of high quality (AHRQ, 2018). To provide excellent patient-centered care, interprofessional collaboration must be efficient and effective. This population requires positive change to be implemented and TeamSTEPPS® could assist with this endeavor.

A convenience sample of thirty-nine interdisciplinary mental health professionals working in the outpatient psychiatric care setting at the organization will be included in the project. It is important for staff members from the top-down to be trained in TeamSTEPPS®, therefore there will be no exclusion criteria. As organizational support is obtained, emails will be sent to employees, notifying them of the upcoming project. Statistical analysis will be required for this project. IBM SPSS Statistics 25 software will be used to accomplish this task.

Ethical Considerations

To ensure the protection of human subjects, the DNP project team has completed CITI training, which studies ethics in research to ensure the protection of human rights. The proposal for this project will be submitted for approval to the Institutional Review Board (IRB) at Liberty University, as well as the Executive Director of the organization. Data confidentiality will be maintained as pre- and post-intervention T-TAQs and JSSs will be stored within a locked cabinet inside the DNP Preceptor's office at the facility.

Data Collection

The initial site assessment during Phase I of TeamSTEPPS® will be performed by the DNP Candidate, with the assistance of the DNP Preceptor. After readiness for implementation is ascertained and organizational support is obtained, the DNP Candidate will compose an educational email to all employees at the facility. The baseline and post-intervention T-TAQ and JSS will be administered and scored by the DNP Candidate. The results will be analyzed using IBM SPSS Statistics 25 software.

Tools

One of the tools that will be in use for this project is the T-TAQ. The T-TAQ is a self-report scale that was designed to measure personal attitudes related to the core components of teamwork that are focused on within TeamSTEPPS® (AHRQ, 2017). Attitudes towards team structure, mutual support, leadership, communication, and situation monitoring are measured (AHRQ, 2017). The T-TAQ was chosen because it was found to be a valid and reliable tool for use in a large-scale study involving 346 DoD participants and 149 mid-Atlantic civilian participants (AHRQ, 2017). The T-TAQ reliability coefficients measured with Cronbach's Alpha found the team structure section of the tool to be at .70, the leadership section to be at .81, situation monitoring at .83, mutual support at .70, and communication at .74 (AHRQ, 2017).

The self-rating tool offers six statements related to each of the teamwork constructs. For each one of the statements, participants rate their level of concurrence by checking a box that corresponds with *strongly disagree*, *disagree*, *neutral*, *agree*, or *strongly agree* (AHRQ, 2017). The T-TAQ can be scored two different ways. A total score can be calculated for each one of the teamwork constructs or an average score may be calculated on the entire tool (AHRQ, 2017). This tool can be completed as a pen and paper assessment and is very short in length.

The second tool that will be used for this project is the JSS. The JSS was developed by Paul E. Spector in 1994 to assess employee attitudes about their work and different aspects of the job. The JSS is a thirty-six item, nine facet scale, where each facet is evaluated using four different items (Spector, 2001). A total score can be computed from all included items (Spector, 2001). For each item, a rating scale is utilized, ranging from "strongly agree" to "strongly disagree" (Spector, 2001). The nine job facets that are measured include promotion, pay,

supervision, contingent, performance-based rewards, fringe benefits, rules and procedures of operation, nature of work, colleagues, and communication (Spector, 2001). Originally developed for use in the field of human service, this tool has been found to be effective for use in all work settings (Spector, 2001). The tool was chosen because it was found to be valid and reliable based on a sample of 2,870 participants (Spector, 2001). The JSSs internal consistency reliabilities measured with Cronbach's Alpha found the pay section of the tool to be at .75, the promotion section at .73, the supervision section at .82, the fringe benefits at .73, contingent rewards at .76, operating procedures at .62, coworkers at .60, nature of work at .78, communication at .71, and the total of all facets at .91 (Spector, 2001). This pen and paper tool is short in length and simple to complete.

Intervention

The EBP project required approval and agreement from the DNP Project Team. After the project was agreed upon by the team, the DNP Candidate applied for IRB approval, to ensure that the protection of human rights was maintained throughout the course of the project. A site assessment was performed where readiness for implementation of TeamSTEPPS® was confirmed. Organizational support was obtained, and all participants received the evidence-based intervention.

Emails to inform the participants about TeamSTEPPS® and about the project were provided to employees to ensure that they received adequate education surrounding the tool. There was no incentive provided for participation. Therefore, proper ethical standards and prevention of bias from incentive was maintained. All participants in the study received the usual continuing education, to ensure that everyone was receiving the typical standard of

education, minimizing the risk of harm. Research shows support of efficacy of TeamSTEPPS® provided in the format that was originally established by the developers of the system (AHRQ, 2019). Therefore, this program was offered in the same fashion, to ensure replicability of positive outcomes.

Feasibility Analysis

Necessary resources to perform the study included a group discussion room with audiovisual equipment at the facility for the educational sessions. This facility contained a large conference room that was conducive to performing the intervention. Personnel that were involved, initially, included the Executive Director of the organization, the Director of Therapy Services, the Director of Clinical Services, and the Administrative Assistant, as primary members of administrative leadership. The Administrative Assistant volunteered for and was designated as the Office Champion by the Project Leader. The Change Team/Intervention Group consisted of nineteen ($n = 19$) interdisciplinary team member volunteers, which was well over the minimum of three team members that was recommended by TeamSTEPPS® (AHRQ, 2019). Budgetary needs were minimal. It consisted of utilizing resources for copying of assessment tools, instructor guides, and presentation slides. Copying of handouts was not needed, as originally anticipated, as verbal communication regarding concepts was the priority for this organization. The pilot study was provided free of charge to participants, as the DNP Candidate did not require compensation. The practice change was adopted, as a result, and future sessions will be facilitated by the Office Champion and the future designated Change Team. The Office Champion was not offered additional compensation by the organization for direct participation in this intervention. With such low budgetary needs, this was a feasible evidence-based practice project and will continue to be a feasible intervention, as it was implemented easily at this

facility during the pilot study. No additional resources were needed for this project, that were not originally anticipated.

Data Analysis

As previously mentioned, the study design consists of a cohort study with a pretest-posttest design, consistent with level 4 evidence (Melnyk & Fineout-Overholt, 2015). Participants will be administered both the T-TAQ and JSS at the pre-intervention stages, as well as at post-intervention. The mean scores of each T-TAQ construct and JSS facet subscale will be calculated, comparing pre-intervention and post-intervention results, as well as differences in the overall score. This will thereby measure the attitudes and knowledge of teamwork constructs, as well as job satisfaction of the participants (Marshall, n.d.). The mean calculations will be performed using the IBM Statistical Package for the Social Sciences (SPSS) 25 software package. Although a paired samples t-test would determine if there was statistical significance in the difference of scores, for this project's purposes, an increase in the mean scores at post-intervention is the meaningful outcome and goal that this project is seeking.

Measurable Outcome 1

The first measurable outcome involves determining if there is a correlation between a change in T-TAQ score and the administration of the TeamSTEPPS® intervention. To determine an association between TeamSTEPPS® and a change in the T-TAQ score, the Project leader will calculate a mean score for each teamwork construct and make comparisons at pre- and post-intervention to determine if there was a change in scores (Sullivan, 2018). A comparison of the total score will be determined, as well.

Measurable Outcome 2

The second measurable outcome involves determining if there is a correlation between a change in the JSS score and the administration of the TeamSTEPPS® intervention. To determine the association between TeamSTEPPS® and job satisfaction, a comparison of mean scores of the JSS at both pre-intervention and post-intervention of the nine facet subscales will be performed (Sullivan, 2018). A comparison of the total scores will be assessed, as well.

SECTION FOUR: RESULTS

Statistics were tabulated using the IBM SPSS Statistics 25 software. The sample size consisted of a total of nineteen ($n = 19$) participants. Participants were of the normal adult age range and employed by the organization with work status of full-time, part-time, or per diem. A wide variety of interprofessional backgrounds participated in the project, including administrative team members ($n = 3$), Registered Nurses ($n = 2$), Physician Assistants ($n = 2$), Counselors ($n = 3$), Therapists ($n = 4$), Social Workers ($n = 3$), clerical support staff ($n = 1$), and a Medical Assistant ($n = 1$) employed by the office. During the pre-intervention phase, the JSS and T-TAQ were administered to the participants and training was provided by the DNP Project Leader to the designated Office Champion at the organization. During implementation, three weekly hour-long training sessions were provided by the Office Champion to the team members, covering the topics of introduction and team structure during week one. Communication and leading teams were presented during week two, while situation monitoring, mutual support, and a wrap-up summary were implemented during week three. During post-intervention, the JSS and T-TAQ were again administered and implementation training was provided to the Office Champion. A total of seven participants attended all three team trainings. Seven participants

attended two total trainings. Two participants attended one training. Three of the participants were unable to attend.

Descriptive Statistics

For the T-TAQ, statistics were tabulated to include comparisons of pre- and post-intervention mean scores of each of the five teamwork constructs. A comparison of the mean total scores were tabulated, as well. Results were stratified to include comparisons of total scores of those with one hundred percent attendance versus those that attended two sessions versus those that attended one or no sessions. Table 1 displays the mean scores and their differences for each construct at both pre- and post-intervention, including a comparison of the total scores of the tool. Scores range from one, indicating “strongly disagree,” which would indicate a poor attitude and knowledge of the teamwork construct, up to a value of five, indicating “strongly agree,” which indicates a positive attitude and knowledge of the teamwork construct.

Table 1

<i>T-TAQ Mean Scores</i>			
<u>Construct</u>	<u>Pre-Intervention</u>	<u>Post-Intervention</u>	<u>Difference</u>
	<u>Mean</u>	<u>Mean</u>	
Team Structure	4.2368	4.3684	0.1316
Leading Teams	4.6316	4.5526	-0.0790
Communication	4.3772	4.3158	-0.0614
Mutual Support	4.3947	4.5000	0.1053
Situation Monitoring	4.3772	4.4298	0.0526
Total	4.4035	4.4333	0.0298

For the teamwork constructs of team structure, situation monitoring, and mutual support, an increase in mean score was noted at post-intervention. In addition, there was an increase in the mean total score for the tool at post-intervention. A comparison of mean scores for participants based on the variable of attendance was performed. Participants who attended two or more sessions demonstrated an increase in mean score, while those who attended one or fewer trainings, demonstrated a decrease in mean scores. Table 2 displays this comparison.

Table 2

<i>T-TAQ Attendance</i>			
<u>Attendance</u>	<u>Pre-Intervention</u>	<u>Post-Intervention</u>	<u>Difference</u>
	<u>Mean</u>	<u>Mean</u>	
Attended 3 Sessions	4.2667	4.3476	0.0809
Attended 2 Sessions	4.4048	4.4810	0.0762
Attended 1 or 0 Sessions	4.5933	4.4867	-0.1066

Similarly, for the JSS, statistics were tabulated to include comparisons of pre- and post-intervention mean scores for each of the nine job facet subscales. A comparison of the mean total scores both before and after the intervention was calculated. Results were stratified to make comparisons of total scores of those participants with one hundred percent attendance versus those that attended two trainings versus those that attended one or no trainings.

At pre-intervention, for the fringe benefits facet, two respondents returned surveys with missing items for all questions in the subscale. Instructions for scoring missing items states that, when possible, the mean score per subscale should be computed and substituted for the missing value (Spector, 1999). However, when all items are missing for a subscale, the recommendation is to substitute a middle response for each missing item, which is a score of three and four (Spector, 1999). When possible, one should alternate a score of three and four when missing items occur (Spector, 1999). As both respondents had missing items for the entire subscale, one respondent was scored with alternating values of three, four, three, four, while the other respondent was scored as four, three, four, three. For the supervision facet, one respondent had missing items for all questions in the subscale. This survey received a score of three, four, three, four, for this facet. One respondent had two missing items for the pay facet and one missing item for the promotion facet. For these situations, the mean was calculated from the existing values and was substituted. The pay facet contained scores of five, five, five, five, while the promotion facet contained scores of three, one, two, two. For the respondent who had missing items in the supervision facet, this respondent had one missing item in the promotion facet, as well as one missing item in the contingent rewards facet. Also for the promotion facet, this respondent provided double values for two questions in the subscale, double values for two questions in the contingent rewards facet, a double value for one question in the operating

conditions facet, and double values for two questions in the coworker facet. Because there are missing values that can be explained by the other observed variables within the subscale, these missing values are labeled as missing at random (MAR) (Bhaskaran & Smeeth, 2014). One method of dealing with MAR data is to utilize unconditional mean imputation (Institute for Digital Research & Education [IDRE], 2019). When discussing the promotion facet, the respondent rated question eleven with a score of five. For question two, the respondent gave double ratings of both one and two. Using mean imputation, the score was adjusted to 1.5. For question twenty, the respondent rated both four and five. This score was adjusted to 4.5. For the final question of this subscale, which was a completely missing item, the mean of these three scores was calculated and substituted as 3.67. For contingent rewards, question number thirty-two was rated at four. Question fourteen was rated both five and six. Using mean imputation, the score was adjusted to 5.5. Question twenty-three was rated both four and five. Using mean imputation, the score was adjusted to 4.5. Question five was a completely missing item; therefore, the mean of these three scores was calculated and substituted as 4.67. For the operating conditions facet, the respondent provided double ratings for one item, listing both one and two. The mean was computed and substituted at 1.5. For the coworker facet, the respondent rated one question at both two and three and another question at both two and three. Mean imputation was utilized and a value of 2.5 was substituted for both items.

Missing items were found at post-intervention on the JSS. Concerning the fringe benefits facet, one participant responded to only one question in the subscale, rating it at four. Therefore, the mean was substituted for the remaining three items, which amounted to four, four, four. One participant showed missing items for the entire fringe benefits subscale. Values of three, four, three, four, were alternated in place of the missing items. For the pay facet, this respondent

provided values for two items, rated at five and five. For the missing items, the mean was calculated and five and five were entered. For the promotion facet, one item was missing for this respondent. Values that were present included two, two, and three. The mean was calculated for the missing item and was entered in at 2.33. The respondent who provided double ratings at pre-intervention, gave double ratings at post-intervention, as well as contained completely missing items. The supervision facet contained all missing items and was scored as four, three, four, three. The pay facet contained two missing items. The two available ratings were judged at six and six. The missing item means were, then, six and six. There were two available items for the promotion facet, valued at five and five. Therefore, the mean was substituted for the missing values at five and five. Three values were present for the coworker facet at six, six, and five. Substituting the mean for the missing value yielded 5.67. Double ratings were given for two of the items in the fringe benefits facet. Five and six were the values given for both items, so the mean of 5.5 was used. Double ratings were given for two of the items in the communication facet of four and five versus five and six. The means of 4.5 and 5.5 were utilized, respectively. For contingent rewards, one value was present at six. One item was given a double rating of five and six. The mean of 5.5 was utilized for this value. The remaining two items were completely missing, so the mean of 6 and 5.5 was calculated and 5.75 was substituted for these missing values.

Table 3 displays the mean scores and their differences for each job facet at both pre- and post-intervention, including a comparison of the total scores of the tool. Interpretation ranges from dissatisfied to ambivalent to satisfied (Spector, 2007). An interpretation of the score, both before and after the intervention, is included in the table.

Table 3

JSS Mean Scores with Interpretation

<u>Job Facet</u>	<u>Pre- Intervention Mean</u>	<u>Interpretation</u>	<u>Post- Intervention Mean</u>	<u>Interpretation</u>	<u>Difference</u>
Pay	11.2632	Dissatisfied	11.9474	Dissatisfied	0.6842
Promotion	11.9653	Dissatisfied	13.0174	Ambivalent	1.0521
Supervision	20.1753	Satisfied	19.3684	Satisfied	-0.8069
Fringe Benefits	12.4737	Ambivalent	12.1053	Ambivalent	-0.3684
Contingent Rewards	13.1932	Ambivalent	14.3158	Ambivalent	1.1226
Operating Procedures	13.2368	Ambivalent	13.1579	Ambivalent	-0.0789
Coworkers	18.4211	Satisfied	18.5089	Satisfied	0.0878
Nature of Work	21.4211	Satisfied	21.0526	Satisfied	-0.3685
Communication	15.1053	Ambivalent	14.8421	Ambivalent	-0.2632
Total	136.9389	Ambivalent	138.3158	Ambivalent	1.3769

For the job facets of pay, promotion, contingent rewards, and satisfaction with coworkers, an increase in mean score was noted at post-intervention. In addition, there was an increase in the mean total score for the tool at post-intervention. A comparison of mean scores for participants based on the variable of attendance was performed. Table 4 displays this comparison. Those that attended all three sessions demonstrated a significant decrease in job satisfaction. Conversely, those that attended two sessions or less showed an increase in mean score.

Table 4

JSS Attendance

<u>Attendance</u>	<u>Pre- Intervention Mean</u>	<u>Interpretation</u>	<u>Post- Intervention Mean</u>	<u>Interpretation</u>	<u>Difference</u>
Attended 3 Sessions	126.3329	Ambivalent	118.8571	Ambivalent	-7.4758
Attended 2 Sessions	146.3814	Satisfied	149.8571	Satisfied	3.4757
Attended 1 or 0 Sessions	138.3680	Ambivalent	149.4000	Satisfied	11.032

Measurable Outcome 1

The first measurable outcome involves determining if there is a correlation between a change in the mean T-TAQ score and the administration of the TeamSTEPPS® intervention. For all nineteen participants, there was an increase in mean score from pre- to post-intervention in the constructs of team structure, situation monitoring, and mutual support. Conversely, there was a decrease in scores found in the constructs of leading teams and communication. Overall, there was a mild increase in total score for the T-TAQ at post-intervention. An important consideration is that the mean scores at pre-intervention were relatively high, not allowing a lot of room for improvement at post-intervention. All increases and decreases in mean scores were relatively minor, with the three increased scores measuring higher than the decreases. For this particular outcome, evaluation of statistics shows that TeamSTEPPS® positively impacted the team's attitudes and knowledge regarding teamwork. Concerning specific constructs, it positively impacted team structure, situation monitoring, and mutual support. In addition, the

TeamSTEPPS® literature relays that, even if team members do not participate in the educational sessions, they will still be positively impacted by the changes displayed by their coworkers who do participate in the education (AHRQ, 2014). This finding did not apply to this EBP project. Based on statistics, it was found that attending two to three sessions will positively impact one's attitude and knowledge surrounding teamwork. However, minimal or no attendance showed a decrease in teamwork attitudes and knowledge.

Measurable Outcome 2

The second measurable outcome involves determining if there is a correlation between a change in the JSS score and the administration of the TeamSTEPPS® intervention. The sample showed an increase in scores for the facet subscales involving satisfaction with pay, chances of securing a promotion, receiving contingent rewards, and collaborating with coworkers. Decreases were noted for the facet subscales demonstrating satisfaction with supervision, fringe benefits, operating conditions, nature of the work, and communication. Although there were more facets with decreased scores, the overall score related to job satisfaction showed an increase in the mean at post-intervention. Interestingly, the group that demonstrated one hundred percent attendance displayed decreased job satisfaction at post-intervention, while their counterparts who attended two or less sessions showed an increase. Due to this discrepancy, when evaluating this outcome, it cannot be determined whether TeamSTEPPS® had a positive or negative impact on job satisfaction, as the results of the statistics are incongruent.

SECTION FIVE: DISCUSSION

Implication for Practice

The implementation of this evidence-based teamwork tool was important for this organization, as well as the chosen population for several reasons. The organization was struggling with a recent increase in filed patient complaints, as well as an increase in requests to change Providers. The level of patient satisfaction at a facility is a direct indicator of quality of service in healthcare (Yanmis & Aksuoglu, 2018). Patient complaints coupled with a desire to change Providers indicated that patient satisfaction was declining at this facility, demonstrating a need for improvement in the quality of care provided. In addition, in a recent qualitative job satisfaction survey where employees were asked to relay their job concerns, results showed issues with interprofessional collaboration and a lack of teamwork at the facility. The AACN (2012) identified Teamwork and Collaboration as core competencies that need to be demonstrated to provide high-quality interprofessional care in contemporary healthcare. Teamwork and collaboration foster patient-centered care, which is another QSEN principle (AACN, 2012). In addition to Patient-Centered Care being a QSEN principle, it is one of the aims set forth by the IOM that characterizes the quality of care in a healthcare system (AHRQ, 2018). Due to these aims set forth by the AACN and IOM, it is crucial for the outpatient care services population to have strong interprofessional, collaborative teamwork skills.

This project contributes to clinical practice because it applies the proven TeamSTEPPS® methodologies to the outpatient psychiatric care setting. Outpatient behavioral health is a clinical setting that is rich in interprofessional collaboration. As healthcare continues to evolve, applying patient-centered care concepts, such as effective teamwork and interprofessional collaboration will increase the efficiency within this setting, demonstrating a higher quality of

patient care. Gaining knowledge about the TeamSTEPPS® constructs of team structure, communication, leading teams, situation monitoring, and mutual support contributes to the nursing profession by offering nurses the skills to lead interprofessional teams in an educated and efficient manner, while improving their own attitudes about teamwork (AHRQ, 2019). As the nursing profession continues to grow and mature, nurses are projected to be the future leaders in healthcare administration, practice, research, and education (AACN, 2012). For this reason, it is crucial for nurses to be prepared to lead strong interprofessional teams. This EBP project contributes to practice by educating and empowering nurses on how to accomplish this task.

For this EBP project, several limitations were identified. Because this is an outpatient setting that offers staggered scheduling of its employees, there was never one consistent time slot available where all employees were able to attend the once-weekly TeamSTEPPS® training. This greatly limited the ability of employees to attend the trainings consistently. Because the project was implemented during the summer months of 2019, many employees had scheduled vacations and were unable to attend. In addition, there were some employees who called off on days where there were trainings offered and, therefore, missed attendance. Another limitation related to attendance was that the Clinical Director and Executive Director, were unable to attend any of the trainings due to patient appointments and other work-related responsibilities. Many of the TeamSTEPPS® concepts calls for the Team Leader to spearhead the implementation of some of the strategies. Without their crucial attendance, it becomes difficult to properly implement the methodologies. With the Clinical Director prepared as a Doctor of Nursing Practice, this professional can expertly lead the entire team and create a successful collaborative care setting.

With a small sample size of nineteen participants, this creates a limitation when considering the generalizability of the findings. Also related to the small sample size, one of the

respondents completed both the pre-intervention and post-intervention JSS by giving double ratings for some of the items, creating MAR data, as well as missing items. Although the missing items were accounted for by the tool developer, the user was not instructed regarding MAR data. Although one method of handling MAR data is to use unconditional mean imputation, there are several other methods that can be utilized, as well (IDRE, 2019). This Project Leader chose to use unconditional mean imputation, to maintain the current sample size of nineteen participants. Because it was a small sample size, it was not desired to create attrition or eliminate useful data that may contribute to meaningful results. Another limitation involves the other two respondents who had missing items on their JSS tools, as well. Any of the missing item data could have affected the end-result of the statistical findings.

Another limitation that could have affected the statistical results includes outside occurrences going on within the office, outside of the TeamSTEPPS® education. Throughout implementation, there were several changes happening concurrently. Job descriptions were changing, patient care loads were increasing, and technical problems with the electronic medical record (EMR) system were occurring. Any outside influence could have affected the results of the pre- and post- evaluative tools. In addition, due to these occurrences, methodologies were not always formally implemented, as they had planned to be during the trainings. Outside occurrences would prevent the staff from compliantly utilizing the concepts on a regular basis.

One final limitation that was identified involved the time constraints of the project. The Project Leader was a DNP Candidate who was limited in the amount of time available to implement this teamwork tool in the office setting. Implementation lasted only three weeks before the post-intervention phase occurred. Allowing more time for implementation could have provided a better picture of how the methodologies impacted teamwork and job satisfaction.

Sustainability

At the conclusion of the post-intervention phase, the Office Champion at the organization appointed a Change Team consisting of multidisciplinary staff members, to discuss the feasibility of sustaining TeamSTEPPS® at the organization. The Change Team consists of the Office Champion, who is now trained in TeamSTEPPS® leadership and works as an Administrative Assistant in the office, the Administrative Director of the office, the Director of Clinical Services, who possesses a DNP degree, a Registered Nurse, and a Licensed Clinical Social Worker (LCSW). Upon the first meeting of the Change Team, they decided to continue to pilot the TeamSTEPPS® concepts that they found most valuable, including the use of CUS words, Collaboration, performing Huddles, providing effective Handoff, and using Task Assistance (AHRQ, 2019). They relayed that effective teamwork and collaboration continues to be a strong priority for the organization and they wish to continue implementation in the hopes of seeing continued quality improvement. Change Team members will act as leaders within their smaller teams to better encourage the use of the TeamSTEPPS® concepts amongst their colleagues, and to continue to educate others who did not attend the trainings.

The TeamSTEPPS® teamwork tool is highly sustainable, as it contains cost-effective, evidence-based methods of improving teamwork and interprofessional collaboration. As found by the AHRQ (2019), TeamSTEPPS® can be taught by anyone from any professional background. The concepts are clear and reasonable, offering ease of implementation. However, some of the strategies do require some planning and use of time. In this busy outpatient setting, the organization will have to overcome this challenge, learning how to balance time throughout the day to effectively use the chosen methods. Because the Change Team members have chosen

to continue implementing TeamSTEPPS®, this EBP project can be evaluated as successful, as the EBP method was chosen for adoption at the facility.

Many lessons were learned throughout this project. The limitation concerning attendance can be overcome by using a few different methods. The TeamSTEPPS® classroom course was utilized for this project. However, the AHRQ (2019) has developed a self-paced course and a hybrid course, as well. Due to the limitation encountered in this project, future considerations include offering one of those methods instead of the classroom course. This would help to disseminate the concepts to the entire care team, instead of just those who were able to attend the in-person trainings. Otherwise, multiple repeat classroom training sessions would have to be offered to disseminate the education to the entire staff. Although the Change Team members are now educated in the use of the tool and can assist the Office Champion with future trainings and continuing education, the initial start-up of the project could have benefited from one of the other offered formats. Another lesson learned includes providing clearer instructions to participants regarding completion of the T-TAQ and JSS. Decreasing the chance of missing items on the JSS could have impacted the statistical results.

Dissemination Plan

The Change Team has adopted their own dissemination plan with TeamSTEPPS®. They have planned to continue to pilot TeamSTEPPS® for a three-month cycle at their outpatient office. At that point, the Team will reconvene and evaluate their success throughout the course of the three months. They have stated that they will either repeat the T-TAQ and the JSS at that time, to make a comparison in scores from this project, or they will continue a second three-month cycle of implementation, if they feel that they need more time to see the methods in

action. If they see an improvement in scores of the T-TAQ and JSS, they plan to disseminate TeamSTEPPS® throughout the other offices within the state that are part of the organization. The Office Champion will travel to the other offices and will designate one employee from each of the other offices to be their Office Champion. Essentially, their plan is to create a “snowball effect” of dissemination throughout the remaining offices in the healthcare system, replicating this project at each of the other office sites.

In the literature review, four of the studies identified that TeamSTEPPS® knowledge was not sustained after one year, indicating that continuing education is necessary to maintain knowledge and attitudes of teamwork. If continued sustainment of TeamSTEPPS® occurs, the Office Champion plans to offer continuing education sessions, with the help of the Change Team members. In this manner, TeamSTEPPS® will continue to be disseminated to new staff members, as new hires are brought onto the team each year, maintaining consistency and equal provision of continuing education.

This Project Leader plans to disseminate these results throughout the University’s community by submitting this writing to the Scholars Crossing repository. In addition, this Project Leader is preparing a manuscript that will be submitted to a journal for potential publication. These results will be valuable to not only psychiatric-mental health professionals, but to interprofessional healthcare team members and leaders, as well. A poster presentation will be prepared. When conferences and seminars are announced where this information would be pertinent to the agenda, this Project Leader will present the findings to the interprofessional community, to increase knowledge of the findings associated with this EBP project.

As this Project Leader has successfully implemented TeamSTEPPS® at this organization, it is the desire to continue to implement these concepts in other settings.

Reproducing this project in similar settings will help to replicate the findings, keeping future considerations in mind to remove barriers and adjust for limitations. As a Nurse Educator, these concepts can be disseminated to undergraduate nursing students to increase their leadership skills, as the future leaders of nursing. Providing education on TeamSTEPPS® has been found to be a cost-effective and efficient method for improving attitudes and knowledge regarding teamwork and interprofessional collaboration, which are the cornerstones of high-quality, contemporary healthcare.

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Appendix A

Strengths of Evidence Table

Article Title, Author, etc.	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence	Study Limitations	Would Use as Evidence to Support a Change?
Vertino, K. A. (2014) Evaluation of a TeamSTEP PS® initiative on staff attitudes towards teamwork.	To determine if a customized TeamSTEPPS® training initiative would result in improved attitudes toward teamwork among nursing staff on an inpatient hospital unit.	26 full- and part-time nursing staff on a designated inpatient unit in a VHA hospital.	A pre-experimental pretest/posttest repeated-measures design was utilized.	Significant increases in total scores on the TeamSTEPPS®-Teamwork Attitude Questionnaire (T-TAQ), as well as statistical significance on all 5 components of teamwork including team structure, leadership, situation monitoring, mutual support, and communication.	Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).	Small convenience sample, required attendance by employer, administrative bias could be present, staff turnover during the study.	This was a study that involved a smaller sample size, yet high-quality level 4 evidence. Support by other studies could initiate a practice change.

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>Amiri, M., Khademian, Z., & Nikandish, R. (2018). The effect of nurse empowerment program on patient safety culture: A randomized controlled trial.</p>	<p>To determine the effect of empowering nurses and supervisors through an educational program on patient safety culture in adult ICUs.</p>	<p>Conducted during April–September 2015 in 6 adult ICUs at Namazi Hospital, Shiraz, Iran. A total of 60 nurses and 20 supervisors were selected through proportional stratified sampling and randomly assigned to the experimental and control groups.</p>	<p>Randomized Controlled Trial.</p>	<p>In the experimental group, the total post-test mean scores of the Hospital Survey on Patient Safety Culture (HSOPSC) developed by the AHRQ (3.46 ± 0.26) was significantly higher than that of the control group (2.84 ± 0.37, $P < 0.001$). It was also higher than that of the pre-test (2.91 ± 0.4, $P < 0.001$). Additionally, significant</p>	<p>Level 2 randomized controlled trial (Melnynk & Fineout-Overholt, 2015).</p>	<p>The use of a self-reported assessment tool on patient safety culture, rather than observational studies.</p>	<p>The results of this study showed a large increase in patient safety culture following the TeamSTEP PS® intervention and was conducted in multiple settings, making it an important study.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>improvements were observed in 5 out of 12 dimensions in the experimental group.</p>			
<p>Fischer, M. M., Tubb, C. C. Brennan, J. A., Soderdahl, D. W., & Johnson, A. E. (2015) Implementation of TeamSTEP PS® at a level-1 military trauma center: The San Antonio</p>	<p>TeamSTEP PS® implementation in the operating rooms at the most complex and busiest tertiary military trauma center in the DoD, during the longest period of continuous combat operations in US history.</p>	<p>SAMMC implemented TeamSTEP PS® “brief” and “debrief” in the surgical departments with the team of surgeons, anesthesiologists, nurses, information technology personnel, and administrative leaders.</p>	<p>Cohort study.</p>	<p>The overall compliance rate for TeamSTEP PS® process was 75.1%. Equipment-related complaints decreased by 48%; instrument-related issues decreased by 29.9%; supply issues decreased by 53.3%; personnel issues decreased by</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>Process was implemented during a time of active warfare and may not be generalizable; no assessment tool was utilized to measure staff satisfaction with the process; TeamSTEP</p>	<p>A possible practice change should be considered, if other research shows support. Results may not be generalizable, due to active warfare occurring and lack of a</p>

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Military Medical Center experience.		The number of staff was not explicitly stated.		90.5%; case scheduling issues decreased by 35.7%; and preference card issues decreased by 72.1%. Staffing, “non-punitive response to errors,” and “frequency of events that were reported,” continued to be the weak domains.		PS® was a required process by administration, creating possible error in the process if employees were not supportive of the change.	standardized tool to measure outcomes.
Canale, M. L. (2018) Implementation of a standardized handoff of anesthetized patients.	To implement a standardized handoff to improve the quality and continuity of the transfer of information, perceptions of patient safety, and healthcare worker satisfaction.	20 CRNAs involved in the transfer of care of anesthetized patients in the perioperative	Pretest-posttest quality improvement design.	Preintervention and postintervention survey data were analyzed using paired t test with a range of $P < .0001$ to $.0003$,	Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).	The sample size was small and was limited to CRNAs; difficulty coordinating schedules	Although the sample size was small, it provides some positive evidence

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
		<p>department of an 800-bed regional medical center in West Central Florida. They were selected using purposive nonprobability snowball sampling to create a TeamSTEPPS® team.</p>		<p>demonstrating statistically significant improvements in the quality and continuity of the transfer of information, perceptions of patient safety, and healthcare worker satisfaction.</p>		<p>of all CRNAs to meet at the same time.</p>	<p>regarding quality improvement, improved job satisfaction, and improved perception of patient safety.</p>
<p>Tibbs, S. M., & Moss, J. (2014) Promoting teamwork and surgical optimization</p>	<p>To determine whether implementation of a team protocol and algorithm could improve surgical times, compliance with time-outs and huddles,</p>	<p>Convenience sample of 18 gynecology surgical team members.</p>	<p>A descriptive pretest–posttest design.</p>	<p>Results showed a statistically significant increase in the number of team members present for each</p>	<p>Level 4 cohort study with pretest-posttest design</p>	<p>Anesthetics were removed in the middle of the study due to their</p>	<p>Although a small sample size was used, this study was a high-quality level</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>: Combining TeamSTEP PS® with a specialty team protocol.</p>	<p>perception of teamwork, and identification of factors leading to poor team performance.</p>			<p>procedure, 2.34 μ before compared with 2.61 μ after, and in the final time-out compliance. Additionally, there was improvement in staff members’ perception of teamwork.</p>	<p>(Melnynk & Fineout-Overholt, 2015).</p>	<p>complex work schedules. Small sample size.</p>	<p>4 cohort study.</p>
<p>O’Byrne, N., Worthy, K., Ravelo, A., Webb, M. & Cole, A. (2014) EB101 stepping forward for patient safety: Using</p>	<p>To improve communication among staff in a surgical intensive care unit and reduce medication errors.</p>	<p>A group of champions in the SICU created 3-5-minute videos for SICU nurses to explain the TeamSTEPPS concepts and how to</p>	<p>Pre-post design.</p>	<p>After introducing the TeamSTEPPS® concepts in September 2012, medication errors for the following 6 months decreased by 57%. From April to September 2013, the same</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>Probable small sample size, occurring on only one SICU at one hospital system.</p>	<p>This study did not follow the standardized TeamSTEP PS® protocol, limiting generalizability of the outcomes.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>TeamSTEP PS® concepts to reduce medication errors in a surgical intensive care unit.</p>		<p>apply them to practice.</p>		<p>time frame as the baseline data, there was a 72% reduction in medication errors.</p>			
<p>Hughes-Carter, D. L., Liu, C., Hoebeke, R. E. (2018) Improved screening and diagnosis of Chronic Kidney Disease in the older adult with Diabetes.</p>	<p>To improve the frequency of diagnosing chronic kidney disease (CKD) in seniors with diabetes.</p>	<p>The study sample was 222 older adults aged > 55 years with diabetes at 2 primary care facilities that served the underinsured had a higher overall prevalence rate of</p>	<p>A pre-post study design.</p>	<p>A medical record audit verified the number of patients diagnosed with CKD doubled from 16 preintervention to 32 postintervention ($P = .014$). Offering TeamSTEPPS® strategies as the study intervention</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>In primary care practices for the underinsured, costs of data collections can be a barrier to this type of intervention</p>	<p>The study intervention is straightforward, with 3 components, and easily replicated.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
		<p>diabetes in their adult population.</p>		<p>encouraged communication through a common language. Implementing teamwork strategies supported a culture change of collaboration.</p>			
<p>Parker, A. L., Forsythe, L. L., & Kohlmorgen, I. K. (2018) TeamSTEP PS®: An evidence-based approach to reduce clinical</p>	<p>To investigate and evaluate feasibility and potential for success of TeamSTEPPS® implementation, the influence of TeamSTEPPS® for Office-Based Care on the clinical error rate in a private outpatient clinic, and influence of TeamSTEPPS® for Office-Based Care on patient satisfaction.</p>	<p>Data from 19 studies were evaluated to identify the strength of presented evidence and classified according to level of evidence.</p>	<p>Integrative Review.</p>	<p>TeamSTEPPS® has led to incremental improvement patient safety, fewer medical errors, increased staff morale, and increased patient satisfaction in small studies. It has been shown to be both</p>	<p>Level 5 Integrative Review (Melnynk & Fineout-Overholt, 2015).</p>	<p>Study limitations include settings analyzed, small sample sizes, inconsistent evaluation methods, inability to control</p>	<p>This integrative review shows support from 19 small-scale studies that TeamSTEP PS® is an effective intervention in multiple</p>

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<p>errors threatening safety in outpatient settings: An integrative review.</p>				<p>feasible and successful in multiple clinical settings, including both military and civilian inpatient and outpatient settings.</p>		<p>confounding factors, and reporting bias.</p>	<p>healthcare settings.</p>
<p>Peters et al. (2018) Impact of a TeamSTEP PS® trauma nurse academy at a level 1 trauma center.</p>	<p>To evaluate the implementation of the Trauma Nurse Academy, an emergency department (ED) trauma nurse training program, as a part of the comprehensive multidisciplinary TeamSTEPPS program at a Level 1 trauma center.</p>	<p>82 RNs participated from 2011 to 2013.</p>	<p>A pre-/post-test design.</p>	<p>Nurses reported feeling well-prepared to participate on the trauma team, advocate for the patient, and have the knowledge and skills to solve problems in unexpected circumstances. Findings included the following trauma team performance</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>Study performed in one unit of the hospital system.</p>	<p>A practice change is indicated based on these results. The study evaluated nurses before the intervention, after its implementation, and longitudinal</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>improvements post-TeamSTEPPS training as measured with the TTPO: leadership (2.87 to 3.46, P = .003); situation monitoring (3.30 to 3.91, P = .009); mutual support of team members (3.40 to 3.96, P = .004); communication (2.90 to 3.46, P = .001), and overall team performance rating (3.12 to 3.70, P < .001). In addition, most improvements in</p>			<p>ly one year later.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>team performance measures were sustained with ongoing multidisciplinary TeamSTEPPS® training when studied 1 year later.</p>			
<p>Roman T. C., Abraham, K., & Dever, K. (2016) TeamSTEP PS® in long-term care – An academic partnership: Part II.</p>	<p>To evaluate TeamSTEPPS® in the long-term care (LTC) setting to improve teamwork and communication strategies to improve resident safety.</p>	<p>41 nursing and non-nursing professionals working at LTC facilities in NY.</p>	<p>Pre- and posttest design.</p>	<p>The results of the Wilcoxon Signed Rank Test Pre- and Postmedian Scores showed an improvement in team communication (2.75 to 4.75, P=.005), roles and responsibilities (3.00 to 4.50, P=.007) handoff (2.00 to 4.00, P=.007),</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>Challenges in providing comprehensive training to all staff from one LTC facility. Due to budget constraints and staffing needs, not all staff</p>	<p>A practice change is indicated based on these results. The study evaluated interprofessional staff members both before and after the intervention and every</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>assessment and monitoring (3.00 to 4.00, P=.005).</p>		<p>from an LTC facility or organization were available to attend.</p>	<p>area showed improvement.</p>
<p>Foronda, C., MacWilliams, B., & McArthur, B. (2016) Interprofessional communication in healthcare: An integrative review.</p>	<p>To understand the current state of knowledge regarding interprofessional communication.</p>	<p>The sample contained 85 articles that reviewed different techniques in interprofessional communication.</p>	<p>Integrative Review.</p>	<p>The review suggested that nurses and physicians are trained differently and exhibit differences in communication styles. Egos, lack of confidence, lack of organization and structural hierarchies hindered relationships and communications.</p>	<p>Level 5 Integrative Review (Melnyk & Fineout-Overholt, 2015).</p>	<p>Reliability and validity of each of the studies reviewed were not examined. Some of the articles reviewed included more than one intervention. Only one literature database</p>	<p>This was a large sample size. However, not all the articles focused on TeamSTEP PS®.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>In TeamSTEPPS®, core competency areas such as communication, leadership, situation monitoring, and mutual support/assertion were significantly improved 1 month after the intervention. Improvement was not significantly maintained for all competency areas 12 months after team training.</p>		<p>was used in the search.</p>	
<p>Dietz et al. (2014) A systematic review of</p>	<p>To address what is known about teamwork, team tasks, and team improvement strategies</p>	<p>85 articles that were intradepartmental,</p>	<p>Systematic Review.</p>	<p>After implementing TeamSTEPPS®, competency areas</p>	<p>Level 1 Systematic Review (Melnink</p>	<p>Reliability and validity of the measurements</p>	<p>Does not bring about a practice change, as</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>teamwork in the intensive care unit: What do we know about teamwork, team tasks, and improvement strategies?</p>	<p>in the ICU to identify the strengths and limitations of the existing knowledge base to guide future research.</p>	<p>involved a primary data source, and involved ICU team-related data.</p>		<p>showed improvement one month later. However, competency was not maintained after 1 year.</p>	<p>& Fineout-Overholt, 2015).</p>	<p>nt tools used in the studies were not examined in this systematic review. Some articles examined more than one team task.</p>	<p>reliability and validity were not examined in these studies.</p>
<p>Gaston, T., Short, N., Ralyea, C., & Casterline, G. (2016) Promoting patient safety: Results of</p>	<p>To design, implement, and evaluate a customized TeamSTEPPS® training program.</p>	<p>The settings were 3 oncology acute patient care units (total of 72 beds) in an academic health center in the</p>	<p>Mixed methods approach using both quantitative and qualitative data.</p>	<p>The mean for the team structure subscale before training was 3.89 and at 1 month after training was 4.43 ($P = .000$). The mean for the communication subscale from</p>	<p>Level 5 mixed-methods study (Melnynk & Fineout-Overholt, 2015).</p>	<p>A convenience sample was used and lacked a control group. Longitudinal examination</p>	<p>Yes, TeamSTEPPS® was implemented on 3 different units and results showed improvement</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>TeamSTEP PS® initiative.</p>		<p>southeastern US. The convenience sample of voluntary staff included full- and part-time staff (n = 92 RNs, n = 12 CNAs/HCTs, n = 6 physicians) who work within the area.</p>		<p>pretraining was 4.08 and at 1 month after training was 4.58 ($P = .000$). Both subscales measured demonstrated an improvement in staff perceptions for team structure and communication with statistical significance.</p>		<p>n was not performed.</p>	<p>t in all competency areas following the educational intervention.</p>
<p>Lisbon et al. (2014) Improved knowledge, attitudes, and behaviors after</p>	<p>To describe the process and results arising from implementation of TeamSTEPPS® through interprofessional team training of an entire ED.</p>	<p>The master trainers trained 10 coaches as well as the entire staff of an academic ED</p>	<p>Pre-posttest design.</p>	<p>Patient safety knowledge, as demonstrated by the knowledge survey, improved in all 21 questions after training with statistically</p>	<p>Level 4 cohort study (Melnynk & Fineout-Overholt, 2015).</p>	<p>The survey data were not segregated by profession or trainee status, so</p>	<p>This study included a large sample size but retained knowledge was questionable</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
<p>implementation of TeamSTEP PS® training in an academic emergency department: A pilot report.</p>		<p>department: 113 members including all physicians, resident physicians, and nursing and ancillary personnel.</p>		<p>significant improvement (χ^2 test, $P < .05$) over baseline in 15 questions on day 45. Administration of the knowledge test on day 90 showed sustained knowledge over baseline (χ^2 test, $P < .05$) and actual but not statistical improvement from day 45 on 14 of the questions. Knowledge level fell significantly from day 45 to day 90 on only 2 questions—</p>		<p>the research team was unable to characterize each. There also was no control group.</p>	<p>in some of the areas. This shows a need for continuing education updates in the future.</p>

<p>Article Title, Author, etc.</p>	<p>Study Purpose</p>	<p>Sample (Characteristics of the Sample: Demographics, etc.)</p>	<p>Methods</p>	<p>Study Results</p>	<p>Level of Evidence</p>	<p>Study Limitations</p>	<p>Would Use as Evidence to Support a Change?</p>
				<p>questions 1 and 3. This study has demonstrated improvement in knowledge, attitude, and behavior.</p>			
<p>Harvey, E. M., Echols, S. R., Clark, R., & Lee, E. (2014) Comparison of two TeamSTEP PS® training methods on nurse failure-to-rescue performance</p>	<p>To explore the impact of 2 EBP training methods: simulation-based training (SBT) versus case study review (CSR), both using TeamSTEPPS® on practicing nurse early warning signs knowledge, confidence, teamwork, and clinical skill performance.</p>	<p>The convenience sample was comprised of 39 RNs practicing on two medical-surgical PCUs in an 825-bed, academic medical center, Level 1 trauma center. Nurses</p>	<p>A quasi-experimental two-group comparison, pre-postintervention study.</p>	<p>Increased knowledge and teamwork skills after education were seen in both groups ($P<.05$). The SBT group showed greater improvement in all areas except knowledge, with greatest significance found in teamwork skills ($P<.05$).</p>	<p>Level 3 quasi-experimental design (Melnynk & Fineout-Overholt, 2015).</p>	<p>Small sample size, 30% staff turnover rate on the CSR unit during the study. Inability to randomize individual participants</p>	<p>Although this was a small sample size, it showed support for TeamSTEP PS® intervention.</p>

Article Title, Author, etc.	Study Purpose	Sample (Characteristics of the Sample: Demographics, etc.)	Methods	Study Results	Level of Evidence	Study Limitations	Would Use as Evidence to Support a Change?
		grouped according to unit of practice received the same educational intervention.					

Appendix B

CITI Training Biomedical Research Certificate

Completion Date 24-Jan-2019 Expiration Date 23-Jan-2022 Record ID 30182850

This is to certify that:

Amy Wadsworth

Has completed the following CITI Program course:

Biomedical Research - Basic/Refresher (Curriculum Group) Biomedical & Health Science

Researchers (Course Learner Group) 1 - Basic Course (Stage)

Under requirements set by:

Liberty University

Verify at www.citiprogram.org/verify/?wf878bc91-3fa4-4c16-bac4-f1e5f928a585-30182850

Appendix C

CITI Training Biosafety Certificate

Completion Date 26-Jan-2019 Expiration Date 25-Jan-2022 Record ID 30182851

This is to certify that:

Amy Wadsworth

Has completed the following CITI Program course:

LUMOC Biosafety Training (Curriculum Group) Initial Biosafety Training (Course Learner
Group) 1 - Biosafety/Biosecurity (Stage)

Under requirements set by:

Liberty University

Verify at www.citiprogram.org/verify/?wdd807223-57a5-48e4-bb90-b53356a7a6d5-30182851

Appendix D
Data Collection Template

Participant Code: _____

Date: _____

Time: _____

JSS Data Collection

<u>Job Facet</u>	<u>Pre-Intervention Total Score</u>	<u>Post-Intervention Total Score</u>
Pay		
Promotion		
Supervision		
Fringe Benefits		
Contingent Rewards		
Operating Conditions		
Coworkers		
Nature of Work		
Communication		
Cumulative Score		

T-TAQ Data Collection

Date: _____

Time: _____

<u>Teamwork Construct</u>	<u>Pre-Intervention Total Score</u>	<u>Post-Intervention Total Score</u>
Team Structure		
Leadership		
Situation Monitoring		
Mutual Support		
Communication		

Appendix E
Letter of Support

[REDACTED]

[REDACTED]

April 30, 2019

Attention: IRB
Liberty University
1971 University Boulevard
Lynchburg, Virginia 24515

RE: Amy Wadsworth's Doctor of Nursing Practice Scholarly Project

To Whom It May Concern:

The [REDACTED] is committed to improving patient safety and providing quality care. Miss Wadsworth's proposed Doctor of Nursing Practice (DNP) Scholarly Project: "Using TeamSTEPPS® to Improve Interprofessional Collaboration in the Outpatient Psychiatric Care Setting," directly aligns with our mission and values of the organization. We are pleased to support Miss Wadsworth with this endeavor, as we strive for continuous quality improvement, with the goal of providing excellence in patient care.

Please feel free to contact me if I can be of any further assistance.

Sincerely,

[REDACTED]

[REDACTED]
Executive Director

[REDACTED]

Appendix F

Permission to Use the Iowa Model

Kimberly Jordan - University of Iowa Hospitals and Clinics <noreply@qualtrics-survey.com>

Mon 4/8, 3:17 PM

Wadsworth, Amy

Inbox

You have permission, as requested today, to review and/or reproduce *The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care*. Click the link below to open.

[The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care](#)

Copyright is retained by University of Iowa Hospitals and Clinics. **Permission is not granted for placing on the internet.**

Citation: Iowa Model Collaborative. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182.
doi:10.1111/wvn.12223

In written material, please add the following statement:

Used/reprinted with permission from the University of Iowa Hospitals and Clinics, copyright 2015. For permission to use or reproduce, please contact the University of Iowa Hospitals and Clinics at 319-384-9098.

Please contact UIHCNursingResearchandEBP@uiowa.edu or 319-384-9098 with questions.

Appendix G

IRB Approval Documentation

IRB, IRB

Tue 7/16/2019 11:56 AM

- Wadsworth, Amy;
- IRB, IRB;
- **Murphy, Dorothy L (Doctoral Nursing)**

📎

Wadsworth_3872NonHumanSubjectsResearch_07_19.pdf
88 KB

Dear Amy Wadsworth,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because evidence-based practice projects are considered quality improvement activities, which are not considered “research” according to 45 CFR 46.102(d).

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application’s status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP*Administrative Chair of Institutional Research*
Research Ethics Office*Liberty University | Training Champions for Christ since 1971*