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Clinical Guidelines for Identifying Early Warning Signs of Deterioration in Rehabilitation Patients

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
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Abstract

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MS, Adelphi University, 2014

BS, Adelphi University, 2008

Project Submitted in Partial Fulfillment

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Abstract

Failure to recognize early warning signs of clinical deterioration can cause critical complications and a sentinel event with legal implications. These complications are preventable if nurses have evidence-based guidelines to guide their critical thinking to identify early warning signs. The purpose of this project was to close this gap by developing a Clinical Practice guideline for identifying early warning signs of clinical deterioration for the rehabilitation center. The clinical practice question addressed what evidence supported the development of a clinical guideline for nurses to recognize early warning signs of a deteriorating patient improve the quality of care of patients at risk for deterioration. The adult learning theory was used as a guiding framework. Johns Hopkins Nursing evidence-based practice framework was used to grade the literature for inclusion. The literature was synthesized for development of the guidelines. Six rehabilitation nurses comprised the expert panel and appraised the content of the developed guidelines using the Appraisal of Guidelines Research and Evaluation (AGREE) II tool answering a six-domain questionnaire. Descriptive statistics were used to analyze the six questions. The mean score was 97.6%. The final approved guidelines were presented to the stakeholders and end users who approved the guidelines. The guidelines were handed off to the Director of Nursing, who plans to have an in-service on the guidelines. The Clinical Guidelines for Identifying Early Warning Signs of Clinical Deterioration provides an evidence-based guideline to prevent failure to recognize early warning and creates an environment of safety, quality, accountability, positive patient outcomes, and positive social change.

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Dedication

To my husband John and my children Jonathon, Chelsea, Michael, and Sasha.

Thank you for believing in me.

Acknowledgments

I cannot express enough thanks to my committee for their continued support and encouragement, Dr. Wright, and my committee chair Dr. Farrar. I offer my sincere appreciation for all the learning opportunities provided by my committee. My completion of this project could not have been accomplished without the support of my amazing family and friends. Finally, to my wonderful, caring, loving, and supportive husband. John, my deepest gratitude. Your encouragement when the times got rough is much appreciated and noted. It was a great comfort and relief knowing that you were willing to provide and facilitate anything needed to help me complete this major milestone of my life. My heartfelt thanks.

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Section 1: Nature of the Project

Introduction

The concept of failure to identify early warning signs of deterioration in long term care patients captures the idea that, although not every complication of medical care is preventable, the health care system should be able to rapidly identify and treat complications when they occur (AHRQ, 2019). Lack of awareness of the signs of a serious life-threatening illness has resulted in increased patient mortality, increased infection rate, and diminished patient outcomes. Failure to identify early warning signs when applied to health care plays a pertinent role, as it refers to the ability of health care providers/clinical team to identify changes in a patient's condition quickly and to act on those changes in a manner that benefits the patient's health (AHRQ, 2019). Failure to identify early warning signs can occur in any situation where the clinical team is unable to mitigate preventable harm to patients. As a safety and quality measure, failure to identify these early warning signs can be defined as the inability to prevent death after the development of a complication (AHRQ, 2019). For example, a woman with no known comorbidity conditions who undergoes an abdominal hysterectomy and develops difficulty breathing and tachycardia on the second postoperative day clearly illustrates the concept. The failure to identify these symptoms and signs as being consistent with pulmonary embolism, leading to a failure to perform appropriate testing and institute treatment for an ultimately fatal complication, would be consistent with the concept of failure to identify early warning signs (AHRQ, 2019). Currently, there is no formal training or standard procedure in place at the practicum site to help nurses recognize the

signs of patients who are at risk. The purpose of this project is to use the developed clinical practice guidelines to assist nurses to recognize early warning signs of a deteriorating patient. Failure to recognize early signs and symptoms of deteriorating patients have resulted in many catastrophic events. According to the literature, the nurse's ability to recognize early signs and symptoms of a deteriorating patient are of significant concern with regards to knowledge and clinical skills (Finkelman, 2012). This has potential to lead to positive social change by improving patient outcomes through prevention of adverse consequences of clinical deterioration.

The goal of this project is to develop an evidenced based CPG that could potentially standardize and improve the quality of care of patients at risk for deterioration. The CPGs are systematically developed statements, which will assist nurses to make patient decisions regarding identifying the rapid changes deterioration in patients (Institute of Medicine, 1990).

Problem Statement

Rapid patient deterioration can be prevented or averted with prompt recognition and quick response by bedside nurses and specially trained personnel who successfully intervene to improve patient outcomes (Dobuzinsky, 2017). Life-saving interventions depend on the competencies, knowledge, and skills of the bedside nurse. However, as research has shown, nurses spend very little time out of their 12-hour shift at the patient bedside (Dobuzinsky, 2017). Clinical facilities should have evidence-based procedures and guidelines in place for nurses to identify and respond to early warning signs of patient deterioration. Systems like the Rapid Response Team (RRT) used in some

healthcare agencies are pivotal to providing corrective measures before patient deterioration becomes an emergency and/or irreversible, according to the Institute of Healthcare Improvement (IHI; 2017a; IHI, 2017b).

Some incidents that occur in rehabilitation facilities are inevitable; however, early warning signs can be missed due to unsafe staffing levels, untrained staff, not enough bedside time by nurses, and lack of standard protocols for rescue. Rehab settings, and in surgical particular, post management, respiratory management, wound care, and post orthopedic care, are areas that require special attention. Failure to detect early warning signs of patient deterioration can lead to conditions such as sepsis or septic shock (a potentially life-threatening condition caused by the body's response to an infection), hospital acquired pneumonia, and other conditions (Lippincott Solutions, 2015; Sebasky et al., 2015).

Recognition of early warning signs of clinical deterioration in rehabilitation patients have challenged nurses over the years. Currently, there is no policy or standard procedure in place at the practicum site to help nurses recognize the signs of patients who are at risk of deterioration, and as a result, delay in calling for rapid intervention has occurred. Therefore, a customized clinical guideline checklist is needed for the bedside nurse. As Sebasky et al. (2015) noted, having untrained staff can contribute to failure of staff recognition of early warning signs.

According to Lippincott Solutions (2015), nurses spend a quarter of their shift on indirect patient care activities, including documentation and paperwork. In an internal study carried out at Novant Health Presbyterian Medical Center in Charlotte, NC, it was

found that nurses spent 2 hours and 30 minutes of each 12-hour shift providing direct care to patients. This recognition led to the implementation of new measures such as bedside charting and the use of computers and laptops where they can actually be at the patient's bedside where early warning signs are more likely to be noticed, instead of being away from them (Lippincott Solutions, 2015).

Even when at the bedside, the recognition and management of deteriorating patients is a complex and multidimensional skill set. Although warning signs often precede serious adverse events, there is evidence that "at risk" patients are not always identified; and even when warning signs are identified, they are not always acted on in a timely manner. Despite growing evidence that a complete focused physical assessment can help reduce frequent calls of rapid responses, nurses are not recognizing the early signs of a deteriorating patient. The ability of nurses to recognize early signs and symptoms of a deteriorating patient are of significant concern with questions over knowledge and clinical skills (Finleman, 2012).

Purpose Statement

The purpose of this DNP project is to develop evidence based clinical guidelines for nurses to recognize early warning signs of a deteriorating patient. These clinical guidelines will be developed using evidence-based research and knowledge that have the potential to standardize and improve the gap that exists between nurses' knowledge and the ability to recognize the early warning signs of a deteriorating patient. The use of these clinical guidelines will be especially helpful for newly graduated nurses to use in situations where patients are clinically and rapidly deteriorating. In executing this project,

I will use the Agree II to determine the level of evidence of the literature for inclusion to develop these evidence-based guidelines. After the guidelines are developed, a panel of experts will be established and provided a questionnaire using a Likert scale to rate the content in the clinical practice guidelines. The guidelines were confirmed by the panel of experts. After the data are analyzed from the questionnaire, the final guidelines will be presented and handed off to stakeholders and the director of nursing for potential adoption/implementation.

The goal of this project is to use the developed clinical practice guidelines to enhance nurses' ability to recognize the early warning signs, which would result in fewer cases of preventable conditions that can cause rapid deterioration in patient and thus improve patient outcomes— a positive social change. Stakeholders such as the nursing staff, the hospital board, and community organizations were in full support of this program and its feasibility.

Nature of the Doctoral Project

The nature of this project was to develop evidence-based practice clinical guidelines to serve as a practice framework for nurses. The sources of evidence for the development of the CPG were obtained from selected articles relating to practice guidelines on early recognition and escalating care for patient's deterioration search in database. CPGs were identified using specific search strategies in various sources, Medline, PubMed, CINAHL, DARE, Cochrane, and Joanna Briggs. The CPG will be reviewed and validated by an expert panel utilizing the AGREE II instrument. The key stake holders comprising of nursing staff, the hospital board, and community

organizations evaluated and validated the content and ensure usability of the developed CPG. The evidence based clinical practice guidelines for failure to recognize clinical deterioration in rehabilitation patients is proposed to standardize and improve ability to recognize and respond to signs of the patient deterioration in a timely manner.

The CPG had the potential to enhance nurses' ability to recognize the early warning sings, which would result in fewer cases of preventable conditions that can cause rapid deterioration in patient and thus improve patient outcomes.

Significance

There is a clear recognition of the frequency of adverse events in rehabilitation patients, with many studies and systematic reviews providing insights into the risks rehabilitation patients face (Massey et al., 2016). Nurses' ability to recognize and respond to signs of the patient deterioration in a timely manner plays a pivotal role in patient outcomes (Massey et al., 2016). There is increasing awareness of the factors inhibiting nurses from escalating care for patients who deteriorate (Cox et al., 2006; Massey et al., 2014; Shearer et al., 2012). However, why nurses fail to recognize and respond to patient deterioration has not been extensively studied. There is a clear need for a detailed and holistic analysis and synthesis of the relevant literature to elucidate the factors that contribute to nurses' timely recognition of and response to patient deterioration.

Not only will this project directly bring a change to the practice site, but it is in keeping with the philosophy of Walden University, which aims to improve the social well-being of all people regardless of race, religion, socio-economic status, age, or any other variables that might be applied. The Walden University graduate is skilled and

knowledgeable to be a leader and an advocate for those who are less fortunate. Patients in hospital settings are vulnerable, and therefore every effort should be made to protect them and prevent adverse events. This project coincides with the novel coronavirus pandemic (COVID-19) that the United States and the entire world population had faced.

Summary

This DNP project was designed to develop evidence-based clinical practice guidelines from evidence-based resources that have the potential to narrow the gap that exists between the knowledge of nurses and their ability to recognize the signs and symptoms of a patient who is deteriorating or is at risk of deterioration. Currently, there is no training or standard procedure in place at the practicum site to help nurses recognize the signs of patients who are at risk of deterioration. This DNP project will start what is hoped to be a partnership of an organizational change that will benefit staff as well as the patients, and one that will be sustainable.

Section 2: Background and Context

Introduction

Failure to recognize the early warning signs of deteriorating patients has challenged nurses over the years. They are continually challenged to possess the right knowledge and ability to identify subtle changes in rehabilitated patients and respond appropriately. Research has shown that rapid deterioration can be prevented with prompt recognition and quick response by nurses and specially trained personnel who successfully intervene to improve patient outcomes (Dobuzinsky, 2017). Currently, there is no guideline on failure to recognize early warning signs of a deteriorating patient or a patient who is at risk. The question as to why nurses fail to recognize and respond to patient deterioration has not been extensively studied. There is a clear need for a detailed and holistic analysis and synthesis of the relevant literature to elucidate the factors that contribute to nurses' timely recognition and response to patient deterioration. The purpose of this DNP project is to develop evidence-based clinical guidelines for nurses to recognize early warning signs of a deteriorating patient. These clinical guidelines will have the potential to standardize the knowledge of nurses (especially the newly graduated nurses) and their ability to recognize the signs and symptoms of the patients who are deteriorating or who are at risk. The goal is to develop clinical guidelines to serve as a practice framework for the nurses. Nurses' ability to recognize and respond to signs of patients' deterioration in a timely manner plays a pivotal role in patients' outcomes (Purling & King, 2012). Providing an evidence-based CPG will enhance nurses' ability to recognize the early warning signs, which would result in fewer cases of preventable

conditions that can cause rapid deterioration in patients and thus improving patients' outcomes.

Concepts, Models, and Theories

A framework or model facilitates a systematic translation of new knowledge into practice and enhances the chances of successful implementation (White & Dudley-Brown, 2019). It can provide a skeletal set of variables applicable for all types of individuals, groups, and a wide variety of situations (White & Dudley-Brown, 2019). Subsequently, the process of learning is derived from educational, psychological, and research-based theories, and the main purpose is to gain knowledge, understanding, or skills through experience; learning is fundamental to human development (Merriam, 2001). Nurses, for example, spend a significant amount of their time and energy involved with learning and teaching, whether acquiring new information as part of their professional and continuing education or instructing others in health care (Merriam, 2001). Advanced practice nurses, in particular, are concerned with teaching and learning in numerous ways that would improve the quality of care rendered to their patients and the society. The theory and model selected for the development of this CPG are the adult learning theory (Merriam, 2001) and the Appraisal of Guidelines Research and Evaluation II (AGREE II) model (Walden University, 2019).

Adult Learning Theory

Malcom Shepard Knowles proposed andragogy, also known as adult learning theory, in 1968. Knowles recognized that there are many differences in the ways that adults learn as opposed to children. His thoughts surrounding andragogy sought to

capitalize on the unique learning styles and strengths of adult learners (Merriam, 2001). The theory of andragogy included five assumptions that educationalists should make about adult learners:

- Self-concept: Because adults are at a mature developmental stage, they have a more secure self-concept than children. This allows them to take part in directing their own learning.
- Past learning experience: Adults have a vast array of experiences to draw on as they learn, as opposed to children, who are in the process of gaining new experiences.
- Readiness to learn: Many adults have reached a point in which they see the value of education and are ready to be serious about and focused on learning.
- Practical reasons to learn: Adults are looking for practical, problem-centered approaches to learning. Many adults return to continuing education for specific practical reasons, such as entering a new field.
- Driven by internal motivation: Although many children are driven by external motivators – such as punishment if they get bad grades or rewards if they get good grades – adults are more internally motivated (Merriam, 2001).

Based on these assumptions about adult learners, Knowles discussed four principles that educators should consider when teaching adults:

- Because adults are self-directed, they should have a say in the content and process of their learning.
- Because adults have so much experience to draw from, their learning should focus on adding to what they have already learned in the past.
- Because adults are looking for practical learning, content should focus on issues related to their work or personal life.
- Additionally, learning should be centered on solving problems instead of memorizing content (Merriam, 2001).

The above-mentioned assumptions were used as a guide in developing the proposed clinical guidelines. The panel of nurse experts participants had input in the development of the content on the practice guidelines based on knowledge at hand, literature reviews, and professional experience. During development of the guidelines, key stakeholders, including a practicing physician, nurse practitioners (NPs), occupational therapist certified nurse assistants (CNAs), and physical therapists (PTs) from the specialty practice site, evaluated the content and made recommendations to ensure the validity of the content and its usability. The CPG is intended to be a resource that new nurses can use in delivering comprehensive, safe, and effective patient care.

The Appraisal of Guidelines Research and Evaluation (AGREE) II Model

CPGs are recommendations based on a summary of current best evidence that are systematically developed to assist practitioners to improve patient care (Barham et al., 1997). They are used in evidence-based medicine to help synthesize clinical experience and the best current scientific data when creating individualized patient-care plans. To

ensure quality, guidelines must be developed in a systematic manner. As a result of the 2008 Medicare Improvements for Patients and Providers Act, the Institute of Medicine (IOM, 2011) published standards for guaranteeing CPG dependability. These standards include establishing transparency and evidence foundations for rating the strength of recommendations (IOM, 2011). CPG management involves different steps and requires involvement from different sectors such as a multidisciplinary guideline-development group as well as consumers and patients (Moores et al., 2013). In addition, important clinical topics must be identified using the patient–intervention–comparison–outcome model, systematic literature searches and syntheses must be performed, recommendations should be drafted using a structured evidence evaluation, and continued updates and revisions should be performed post publication (Moores et al., 2013).

I used the AGREE II framework to guide the development of the CPG and to assess the quality of the guideline developed. The AGREE II is both valid and reliable and includes 23 key items organized within six domains (Walden University, 2019). The six domains include:

Domain 1: Scope and purpose, which is concerned with the overall aim of the guideline, the specific health questions, and the target population;

Domain 2: Stakeholder involvement focuses on the on the extent to which the overall aim of the guideline was developed by the appropriate stakeholders and represents the views of its intended users;

Domain 3: Rigor of development relates to the process used to gather and synthesize the evidence and the methods to formulate and update recommendations;

Domain 4: Clarity of presentation concerns the language, structure, and format of the guideline;

Domain 5: Applicability pertains to the likely barriers and facilitators to implementation, strategies to improve uptake, and cost implications of applying the guideline; and

Domain 6: Editorial independence is concerned with the formation of recommendations not being unduly biased with competing interests (Walden University, 2019).

For a guideline to receive high AGREE scores, there must be a clear link between the proper collection and use of research evidence by qualified professionals and the development of trustworthy recommendations made in the guideline (Walden University, 2019). The higher the AGREE scores, the more confident users can be that the guideline developers used an evidence-based approach to reach their recommendations (Walden University, 2019).

This system allows clinicians to evaluate more effectively the quality of clinical evidence and the applicability of current recommendations to the care of their patients (Guyatt et al., 2008). It is vital that health care practitioners critically evaluate CPGs to make well-informed decisions regarding treatment recommendations and formulary management (Cruz et al., 2015).

Relevance to Nursing Practice

CPGs are defined as a set of recommendations based on scientific evidence and designed to assist both healthcare professionals and users in selecting the most suitable

diagnostic and/or therapeutic options to address a specific clinical condition (IOM, 2011). Although the implementation of CPGs has not been fully demonstrated to improve health outcomes (Dimitra et al., 2019), health professionals generally accept that clinical care must be evidence-based and understand that CPGs are among the best means available to translate scientific evidence into clinical practice (IOM, 2011). Despite health care providers' belief in evidence-based practice, current health care assessments indicate variability in clinical decisions with a low level of adherence to CPG recommendations (Llor et al., 2014). Many factors have been identified that could influence CPG implementation. These factors could act as either a barrier or an enabler in areas such as professional behavior and attitudes, patient characteristics, the professional-patient relationship, the organizational context, the guideline itself, and the wider environmental factors (Brusamento, 2012).

Healthcare should be evidence-based and address patients' needs rather than respond exclusively to patients' demands (AACN, 2006). CPGs seem to be the best available tool to this end. Allowing evidence-based medicine and CPGs to be incorporated into clinical practice is imperative in easing the management pressure on professionals and improving local leaders' participation in their design (Gene-Badia, 2016). The CPG can also be a part of an incentive scheme (i.e., pay-for-performance) laid out by the management structure. It can be part comprehensive information system and is sometimes continuously monitored. Hence, compliance with CPGs is used as a key indicator of professionals' performance in many health care organizations (Hardy, 2019). This use turns it into a control mechanism to monitor professional activities, which serves

as quality measure outcome in a practice setting. The use of a standardized approach as set forth in a CPG may assure that all relevant information regarding treatment plan, patient preference, and patient need is communicated between care providers. The development of a CPG with the focus on improving communication between healthcare providers during transitions of care could improve patient safety and satisfaction if implemented (Hardy, 2019).

This project also emphasizes Essentials I, II, III, and VI of the American Association of Colleges of Nursing (AACN) Essentials of Doctoral Education for Advance Nursing Practice published in 2006. Essential I: Scientific Underpinning for Practice prepares the DNP graduate to use multidisciplinary theories and concepts to develop and evaluate new nursing practices (AACN, 2006). Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking prepares the DNP graduate to lead organizational initiatives that focus on improving both patient safety and the quality of care delivered to meet the needs of the community served (AACN, 2006). Essential III: Clinical Scholarship and Analytical Methods 6 for Evidence-Based Practice prepares the DNP graduate to critically analyze current relevant literature resulting in the creation, implementation, and evaluation of quality improvement initiatives focused on improving healthcare outcomes (AACN, 2006). Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes prepares the DNP graduate to lead interprofessional teams in the creation of scholarly products to include clinical practice guidelines (AACN, 2006).

Local Background and Context

The setting for this doctoral project was a rehabilitation health care facility located in the greater metropolitan New York area. The facilities provide specialized service in wound, cardiac, dementia, dialysis, orthopedic, pulmonary, stroke, and ventilator care. This DNP project took place at a 34 beds unit with a healthcare staff comprised of one registered nurse (RN), one NP, one licensed practice nurse, one physician (MD), two CNAs, one PT, one speech therapist, and one occupational therapist. I developed evidence-based clinical guidelines for nurses to use on how to identify adult patients on the unit who are at risk of deterioration. These guidelines will be presented to stakeholder and input sought prior to use. The developed guidelines will be disseminated to administration with hopes of approval for use in the facility, which will lead to quality improvement.

The first step was to get approval for this project by Walden IRB, then present the proposal to the nursing supervisors and managers. They discussed it at senior leadership and management levels and approved it. This project was initiated at the project site following approval by the Walden IRB. The staff were informed; I requested permission to meet with the staff and presented the project officially. This project was feasible, and the proposed practice site has been quite enthusiastic to get started. Stakeholders such as the nursing staff, the rehab board, and community organizations supported the program and its feasibility.

Definition of Terms

The following terms are used throughout this project:

- Clinical Deterioration: Aid defined as the physiological decomposition that occurs when patient experiences worsening conditions or an acute onset of a serious physiological disturbance (Swartz, 2011).
- Clinical practice guideline: Statements that include recommendations intended to optimize patient care and that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options (IOM, 2011).
- Evidence-based practice (EBP): The conscientious use of current best evidence in making decisions about patient care (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2018). It is a problem-solving approach to clinical practice and administrative issues that integrates a systematic search for and critical appraisal of the most relevant evidence to answer a pressing clinical question; one's own clinical expertise and patient preferences and values (Melnyk & Fineout-Overholt, 2014). The EBP process is a method that allows the practitioner to assess research, clinical guidelines, and other information resources based on high quality findings and apply the results to practice (AMSN, 2020).

Role of the DNP Student

The Doctor of Nursing Practice (DNP) is a clinical doctorate that prepares graduates for advanced nursing roles that include clinical practice and leadership. These advanced nurses are well positioned to meet the Institute of Medicine’s mandate for nurses to add their unique perspective to the interprofessional efforts to improve health

care. The role of the DNP student is to design, evaluate and create innovative patient care models, evaluate the cost effectiveness of patient care strategies and influence health policy at multiple levels. My role as a DNP student in this project is to implement clinical guidelines for newly undergraduate nurses and all other staff to utilize as they recognize and identify clinical signs and symptoms of a deteriorating patient or patient at risk for deterioration. This project is the accumulation of the educational process where core competencies and the clinical scholarship of the graduate becomes evident. It is my hope that this project will create a significant impact not only to the nurses but on quality, efficiencies, and effectiveness of the care of patients and the health care systems through the contributions in clinical practice, advocacy in health policy, implementation and evaluation of evidence-based practice, and contribution to nursing education.

My roles as a DNP student was illustrated as a leader, researcher, and an evaluator in this project. As a researcher, a literature review was done to identify the evidence that will support that need of a clinical guideline in the practice site. I also conducted informal interviews with a panel of expert nurses and the administration to determine the need of the guideline at the practice site. This interview revealed that there is currently no written guideline available for failure to recognize early warning signs of a deteriorating patient. As a leader, I coordinated with the administration and performed a need assessment with various staffs to collect the information that was necessary for the development of the guidelines. As an evaluator, I observed the new undergraduate nurses and identified areas that were challenging and why they were unable to identify the subtle changes of deterioration when caring for their patients, especially with the COVID-19 pandemic

crisis. I focused on time management. Research has illustrated that nurses spent approximately quarter of their shift on indirect patient care activities, including documentation and paperwork (Po-Yin Yen et al., 2018).I also focused on the lack of training of the nursing staff to detect patients at risk and factors that influence initiation of the escalation of intervention needed to address the clinical deterioration. As the evaluator, I will also determine the most recent and appropriate evidence using various tools available and with the guidance of my project mentor in developing the CPG. In addition, I reviewed the results of expert panel and stakeholder's/end-user's formative evaluations to determine the validity and usability of the guidelines. The development of this project emphasizes Essentials VI of the AACN's Essentials of Doctoral Education for Advance Nursing Practice published in 2006: Inter-professional Collaboration for Improving Patient and Population Health Outcomes prepares the DNP graduate to lead inter-professional teams in the creation of scholarly products to include clinical practice guidelines (AACN, 2006).

My motivation in developing this project was to improve the quality of care rendered by the nurses and to deliver safe and effective care or treatment to patients who are at risk. Clinical practice guidelines are important instrument for knowledge translation. Ideally, clinical practice guidelines are based on valid scientific evidence, critical assessment of that evidence, and objective clinical judgment that relates the evidence to the needs of healthcare providers and patients (Detsky, 2006). Since these judgments are a human endeavor, they naturally leave room for error and bias. The most significant problem in the development of sound clinical practice guidelines is the lack of

research that can be used to guide the development of comprehensive recommendations on clinical practice (Detsky, 2006). It is important that in improving the validity of the guidelines, I recognize all the other sources of biases. To avoid these biases, the expert panel and the stakeholders will review the guidelines' content validity and applicability.

Role of Project team

The project team included a panel of experts, one RN, one NP, physician, one LPN, two nurse assistants, an occupation therapist, speech therapist and a Physical Therapist who was directly involved with the planning, implementation, and dissemination of the proposed CPGs. The role of the project team was to provide input, and evaluate the guidelines with the survey and aid in the implementation and dissemination of project.

Summary

In summary, and to reiterate, this doctoral project is to develop an evidenced based CPG for failure to see the signs and symptoms of deterioration in hospitalized patent who are at risk. The theoretical theory and model selected for the development of this CPG are the adult learning theory and The Appraisal of Guidelines Research and Evaluation (AGREE) II Model. The adult learning theory principles by Knowles supports and guide the development of the proposed CPG incorporating the input from other disciplines The AGREE II model allows the undergraduate nurses to evaluate more effectively the quality of clinical evidence and the applicability of current recommendations to the care of their patients (Guyatt et al, 2008) and to make well-

informed decisions regarding treatment recommendations and formulary management (Cruz et al, 2015).

Section 3: Collection and Analysis of Evidence

Introduction

Early clinician recognition of signs of patient deterioration is critical to reducing the risk of preventable death and other adverse events. While RRTs have been widely implemented in many hospitals, their success depends on recognizing a deteriorating patient before serious harm has occurred (Kendal et al., 2020). The clinical practice guidelines served to bridge the gap that exist between nurses' clinical skills and the partnership of the interdiscipline team in recognizing early warning signs. Evidence based studies have validated that CPGs are able to decrease the time from the onset of deterioration to the initiation of treatment, which increased the potential for better patient outcomes. While the training and clinical reasoning of staff cannot be discounted (Kendall et al., 2020), clinical practice guidelines can provide a valuable counterpart and backstop to ensure that no deteriorating patients are missed. This section will review failure to recognize early warning signs of patients who are at risk of deteriorating.

Failure to see the signs of early deterioration is a well-established issue in patient safety and healthcare quality. Over the past 2 decades, there have been numerous studies identifying clinical antecedents as well as strategies to respond to these events (Kendall et al., 2020). Silber and colleagues were the first to use the term as a metric for safety and quality in their 1992 study hypothesizing that Failure to Rescue (FTR) might be associated more with hospital characteristics than with patient illness severity. Since then, many studies have investigated the variations in patient outcomes following in-hospital complications, and in 2005, the IHI's 100,000 Lives campaign identified FTR as one of

six key safety initiatives, estimating that implementation of rapid response systems could save 66,000 lives (Kendal et al., 2020). Because in-hospital complication can occur to any patient regardless of their diagnosis or disease process, FTR represents a ubiquitously significant problem and is therefore an important indicator of care quality (Kendall et al., 2020).

The collection of data and analysis of evidence for this project was used to synthesize the evidence on the impact of failure to recognizing early warning signs of a deteriorating patient. A systematic literature review was conducted using databases available through Walden University and the project site that include but are not limited to, CINAHL, MEDLINE, DARE, Cochrane, and Joanna Briggs. All permissions and approvals were obtained by Walden University's Institutional Review Board (IRB) as well as the facility's IRB as needed prior to the literature review. The clinical guideline for recognizing early warning signs of a deteriorating patient was developed with the collaboration of the expert nurse panel for the new undergraduate nurses. After the approval of Walden University IRB, the following steps, as described in the Walden University Manual for Clinical Practice Guidelines Development, were used for the development of the CPGs.

1. Current available evidenced based practice guidelines from different sources and articles regarding nurses' ability to recognize nearly warning signs of a deteriorating patient were reviewed.
2. The search results were determined to see whether they were relevant to the problem question, and then the search strategy was modified when necessary.

Search engine tools such as Zotero and Covidence were used in recording, tracing, organizing, and analyzing the literature gathered.

3. Categorize the levels of evidence using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) framework.
4. Synthesize the evidence from the articles obtained from the review of the literature.
5. Develop a draft of the EB CPG.
6. Have an expert panel complete a formative evaluation of the guideline to validate the content using the AGREE- II instrument.
7. Revise the guideline based on their recommendations.
8. Have a group of key stakeholders/end-users, identified by the administration, evaluate the guideline to validate content and ensure usability.
9. Revise guideline based on their recommendations.
10. Develop the final evidence-based practice guideline
11. Disseminate the final report to the administrator (Walden, 2019).

After the literature review, the articles underwent the Agree II process to determine their inclusion or exclusion. After identifying the problem need, my goal was to get approval from an administrator who signed the Site Approval Form for Clinical Practice Guidelines providing permission to develop a partnership for the development of the clinical practice guidelines. This was discussed at a senior leadership and management level. Once the staff were informed of the decision, I requested permission to meet with the staff and present the project officially. Staff and all the stakeholders

were selected after and will be asked for feedback. The Walden University Clinical Practice Guideline Development (CPGD) Doctor of Nursing Practice (DNP) Scholarly project (Walden University, 2019) was used for this partnership project after IRB and facility IRB approval (11-16-21-0593766). The group of health care professionals were included. The panel of nurse experts validated that the content was met for the guidelines and provided revision to the guidelines using content validity like questionnaire for anonymous feedback; descriptive data analysis was performed on their responses to confirm congruence of content validity. The panelists were given an anonymous questionnaire that was coded to provide privacy and confidentiality. Each nurse answered the questions. I scored each question on range of scores 0 = strongly disagree to 5 = strongly agree. Analysis of variance was conducted to establish content validity. The final clinical guidelines were disseminated in a final report to stakeholders.

Practice-Focused Question(s)

Will the development of clinical guidelines for nurses to recognize early warning signs of a deteriorating patient improve the quality of care of patients at risk for deterioration? Nurses in the rehab facilities are continually challenged to possess the right knowledge and ability to identify subtle changes in patients who are sent for rehabilitation and respond appropriately. In doing so, nurses must possess the knowledge and clinical skills. The first step toward that goal is developing a clinical guideline to serve as a practice framework for nurses.

There is a clear recognition of the frequency and adverse events in hospitals, with many studies and systematic reviews providing insights into the risks hospitalized

patients face (Purling & King, 2012). Nurses' ability to recognize and respond to signs of the patient deterioration in a timely manner plays a pivotal role in patient outcomes (Purling & King, 2012). There is increasing awareness of the factors inhibiting nurses from escalating care for patients who deteriorate (Cox et al. 2006; Massey et al. 2014; Shearer et al., 2012). However, why nurses fail to recognize and respond to patient deterioration has not been extensively studied. There is a clear need for a detailed and holistic analysis and synthesis of the relevant literature to elucidate the factors that contribute to nurses' timely recognition of and response to patient deterioration (Massey et al., 2014). The value of nurses' ability to recognize and respond to patients' deterioration, reduce adverse events, and promote patient safety cannot be understated.

The purpose of this DNP project is to develop evidence-based clinical guidelines for nurses to recognize early warning signs of a deteriorating patient. These clinical guidelines were developed using evidence-based research and knowledge that included the use of the RRT. These clinical guidelines will not only be appropriate for newly graduated nurses to use in situations where patients are clinically and rapidly deteriorating but for all healthcare providers to use in the rehabilitation center. This project was executed by using the Agree II to determine the level of evidence of the literature for inclusion to develop the guidelines. After the guidelines were developed, a panel of experts reviewed the provided questionnaire. The questionnaire was developed using a Likert scale to rate the content in the clinical practice guidelines. Confirmation of the guidelines was then asked for by the panel. After the data were analyzed from the

questionnaire, the final guidelines were presented and handed off to stakeholders and the director of nursing for possible adoption/implementation.

The goal of this project was to enhance nurses' ability to recognize the early warning signs that would result in fewer cases of preventable conditions that can cause rapid deterioration in patients and thus improve patient outcomes— a positive social change. It also closed the gap in evidence-based research guidelines as a framework to early intervention of deterioration. The project was feasible, and the proposed practice site was quite enthusiastic to get started. Stakeholders such as the nursing staff, the hospital board, and community organizations are in full support of this program and its feasibility.

Source of Evidence

Patient deterioration is defined as the condition that occurs when a patient moves from one clinical state to a worse clinical state that potentially increases their risk of morbidity, organ malfunctioning, and prolonged hospitalization, or even death (Jones et al., 2016). Studies have shown that failure to recognize and respond to patient deterioration and escalate care promptly has led to an increased risk of adverse events (AEs) in hospitalized patients (Massey et al., 2017). Many of these adverse events could have been avoided if patient deterioration had been recognized and responded to earlier (Massey et al., 2017). Lack of training of the nursing staff to detect patients at risk has been noted among the factors that influence initiation of the escalation of interventions needed to address the clinical deterioration (Buist et al., 1999; Massey et al., 2016).

Hart et al. (2016) noted that nurses' access to support and advice caused delays in timely responses to patient deterioration and this impacted negatively on patient health outcomes. Quite often, nurses would seek advice from other senior staff; however, years of experience has not shown any correlation to their ability to recognize and respond to patient deterioration (Hart et al., 2016). This practice may delay appropriate clinical management, delay escalation of care, and jeopardize patient safety (Hart et al., 2016). In an internal study carried out at Presbyterian Medical Center in Charlotte, NC, it was found that nurses spend 2 hours and 30 minutes of each 12-hour shift providing direct care to patients. Dumbfounded by this information, new measures were immediately implemented, such as bedside charting and the use of computers and laptops at the patients' bedside (Lippincott Solution, 2015). Another recent study showed that "just in time" training offered to nurses at the bedside improved knowledge needed for the recognition of deterioration as well as measures to initiate interventions (Peebles et al., 2020).

This project recognizes the gap that exists between the knowledge of the nurse and their ability to recognize the signs and symptoms of the patient who is deteriorating or is at risk of deterioration. Currently, there is no training or standard procedure in place at the practicum site to help nurses recognize the signs of patients in the unit who are at risk of deterioration. This DNP project will start what is hoped to be a partnership of an organizational change that will benefit staff as well as the patients, and one that will be sustainable.

Analysis and Synthesis

The evidence gathered from the literature was recorded, tracked, organized, and analyzed using two electronic tools: Zotero and Covidence. Zotero is an easy to use reference management tool that allows the collection and organization of online research sources that serves as a personal research assistant. It allows a researcher to collect, cite, organize, and share research sources (Zotero, n.d.). All the saved sources found in Zotero can then be imported to Covidence for analysis. The Zotero and Covidence browsers are research information system and an online technology platform that facilitate all stages of a literature review, including title review, abstract review, full-text review, quality appraisal, and data extraction (Covidence, n.d.).

The analysis of the literature was conducted into two stages. First, each paper was categorized according to the level of evidence that it provided as a function of its research design. The JHNEBP framework was used to categorize the levels of evidence, which are Level 1 (experimental study or meta-analysis of experiments); Level 2 (quasi-experimental study); Level 3 (non-experimental study, qualitative study, or meta-synthesis); Level 4 (opinion of nationally recognized experts based on research evidence or expert consensus panel); and Level 5 (opinion of individual expert based on non-research evidence; White et al, 2016). Second, each paper was appraised for quality, and graded as A (high), B (good), or C (low), again according to JHNEBP.

The result of the analysis was then integrated per outcome measure, such as clinically relevant outcomes, patient-reported outcomes, or compliance outcomes. The synthesis of the evidence resulted in a set of statements that when combined formed the

draft of the clinical practice guidelines. The resulting guidelines were then appraised for their methodological rigor by an expert panel team using the AGREE II instrument. The expert panel team included the nurse experts and my practicum faculty with a doctorate degree in nursing. The guidelines were then revised per recommendation of the panel. The usability and applicability of the guidelines was then reviewed for content validity and usability by the stake holders'/end users. After the review, the practice guidelines were revised based on the recommendation and feedback from the stakeholders. Content analysis was confirmed by a panel of stakeholders in which they were given a Likert scale questionnaire that ranges 0 to 5 based on content developed in the CP. The anonymous questionnaires were analyzed by a Test. Data analysis was confirmed to prove content validity was made. The completed guidelines were then disseminated to the president/administrator of the practice site.

Summary

Lack of awareness of the signs of a serious life-threatening illnesses have resulted in patient mortality increases and infection rate increases, and patients do not have the positive outcomes they hope for at the time of admission (Finkleman, 2012). The solution proposed is the development of clinical practice guidelines that will precede a RRTs being established at project site. This will be used in conjunction with the NEWS system.

Failure to recognize early signs and symptoms of deteriorating patients have resulted in many catastrophic events. According to the literature, the nurse's ability to recognize early signs and symptoms of a deteriorating patient are of significant concern with regards to knowledge and clinical skills (Finkelman, 2012). This has potential to

lead to positive social change by improving patient outcomes through prevention of adverse consequences of clinical deterioration.

The purpose of this project is to develop evidenced based clinical guidelines for nurses to recognize early warning signs of a deteriorating patient. These guidelines will potentially standardize and improve the quality of care of patients at risk for deterioration. The long term goal of this project will be to enhance nurses' ability to recognize the early warning signs that would result in fewer cases of preventable conditions that can cause rapid deterioration in patient and thus improve patient outcomes. The project is feasible, and the proposed practice site has been quite enthusiastic to get started. Stakeholders such as the nursing staff, the hospital board, and community organizations are in full support of this program and its feasibility. A detailed description will be provided for retrieval of the evidence-based literature on failure to recognize early warning signs of a deteriorating patient. Discussion on the use of the JHNEBP framework to categorize, appraise for quality, and grade the level.

The initial draft of the CPG was appraised for content validity and quality by an expert panel. It was revised based on their recommendations. It was further reviewed for content validity and usability by the stake holders'/end users and subsequently revised and finalized based on their recommendations. The CPGs are systematically developed statements that will assist nurses to make patient decisions regarding identifying the rapid changes deterioration in patients (Institute of Medicine, 1990).

Section 4: Findings and Recommendations

Introduction

This project recognizes the gap that exists between the knowledge of the nurse and their ability to recognize the early warning signs and symptoms of the patient who is deteriorating or is at risk of deterioration. Improving nursing knowledge and competence in recognizing early warning signs of deterioration are paramount in safe patient outcomes. With the increasing prevalence rate in failure to recognize early warning signs, it is pertinent that nurses are equipped to recognize the signs and response appropriately to this unique patient population. The current lack of best practices and formal training for this specific patient population places nurses in a challenging situation. Having a clinical guideline protocol in place to help nurses and others on the healthcare staff identify and respond promptly to early warning signs of deteriorating patients will lead to less patients suffering and dying from preventable conditions such as sepsis, pneumonia, catheter-associated urinary tract infection (CAUTI), and other complications such as urosepsis that can be easily monitored and prevented. According to the Centers for Disease Control and Prevention (CDC, 2019), nearly 75% of all UTI's acquired in the long term care facilities are the result of catheters. Prolonged use is the most common reason for the development of CAUTI (CDC, 2019). If a protocol is implemented, then staff would be trained on how to detect early warning signs of deteriorating patients through the use of the AGREE 11 appraisal instrument in conjunction with the RRTs and the utilization of the National Early Warning Score (NEWS). This will result in fewer cases of preventable conditions that can cause rapid deterioration in patient and improve

patient outcomes especially when rehabilitated. This will also improve the long term care facility standing because they will have less mortalities and readmits to hospital. The purpose of this project was to develop evidence based clinical guidelines for nurses to recognize early warning of a deteriorating patient and to bridge the gap that exist between nurses' knowledge and ability to recognize the early warning signs in this vulnerable population of patients. Sources of evidence that were used were found in the Walden library and professional journals. The AGREE II appraisal instrument was used for analysis of results obtained from expert panelists. The instrument was accessed by the expert panel via the AGREE website and data were scored for each domain and reported using appraiser numbers instead of names or other identifying characteristics such as email addresses. Results were analyzed using descriptive statistics.

Findings and Implications

Prior to the dissemination of the clinical guidelines, the nurse expert panelists provided evaluations of the EBCPG. The results showed data from 23 items as well as each of the six domains. A percentage was calculated and reported for each domain. Acceptable scores for each domain were considered 50% and above; however, any domain that scored under 75% was reviewed. High quality guidelines are those with a Domain 3 score >70% (Brouwers et al., 2010). The lowest domain score obtained was above 90%. The results are presented in Table 1.

Table 1.

EBCPG AGREE II Appraisal of the Six Domains

Domains	Percentage
Scope and purpose	100
Stakeholders' involvement	95.2
Rigor of development	97.6
Clarity of presentation	100
Applicability	97.6
Editorial independence	92.9

Domain 1 and 4 scored 100%, Domain 2 scored 95.2%, Domain 3 and 5 scored 97.6 %, and Domain 6 scored 92.9 %. The overall guideline assessment scored by the three expert panelists were 97.6%. The AGREE II instrument included an area where the expert panel reviewer could comment, if needed. One of the reviewers commented about "having a detailed advice or tools on how the CPG recommendations can be applied into practice." Three other reviewers commented that the CPG overall was "well-written, very clear and will be a useful education piece for the stakeholders." One unanticipated event was the difficulty of some expert panelist to register and access the AGREE II website. To facilitate completion of the evaluation, the rehab facility sent an electronic copy that was completed and returned via email.

Implementation of the EBCPG provided an educational tool for RN and LPNs to effectively identify early warning signs of deterioration in patients.

Recommendations

The EBCPG was developed to address the gap that exists between the knowledge of the nurse and their ability to recognize the early warning signs and symptoms of the patient who is or is at risk of deterioration. The EBCPG will provide the most recent

evidenced based guideline for failure to see the signs and symptoms of recognizing early warning signs of patient deterioration, which has the potential to standardize the practice and improve quality of care rendered to those specific vulnerable population of patients. A guideline has the potential of influencing care outcomes when effectively disseminated and implemented. I therefore make the following recommendations for implementation:

- The developed EBCPG was handed off to the DON with the hope of it being adopted as part of facility policy.
- The developed EBCPG was implemented at the practice site. The EBCPG was implemented using a developed PowerPoint presentation to educate the RNs and LPNs about the EBCPG. This can be presented annually as a competency and also as a form of role modeling.
- Provide the practice site with a printed copy of the guideline. This can be kept in the nurses' station or on the units. In addition, an electronic format of the EBCPG can be made available on the mainframe computers at the practice site.
- Evaluate compliance to the EBCPG treatment recommendations, by the practicing collaborative physicians, in the yearly performance evaluation of the RNs and LPNs.
- Reevaluate the EBCPG every 3 years or when new recommendations for failure to see the signs and symptoms of a deteriorating patient are published.

- Cost considerations: time for cost related expenses is very minimal such as cost for printing paper and folders for the EBCPG that will be kept in the DON's offices. The hours allocated will be taken from the administrative time of the RNs/LPNs allotted for continuing educational activities and meetings.

Contribution of the Doctoral Project Team

The individuals who participated on the expert panel provided formative evaluation of the EBCPG. The panel of experts were contacted via email, phone, and text messaging. They all agreed to be part of the expert panel. The EBCPG will be disseminated to the administrator of the facility.

Strengths and Limitations of the Project

The various aspects of the project is in alignment. The problem has been identified as a lack of ability and clinical skills on the detection of early warning signs for patients at risk of deterioration. Lack of awareness of the signs of a serious life-threatening illnesses have resulted in patient mortality increases, infection rate increases, and patients do not have the positive outcomes they hope for at the time of admission (Finkleman, 2012). The implementation of the developed clinical practice guideline that will precede a RRTs is being established at project site. This will be utilized in conjunction with the NEWS system. Failure to recognize early signs and symptoms of deteriorating patients have resulted in many catastrophic events. According to the literature, the nurse's ability to recognize early signs and symptoms of a deteriorating patient are of significant concern with regards to knowledge and clinical skills

(Finkelman, 2012). This has potential to lead to positive social change by improving patient outcomes through prevention of adverse consequences of clinical deterioration.

The strengths of this doctoral project are the knowledge and competency gained in the implementation of the developed clinical guidelines in recognizing the early warning signs of deterioration. Limitations of this DNP project include the low sample size as well as being conducted in a single implementation site. The results obtained are not generalizable to the population and may not yield the same results in a larger sample and/or different facility.

Summary

The findings and implications for this project were centered around the use of and analysis of the AGREE II tool instrument by the expert panel. A descriptive statistic was utilized to calculate the rate of each domains and overall assessment of the EBCPG. The panel favored the use of the EBCPG and provided recommendations that the CPG is well written, comprehensive, and well researched. A detailed recommendation to address the gap in practice and the implementation plans were also set for. In Section 5, I will provide a self-analysis and summary of the project including challenges, solutions, and insights.

Section 5: Dissemination Plan

Introduction

This project will be disseminated to the administrator of the rehabilitation practice site and I will have the ability to present the EBCPG to the facility. There are many steps involved when presenting a new guideline for implementation within an organization. An educational activity will be prepared for the RNs and LPNs, and copies both printed and digital of the EBCPG will be made available at the site. The EBCPG will be a resource tool to be used by the RNs in recognizing signs and symptoms of a deteriorating patients.

Analysis of Self

The DNP is a clinical doctorate that prepares graduates for advanced nursing roles that include clinical practice and leadership. Completing this project was challenging, but seeing myself as a leader, researcher and evaluator is very rewarding. As an astute DNP student, my academic pathway will lead me to infuse evidence-based change into practice. In designing this DNP project, I realized how impactful my knowledge as a DNP graduate can significantly contribute to the practice of nursing and shaping of the healthcare system. I am truly grateful to all those who contributed to my learning, for you have prepare me to utilize my knowledge in areas of designing, evaluating, creating strategies, and influencing health care policies at various levels. I am extremely excited as a DNP graduate that I will be able to influence the healthcare system, clinical practice, health policy, and various other areas. This project has taught me resilience and patience and has improved my education and my confidence in areas such as appraising evidence-based literature and analyzing peer-reviewed articles and studies. I learned to critically

review a body of research before making recommendations about applying an intervention into practice. My resilience was tested with the time it takes to include evidence into practice because I learned that it is crucial to develop a body of knowledge about a topic or clinical question. My overall growth has been tremendous, and I am looking forward to my upcoming future as a DNP graduate.

Summary

Early clinician recognition of signs of patient deterioration is critical to reducing the risk of preventable death and other adverse events. While RRTs have been widely implemented, their success depends on recognizing a deteriorating patient before serious harm has occurred (Kendall et al., 2020). This project recognizes the gap that exists between the knowledge of the nurses and their ability to recognize the early warning signs and symptoms of patients who are deteriorating or who are at risk. Having a clinical practice guideline in place would decrease the time from the onset of deterioration to the initiation of treatment, increasing the potential for better patient outcomes. While the training and clinical reasoning of staff cannot be discounted, CPGs will provide a valuable counterpart and backstop to ensure that no deteriorating patients are missed. The goal is to enhance nurses' ability to recognize the early warning signs that would result in fewer cases of preventable conditions that cause rapid deterioration in patients and thus improve patient outcomes.

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Appendix A: Expert Panel Evaluation Survey

Expert panel Evaluation Survey					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.The program objectives are clearly stated and attainable.	1	2	3	4	5
2.The powerpoint presentation was consistently aligned with the program objectives.	1	2	3	4	5
3. The content is proficient in the representation of failure to see signs and symptoms of deterioration	1	2	3	4	5
4. The content incorporates current evidence and scholarly works.	1	2	3	4	5

Expert panel Evaluation Survey					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. Information presented is applicable to the rehabilitation facility.	1	2	3	4	5
6. The content incorporates current evidence and scholarly works.	1	2	3	4	5
7. All instructional materials are easy to comprehend.	1	2	3	4	5
The clinical guidelines are professionally structured and well thought-out	1	2	3	4	5

Expert panel Evaluation Survey					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Comments (optional); Please provide any recommendations for improving content.					

Appendix B: Participant Evaluation Survey

Evaluation Form

Title: Clinical Guidelines for Identifying Early Warning Signs of Clinical Deterioration in Rehabilitation Patients for Nurses.

CODE: **A=EXCELLENT, B= GOOD, C = FAIR, D = POOR, E = N/A**

How were the following Clinical Guideline(s) met?

A B C D E 1. The rehabilitation nurses will recognize early warning signs in a clinical deteriorating patient or patient at risk of deterioration.

A B C D E 2. The rehabilitation nurses will demonstrate ability to recognize early warning signs and when to escalate.

A B C D E 3. Identifying and responding to the early warning signs of deterioration.

A B C D E 4. How well did the clinical guidelines meet the rehab facility needs.

Please evaluate:

A B C D E 5. Topic and content/Knowledge of subject

A B C D E 6. Guidelines are well written and understandable

A B C D E 7. Effective use of the clinical guidelines as a resource.

A B C D E 8. Overall experience.

PLEASE CIRCLE YOUR ANSWER: As a result of this program:

a) I plan to use clinical practice guidelines at my place of practice.

b) I plan to recommend the clinical practice guidelines at my facility for policy change consideration.

c) I will use the guidelines to educate my patients.

d) I will use the guidelines as a tool to enhance my ability to recognize early warning signs of a deteriorating patient or patient at risk.

e) Other, please state:

_____

_____

Please state one change you will incorporate in your practice as a result of the clinical guidelines.

_____

_____

Additional comments:

_____

_____

Appendix C: Participant Evaluation Summation of Survey Data

Title: Clinical Guidelines for Identifying Early Warning Signs of Clinical Deterioration in Rehabilitation Patients for Nurses.

6	# of participants
6	#of RNs/LPNs
6	# of evaluations

EVALUATION SUMMATION

CODE: **A=EXCELLENT, B= GOOD, C = FAIR, D = POOR, E = N/A**

How were the following objective(s) met?

A	B	C	D	E	blank	Objectives
5	1					1.The rehabilitation nurses will recognize early warning signs in a clinical deteriorating patient or patient at risk of deterioration.
5	1					2. The rehabilitation nurses will demonstrate ability to recognize early warning signs and when to escalate.
5	1					3. Identifying and responding to the early warning signs of deterioration.
6						4. How well did the clinical guidelines meet the rehab facility needs?

Please evaluate:

A	**B**	**C**	**D**	**E**	**blank**	
6						5. Topic and content/Knowledge of subject

6						6. Guidelines are well written and under standable.
6						7. Effective use of the clinical guidelines
6						8. Overall experience.

PLEASE CIRCLE YOUR ANSWER: As a result of this program:

a) I plan to change my practice -4

b) I plan to use the clinical guidelines at my facility /for policy change consideration. -3

c) I will use the clinical guidelines to enhance my ability to recognize early warning signs of a deteriorating patient or patient at risk. -4

d) The clinical guidelines do not to apply to my practice.-0

Other, please state: -3

Please state one change you will incorporate in your practice as a result of this presentation:

1. I will utilize the clinical guidelines as a resource to respond appropriately and prevent catastrophic events from occurring.
2. Will use the clinical guideline as a resource, to care for patients.
3. Having clinical practice guidelines in place is essential for healthcare providers. I am very thankful for the clinical guidelines. I learned many things that I can use in my daily practice. – Using the clinical practice guidelines as a resource.
4. Access to Clinical Guidelines on unit.

Additional comments:

Clinical Practice Guidelines are pertinent tools for health care providers. Please push to make clinical guidelines as part of the policy. We need to be more aware of the early warning signs of recognizing patient deterioration.

Appendix D: Clinical Guidelines for Identifying Early Warning Signs of Clinical Deterioration in Rehabilitation Patients

Rank	Description
Category 1A	A strong recommendation supported by high to moderate quality evidence suggesting net clinical benefits or harms. (Please refer to Methods for process used to grade quality of evidence).
Category 1B	A strong recommendation supported by low quality evidence suggesting net clinical benefits or harms or an accepted practice (e.g., aseptic technique) supported by low to very low quality evidence.
Category 1C	A strong recommendation required by state or federal regulation
Category 11	A weak recommendation supported by any quality evidence suggesting a tradeoff between clinical benefits and harms.
No recommendation/ unresolved issue	Unresolved issue for which there is low to very low quality evidence with uncertain tradeoffs between benefits and harms

Appendix E: Appropriate Use of Guidelines

Summary of recommendation

#	Recommendation	Category
1.A.	Assess and Monitor vital signs every 60 minutes for patients at high risk for deterioration.	1B
1.A.1.	Identify vital signs are Not WNL	1B
1.A.2.	Complete a head-to-toe physical assessment every 4 hours	1B
1.A.2.a	Further research is needed for why nurses fail to recognize and response to patient deterioration.	No recommendation. Unresolved issue.
1.A.3.	Knowing the patient (background, familiarity with patient linked to awareness of very subtle changes in patient status).	1B
1.A.4.	Continued specific clinical education and skills training	1B

Appendix F: Clinical Guidelines Checklist

Knowledge and clinical skills of nurse	
Assessing patient in a timely manner and escalating	
Awareness of patient's presenting symptoms, diagnoses and past medical history.	
Complete a head-to-toe physical assessment every 4 hours.	
Assess and monitor vital signs every 60 minutes for patients at high risk for deterioration.	
Monitor vital signs that are Not WNL	
Monitor for early signs/symptoms of infection.	