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Education Strategies for the Interdisciplinary Team of an Early Mobility Protocol

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Education Strategies for the Interdisciplinary Team in

Implementation of an Early Mobility Protocol

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An Independent Study Project submitted in partial fulfillment

of the requirements for the degree of

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PERMISSION

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Abstract

Implementation of early mobility protocols in the intensive care unit has been well documented to prevent multiple complications associated with prolonged immobility and to improve patient outcomes. Expectations to implement evidence-based healthcare is growing and the most difficult steps in the process is education and implementation, and it is often left to busy nursing leaders who may be unprepared for the challenge. The literature provides little direction for nurses regarding when to use specific educational strategies when implementing an early mobility protocol, especially amongst the interdisciplinary team. The purpose of this paper is to create an evidence-based education plan for the interdisciplinary team when implementing an early mobility protocol. This template provides a strategic approach to guide effective education strategies for the interdisciplinary team to improve collaboration and care coordination in clinical practice. Literature search included CINAHL, PubMEd, EBSCOhost and Cochrane databases. Twenty-one sources were retained to contribute evidence to the template.

Keywords: *early mobility protocol, education, education strategies, interdisciplinary team education, implementation, implementation strategies, Iowa Evidence Based Practice Model.*

Education Strategies for the Interdisciplinary Team in

Implementation of an Early Mobility Protocol

In today's healthcare setting, patients in the intensive care unit (ICU) have increasing complex conditions with multiple comorbidities. The negative effects of immobility are well documented in the literature and include, but not limited to, increased morbidity, increased mortality and incomplete physical recovery (Bailey, Thompson & Spuhler, 2007). Implementation of early mobility protocols in the ICU has been well documented to prevent multiple complications associated with prolonged immobility and to improve patient outcomes (Morris et al., 2011). Even though it has been documented early mobility is safe and feasible in the ICU population, many patients do not receive early mobility interventions because of real or perceived barriers at the patient, provider or facility level (Zanni et al., 2010). Expectations for evidence-based healthcare are growing and the most difficult steps in the process is education and implementation, as it is often left to busy nursing leaders who may be unprepared for the challenge. It has been demonstrated that change happens over time, and the literature provides little direction for nurses regarding when to use specific strategies (Cullen & Adams, 2012). The scope of this paper is to determine the best educational strategies for the interdisciplinary team when implementing an early mobility protocol.

Purpose

The purpose of this independent study project is to synthesize and provide a comprehensive literature review of the current, evidence-based education and implementation strategies for interdisciplinary team members when implementing an early mobility protocol. The proposed independent project will consist of a literature review to determine the best practices for educating interdisciplinary team members effectively to improve collaboration and

care coordination in clinical practice. Tucker (2019) furthered elaborated a different strategy may be needed at each phase of the initiative, for use with barriers and facilitators and in specific settings. The result of the literature review will be shared within the author's work and nurse educator colleagues.

Significance

As previously mentioned, the negative effects of immobility are well documented in the literature. Even though it has been documented early mobility is safe and feasible in the ICU population, many patients do not receive early mobility interventions because of real or perceived barriers at the patient, provider or facility level (Zanni et al., 2010). Implementation of evidence-based practice (EBP) change is difficult, consequently, nursing leaders must use effective implementation strategies to engage clinicians and promote adoption of evidence-based care delivery to improve patient outcomes (Cullen & Adams, 2012). Failure to provide guidance for use of effective implementation strategies promotes the use of ineffective strategies, or worse, no strategy at all. This results in "reduced patient care quality and raises costs for all, the worst of both worlds." (Cullen & Adams, 2012, p.222). Additionally, barriers to EBP must be removed or mitigated and facilitators put in place for individuals and health care systems to implement EBP as a standard of care (Melynk & Fine-Overholt, 2015). It is important to anticipate challenges and barriers for the implementation of an early mobility program as this includes changes in practice and culture between the entire interdisciplinary team.

In recent years, nursing scholars have developed a variety of evidence-based practice models to facilitate the implementation of research findings into nursing practice. According to Schaeffer, Sandau and Diedrick (2012) application of EBP models is intended to break down the complexity of the challenge of translating evidence into clinical practice. Despite the extensive

use of EBP process models, it is understood that additional guidance may be needed at each step (Cullen & Adams, 2012). Additionally, Vasilevskis and colleagues (2010) reported that "teams must shift from multidisciplinary care to interdisciplinary care as implementation of bundles of care cannot succeed within silos" (p.1226). It is an important problem to solve as it assists in building an interdisciplinary collaborative approach. Careful interdisciplinary coordination optimizes the timing and progression of patient activity to ensure that therapeutic interventions occur. This can expand to multiple clinical initiatives under the assumption the framework is set up to be properly implemented in the intensive care unit (or medical-surgical setting). Inclusion of stakeholders within implementation of new protocols is imperative to success.

Theoretical Framework

The theoretical framework chosen to determine evidence-based practice education and implementation strategies for an interdisciplinary team when implementing an early mobility protocol is The Iowa Evidence Based Practice Model, or Iowa EBP Model. In the early 1990s, a team of nurses from the University of Iowa Hospitals and Clinics and College of Nursing developed this framework which served as a guide for nurses to use research findings for improvement of patient care (Titler, Steelman, Budrea, Buckwalter & Goode, 1994). The Iowa EBP Model was built on the conceptual framework of Rogers' diffusion of innovation theory (Titler et al., 1994). Mohammed and authors (2018) discuss Rogers' theory serves as a conceptual framework for the identification of conditions that advance innovation adoption and related methods of adoption. This theory enables the examination of how certain clinical behaviors are adopted and allows focus to be directed toward perceived innovation attributes that increasingly drive adoption. Taking Rogers' theory into account, the authors developed the model by incorporating successful strategies previously learned when undertaking research

utilization projects to help guide implementation of evidence into nursing practice at the organizational level (Cullen et al., 2005). Over time, the term research utilization shifted to evidence-based practice (EBP) and evidence expanded beyond research, to include other sources such as expert opinion and scientific principles prompting revisions (Hanrahan, 2019). The end result was a four-phase implementation guide for selecting the best strategies in a specific initiative. The four implementation strategies include creating awareness and interest, building knowledge and commitment, promoting action and adoption, and pursuing integration and sustained use (Cullen & Adams, 2012).

The theoretical framework focuses on organization and collaboration, allowing nurses to target knowledge and problem focused triggers, encouraging personnel to question current nursing practices and determine whether can be improved by using current research findings (White & Spruce, 2015). The model is represented as an algorithm with defined decision points and feedback loops throughout the process to address barriers. Cullen (2015) discusses feedback loops as critical to adopting evidence into the practice setting and promoting adoption within the varying healthcare systems within which nurses' work. Tucker (2019) elaborates further the model's focus is to emphasize specific factors or characteristics that will improve the uptake of evidence into practice. The aim to improve adhered to guideline by leveraging enabling factors and minimizing barriers.

Implementing EBP change is difficult, consequently leaders must use effective education and implementation strategies to engage clinicians and the interdisciplinary team to improve patient and organizational outcomes. This model will be used to guide the process and selection of implementation strategies and provide education to address barriers for the interdisciplinary

team when implementing a new mobility protocol. This can help provide clarity to steps in the

EBP process and assist in bring evidence-based research into practice.

Process

A literature search was conducted to locate evidence and determine the best educational

strategies for the interdisciplinary team when implementing an early mobility protocol.

Databases included the Cumulative Index of Nursing and Allied Health Literature (CINAHL),

PubMed, EBSCOhost and the Cochrane Database of Systematic Reviews. The search terms early

mobility, education, implementation, interdisciplinary team, implementation strategies, education

strategies, and Iowa Evidence-Based Best Practice Model. Limitations were set for articles that

were peer reviewed, English, and relevant to nursing education. Articles were identified from

2014 until 2019 unless primary research or still relevant. Studies included were related to the

Iowa EBP Model and implementation of a new protocol, implementation of an early mobility

program, education of interdisciplinary team with an early mobility protocol, and educational

and implementation strategies for the interdisciplinary team. Using these qualifiers, 11 studies

were identified from CINAHL, 8 from PubMed and 1 from EBSCOhost. Two studies were

selected for review due to focus on interdisciplinary team educational strategies. Additional

studies included were related to applying the Iowa Model to implementation of new protocols

and subsequent educational strategies. Additional studies included in the literature review

addressed educational strategies designed to assist in early mobility implementation. Studies also

included healthcare professional integration which included nursing, respiratory therapist,

physical/occupational therapy and physicians. One study discussed the application of the Iowa

Model in implementation of an early mobility protocol, therefore the focus was narrowed to the

use of the Iowa Model for education within the interdisciplinary team as this is the target

audience for this paper. Melynk's pyramid of evidence was used to evaluate the strength of the evidence.

The target audience is nurse educators, clinical nurse specialists and nurse leaders in the intensive care setting that are interested in implementing an early mobility protocol. This project can help affect change as nurses may be comfortable in educating their own peers but may struggle in selecting the most effective educational strategies for the interdisciplinary team

Literature Review

Education

Bassett and authors (2012) created a mobility initiative to help ICU teams address key cultural, process and resource opportunities to integrate early mobility into daily care practices. The structure of the interdisciplinary program initiative included the creation of a mobility tool, face to face workshop, development of target messaging and continuing education, and cultural interventions to support the integration of new practice behaviors and process and outcomes measurement. This program was thorough and utilized a multi-faceted approach to education, sharing data, engaging staff in the ''work'' of improvement, and focusing on positive reinforcement and expanding areas of success were success factors. Specifically, the workshops were key in the action planning. Tactics utilized to engage and educate included presentations, posters, computer-based learning modules and 1:1 ''how-to'' instruction. Data was collected by retrospective chart abstraction and concurrent direct observational data. Patient selection was chosen from a representative sample based on the typical patient acuity in their unit. The data set was comprised of retrospective chart abstraction data on 130 patients and over 3000 hours of direct hourly patient observations. Limitations included the data was collected at each participate site by hospital staff, while no specific data collection instructions were provided which may

have resulted in inconsistent or inaccurate data. Using Melynk's pyramid of evidence, the level

was determined to be Level 2 with one or more randomized controlled trials across multi hospital

sites.

Walter, Curtin, McLawhorn, Lee and Shupp (2017) developed a nurse led mobility

program on a 24-bed burn/surgical/trauma unit utilizing the Iowa EBP Model framework.

Baseline data was collected prior to educational initiatives with post implementation data

collected after two months. Staff education employed a variety of strategies and included

education regarding the programs of objectives, the benefits of postoperative mobility and the

significance of appropriate documenting mobility. Mobility education and mobility issues were

addressed daily during morning huddle time and staff were encouraged to teach patients about

the importance of mobility. Keys to success include visual cueing for both patients and nurses.

Results demonstrated an increase in patient's performing postoperative mobility by 80% and

documentation of mobility improved by 233%. Limitations to the article included the design

being a nonexperimental evidence-based practice process improvement project and included a

small sample size (n=20) which limits generalizability.

A quality initiative improvement project was conducted by Castrol, Turcinovic, Platz and

Law (2015) to assess and change the mindset of SICU staff in an 18-bed unit toward early

mobilization of patients after mobility protocol implementation. Interventions to overcome

barriers included interdisciplinary collaboration, multimodal education and operational changes.

As part of the interventions to address the barriers, a multimodal education plan was created that

incorporated lecture, online education, just-in-time education and discussion during unit briefs

designed to prepare each interdisciplinary team to understand the adverse outcomes of

immobility. The education of the interdisciplinary team was conducted by the SICU nurse

educator, physical therapist, respiratory therapist, and SICU attending physician at multiple times during the unit briefs, huddles, staff meetings and meetings at a collaborative care council. It was determined multimodal staff education contributed to decreasing staff bias and repetitive education and training of interdisciplinary staff is helpful in removing the barriers to implementation an early mobility protocol. Data was collected via a survey questionnaire before implementation, 6 months, and 1-year post implementation. Most notably, the median response changed significantly with participants choosing to disagree before implementation and agree 1-year post implementation. The Melynk level of evidence for this article was determined to Level 6, as this was a descriptive study with low evidence via survey questionnaire on staff mindset, but it also provided effectiveness in delivery of multimodal education.

Nurses are often the key providers of mobility for patients who are critically ill. Barriers include, but are not limited to, clinicians fear and lack of knowledge, current ICU culture of mobility, lack of staff and equipment and risk of self-injury to patients. Messer, Comer and Frost (2015) sought to address these barriers by providing staff education to ensure successful mobility in the ICU. Staff was educated via didactic classroom presentation with a focus on evidence-based practice, barriers to mobility and adverse effects of mobility. They were designed to be interactive and allow providers/nurses to own experiences, voice concerns, and ask questions. A convenience sample of 41 nurses was used for the knowledge measure via a pre and post-test to determine if the educational initiative was effective in increasing nursing knowledge. The post-test scored higher with a significant mean difference. The authors found education to be an essential element of implementing a mobilization program in the ICU. Limitations include the survey tool was not tested for reliability or validity along with the small number of sampling.

The effective development and implementation of professional education to facilitate EBP remains a major and immediate challenge. Lehane (2019) sought key perspective from international EBP education experts on the provision of EBP education for health professionals. The other two components of the article included a rapid review and synthesis of EBP literature, and a descriptive, cross-sectional, national, online survey related to the current provision and practice of EBP education. Findings included a more concerted effort to move away from a predominant reliance on stand-alone didactic teaching toward clinically integrative educational strategies. Limitations include four out of the five interviewees were medical professionals, further inclusion of allied healthcare professionals may have increased the representativeness of the findings. Using Melynk's pyramid of evidence, the level of evidence was Level 7 as it considered expert opinion.

The Iowa Model & Interdisciplinary Team

An article by Dammeyer et al. (2014) described the interdisciplinary change process and partnerships necessary to provide an early mobility program implementation utilizing the Iowa EBP Model. Evidence based practice was used to guide culture change in an ICU and build partnerships among the interdisciplinary team. Change champions in all areas (RN, physician, RT, OT, leadership) were critical to the program's success. A limitation existed as an additional moderate care unit opened at same time as program implementation, which may have influenced the reduction in the ICU length of stay. Using Melynk's rankings, the level of evidence was determined to be Level 4 as it a case control study.

Wyatt and Meacci (2019) found the need to combine early mobility and safe patient handling programs utilizing the Iowa EBP Model to decrease staff injury and increase patient outcomes. In the literature to date, no one has integrated these two programs. Education and

implementation strategies were designed to solicit input from and incorporate the perspectives from the interdisciplinary team. The disciplines included ICU nursing, Quality, PT/OT, RT's and critical care providers. The authors utilized education aids such as flow maps, PowerPoint presentations and poster guidelines for each discipline. Collaborative simulation of proposed models were used for interactive education and to demonstrate feasibility. Limitations included no data measurement to determine the program's effectiveness, further evaluation and study is still needed.

On a 40-bed burn unit, Robbins et al. (2016) determined a lack of structured transition and training to the unit created high turnover and nurse dissatisfaction. The authors utilized the Iowa EBP Model as the framework to create an evidence-based transition to practice program. Critical to success included a three day "train the trainer" course for stakeholders, preceptors and unit leaders. Additional training included clinical coaching for preceptors. The authors also recognized the value of utilizing validated tools to assess competency along with measuring improvement. After implementation of the program, the nurse employment turn-over rate decreased by 50%. Limitations include the project being implemented in a single specialty center and may not be generalizable to a non-specialty care unit. Using Melynk's ranking, the level of evidence was determined to be Level 6, single qualitative study.

Bergstrom (2017) described the use of the Iowa EBP Model to develop a skin care protocol on an oncology unit to decrease skin damage with radiation therapy. The Iowa EBP Model was used to guide the process to meet major milestones and keep progress linear with development of goals. The end result was a succinct guideline to direct the prevention and management preventative skin care for nurses on the oncology unit. The Melynk level of

evidence was level 6, as it was a qualitative study and only expanded on the pilot stage of the protocol.

White and Spruce (2015) reviewed the Iowa EBP Model's theoretical framework to help focus the process of implementing evidence-based changes in the perioperative environment. A key finding included having representatives from the interdisciplinary teams involved as a successful approach to implementing EBP because change is more successful when initiated by the personal affected, rather than imposed by management personnel. The authors also recommended nursing leaders begin communicating the new EBP guideline at every level in the organization using multiple mediums. Suggestions include emails, departmental meetings, brown-bag luncheons, pocket guides and videos. Next, the leader should emphasize the advantages and anticipated patient effects to create awareness and excitement and rally support for implementation. Limitations included the model being used as a framework with no data to determine effectiveness, follow up will be needed to determine overall program effectiveness. Utilizing Melynk's pyramid of evidence, it was determined to be level 6 as it is a single qualitative study.

Application of EBP models is intended to break down the complexity and the challenge of translating evidence into clinical practice. Schaeffer, Sandau and Diedrick (2012) provided an overview and summary of key features and evaluation of usefulness of six evidence-based practice models, including the Iowa EBP Model. The Iowa EBP Model considers input from the entire organizational system, including patients and providers, and involves nurses in each step. Although this was a systematic review, it may have resulted in overlooking models with potential for application to practice. The Melynk level of evidence was determined to be level 5, a systematic review of descriptive and qualitative studies.

Selecting from the long list of implementation strategies and knowing when to apply them are a bit of an "art," matching clinician needs and organizational context. Additionally, few strategies have empirical evidence using rigorous study designs with additional support from reported application in practice or exclusively addressing nursing; therefore, other practical but less well-tested strategies to support application are key to success. This article describes a resource developed by Cullen and Adams (2012) nursing leaders can use to plan evidence-based practice implementation in complex healthcare systems. It is a valuable addition to practice by providing an application-oriented approach for planning implementation and utilizing EBP strategies. Specific strategies are selected and positioned to move and enhance clinical practice recommendations into routine workflow. The Melynk level of evidence was determined to be level 7, as this is considered opinion of authorities or reports of expert committees.

Rockhoff, Schubert, Ciardiello and Douglas (2016) seeked to implement and improve appropriate thermoregulation using EBP in the emergency department at a Level I trauma center. The authors selected the Iowa EBP Model as the framework for protocol design and implementation to translate research into clinical practice and demonstrate best practice interventions. Educational interventions included creating awareness of the project, daily huddles, unit champions and random chart auditing. Limitations included the small number of hyperthermia patients; as the project was unable to determine a change in patient outcomes from patient interventions. Using Melynk's evidence pyramid, this article was determined to be a level 6, a single descriptive study.

Newhouse and Spring (2010) sought to explore the state of academic and clinical training regarding interdisciplinary EBP and describe the efforts to foster and suggest strategies to accelerate the translation of EBP across disciplines. The authors discovered through systematic

review interdisciplinary EBP is still in its infancy with many single discipline efforts, models and resources. The authors recommend further efforts on evidence syntheses by the groups such as the Cochrane Collaboration as it will be important in the future.

To summarize, a variety of literature was reviewed to determine the effectiveness of the Iowa EBP Model in clinical practice and the most effective educational strategies for the interdisciplinary team when implementing evidence-based practice. Several articles discussed the importance of employing a variety of educational delivery methods when implementing a new protocol along with the importance of collaboration with the interdisciplinary team. The literature also demonstrated identifying key stakeholders from each discipline as paramount to success. Limitations included research articles describing the utilizing of the Iowa Model to implement a new protocol but did not always provide data to determine program effectiveness. A few of the research articles described this limitation and further ongoing evaluation is needed to determine long term effectiveness. An additional limitation of select studies included small sample sizes which could provide generalizability or selection bias.

In the initial literature search, there was zero results resulted from the Cochrane review specific to this initiative and educational strategies related to early mobilization program (Rockhoff et al., 2018). Furthermore, Lehane et al. (2019) discussed further evidence that interdisciplinary EBP is still in its infancy with many single discipline efforts, models and resources and suggests further efforts from evidence synthesis groups such as the Cochrane Collaboration will be important. Lastly, implementation of EBP projects requires extensive staff education to facilitate cultural and behavioral changes. The authors discuss future research should examine barriers to implementation and adherence to EBP interventions. An additional

recommendation is to examine barriers to culture and behaviors changes necessary for implementing evidence-based practice.

Discussion

Three major themes emerged from the literature review for discussion. The first theme is the Iowa EBP Model has shown to be an effective model framework to guide EBP changes into clinical practice. The second theme highlighted the importance of employing a variety of educational delivery methods when implementing a new protocol. Lastly, it is key to collaborate with the interdisciplinary team and identify individuals from each discipline as stakeholders.

The Iowa EBP Model and theoretical framework was designed to support evidence-based healthcare delivery by interdisciplinary teams and was determined to be an effective model to help focus the process of implementing these changes into clinical practice (Bergstrom, 2017; Robbins et al., 2017; Rockoff et al., 2018; White & Spruce, 2015). Schaeffer and colleagues (2012) noted the model considers input from the entire organizational system and involves nurses in each step. Additionally, forming interdisciplinary teams is a critical component within the model (Rockhoff et al., 2018; White & Spruce, 2015; Wyatt & Meacci, 2019). In addition, Cullen and Adams (2012) developed the EBP implementation guide after determining few strategies have empirical evidence using rigorous study designs with additional support from reported educational and implementation applications in practice or exclusively addressed nursing. Later, Cullen (2015) further elaborated this guide can be used for promoting adoption of clinical practice recommendations in complex healthcare systems by providing an organized method for planning implementation. Because research evaluation of strategies across a variety of healthcare settings and with various healthcare workers is lacking, a simplified system of identification is used instead of an extensive grading schema.

The literature review also determined the importance of education in a successful implementation and to utilize a variety of educational strategies to engage the interdisciplinary team (Bassett et al., 2012, Castro et al., 2015, Messer et al., 2015; Walters et al., 2017). Additionally, Lehane and colleagues (2019) systematic review discussed the importance of transitioning from the traditional didactic teaching towards clinically integrative and interactive teaching with a variety of teaching strategies.

Bassett et al. (2012) and Messer et al. (2015) specifically elaborated education is an essential element of implementing a mobilization program in the ICU. In multiple studies, education was used to address and overcome barriers among the interdisciplinary team (Brown, 2014; Lehane et al., 2019; White & Spruce, 2015). Bassett and authors (2012) provided excellent examples to address key cultural, process and resource opportunities to integrate an early mobility program into daily care practices. This program was thorough and utilized a multi-faceted approach to education, sharing data, engaging staff in the "work" of improvement, and focusing on positive reinforcement.

An additional major theme discussing barriers to implementation is often lack of education. Castro et al. (2015) found repetitive education and training of interdisciplinary staff is helpful in removing these barriers to implementation with an early mobility protocol. Messer and authors (2015) sought to address barriers with staff education and creative approaches that served multiple purposes. They found it also forged common expectations for early patient mobility and provided a visible recognition of behaviors reflecting mutual accountability amongst all team members, which in turn created a stronger culture of respect and understanding of all care roles within the intensive care unit. These unique strategies can assist with an increase in team communication and patient care efficiencies.

Collaboration is key in the interdisciplinary change process and partnerships necessary for success (Bassett et al., 2012; Brown, 2014; Dammeyer et al., 2014; Wyatt & Meacci, 2019). Teams reported the most effective strategies to engage their team or advance success included a variety of recommended practices with communication and collaboration amongst all disciplines (physicians, nurses, RT, PT/OT) was a critical component (Bassett et al., 2012; Dammeyer et al., 2014; Wyatt & Meacci, 2019). Dammeyer et al. (2014) elaborated each discipline brings unique perspective and differing clinical experience to the table.

Discussion

Interpretation

Expectations for evidence-based healthcare is growing, yet the most difficult step in the process is implementation and is often left to busy nursing leaders and educators who may be unprepared for the challenge. Cullen and Adams (2012) discuss despite extensive use of EBP process models, it is understood additional guidance may be needed for each step. Selecting from the long list of implementation strategies and knowing when to apply them are a bit of an "art" and matching clinicians needs and organizational context. A fundamental element of the implementation (and sustainment) change process is the educational component especially amongst the interdisciplinary team. It has been demonstrated change happens over time, and the literature provides little direction for nurses regarding when to use specific strategies. Additionally, in review of the literature it was determined a large focus on educational strategies related implementing an early mobility protocol is focused on nursing staff, and little focus on specific strategies to utilize for the interdisciplinary team.

After reviewing and synthesizing the literature, an evidence based best practice approach was taken to organize an educational implementation plan. The deliverable is meant to provide

an evidence-based educational strategy template and guide for each discipline of the interdisciplinary team when implementing an early mobility protocol. The template (listed in Appendix A) was created utilizing the four phases of the Iowa EBP Model and Evidence-Based Practice Implementation Guide (Cullen, 2015) which is a complimentary addition to the Iowa Model, in combination with interdisciplinary educational best practices. Within these four phases, a step by step education guide is provided for each member of the interdisciplinary team. The strategies were selected and positioned to move and enhance clinical practice recommendations into routine workflow.

Dissemination of this project includes an abstract submission for poster presentation at AACN National Teaching Institute & Critical Care Exposition conference May 4-7, 2020 in Indianapolis, IN.

Implications for Nursing

Practice. Cullen (2015) discussed implementing evidence-based practice change is difficult, consequently leaders must use effective implementation strategies to engage clinicians and promote adoption for evidence-based care to deliver and improve patient and organizational outcomes. Selecting implementation strategies based on research evidence can provide some guidance but cannot show decisively which intervention is the most appropriate, yet a structured approach to selecting implementation strategies may be helpful. Using a model to guide the process and select strategies adds clarity to steps in the process. This template can expand to other quality initiatives under the assumption the framework is set up to be properly implemented in other care settings.

Education. The Iowa EBP Model's phased approach is used as the framework to select specific educational implementation strategies for each of the interdisciplinary teams (e.g. RN, MD, RT, PT/OT & leadership). The four phases of the model are to create awareness and interest, build knowledge and commitment, promote action and adoption, and pursue integration and sustained use. The template is listed in Appendix A to provide a visual flow of the strategies. Multifaceted ongoing strategies are needed to keep the change in the forefront, especially to promote action and adoption. These strategies start early and are helpful to revisit throughout the implementation and sustainment phase, so it is common to have duplicative strategies throughout the process, therefore several educational strategies are repeated in the template.

The first phase of creating an awareness and interest is a large investment in time as it is considered the pre-planning phase. This phase specifically targets the practitioners and organizational leaders, including key stakeholders. Cullen (2015) found becoming aware and interested in a practice change is the first step toward adoption. There must a designated project leader who is responsible for leading this initiative, specifically a nurse leader or nurse educator from the local unit. A collaborative interdisciplinary team should be formed with the project leader, executive physician, nursing, respiratory therapist, physical/occupational therapist and executive leadership. These individuals will be identified as the key stakeholders necessary for success in securing commitment and linking practice change and stakeholder priorities. They are also responsible for disseminating credible evidence with clear implications for practice amongst their respective disciplines. This group will also need to establish an outcome measurement to determine overall program effectiveness. Lastly, be certain to involve senior executives early. Senior executive leadership promotes uptake and sustained use of EBP recommendations

(Cullen, 2015). Bassett et al. (2012) found announcements from senior leaders create a sense of urgency, articulate an organizational commitment and demonstrate resources available.

This second phase of the Iowa EBP Model is to build knowledge and commitment, it is concentrated on building support for the practice change. Cullen (2015) discussed the timeline for adoption should be focused on building practitioner's knowledge and commitment before proceeding, providing an essential foundation for promoting adoption of EBP through changes in practice. Cullen and Adams (2012) discussed multiple strategies may be cumulatively added from each phase and will need to be carried over throughout the change process to keep progressing implementation. The interdisciplinary collaborative team will be a critical part of carrying through this information to their respective disciplines.

There are two educational components within this phase. The first education component is to identify change agents (or champions) early from relevant disciplines. Change champions act as educators, leaders and promoters of the process. This is critical to obtain support, provide education about the practice change and their role function as background work (Messer et al., 2015; Robbins et al., 2017; Walters et al., 2017). Cullen (2015) further elaborated clarifying their roles facilitates effective use of team members strengths and connections in the organization. These individuals should be local bedside providers, while Dammeyer et al. (2014) suggested direct care providers who have an interest in mobility and will include stakeholders, preceptors and unit leaders. Four to six change champions should be selected from each shift (i.e. day, evening, night). Examples from the interdisciplinary teams include charge nurses and or nurses interested in quality initiative projects, leads for respiratory therapy and ICU physical therapists.

These individuals will receive extra education on the practice change and be direct participants in the entire change process. Change champions lead by example and can also

address perceived barriers and potential resistance and troubleshoot problems if they arise when

implementation begins (AHRQ, 2017). Once change champions are identified, they must attend

a two-day workshop. The goal of this workshop is to disseminate evidence, identify practice gaps

amongst the interdisciplinary teams, assign owners and 'train the trainer.' Specific components of

the workshop include comprehensive education on the importance of early mobility, how the

protocol fits into the clinical workflow, documentation, and conducting audits/feedback. In

addition, two hours will be spent on best practices in peer to peer coaching and instructional

feedback to empower staff to give constructive feedback throughout the change process. This

learning progression enables team leaders to assess staff progress and provide them with tailored

teaching and coaching to build their competency.

Once change champions are competent, the next step is to educate local bedside teams. A

"kick off" two-hour staff meeting with lunch provided will be held for the interdisciplinary

teams. To secure buy-in, teams should emphasize the evidence supporting key practice elements

and the impact to patients. Additional education will be provided on the early mobility protocol

and process flow algorithm. This is meant to address patient, provider and facility barriers. After

the initial kick-off staff meetings, each respective discipline will be given a check-list of

educational activities to be completed by the 'go live' date which creates motivation to

participate (Bassett et al., 2012). As part of the checklist, staff must attend a continuing education

'Lunch N' Learn' specific to the barriers of implementation and training on inclusion/exclusion

criteria in mobilizing patients for their respective discipline. Next, face to face workshops will be

held for RN, RT and PT/OT in thirty-minute blocks. These are mean to be interactive coaching

sessions with educational tools provided to help establish effectiveness and demonstrate

workflow. Change champions will be leading these sessions and demonstrating safe and effective

use of equipment to assist in mobilization of patients. They are designed to be interactive and

allow providers/ nurses to own experiences, voice concerns, and ask questions. Bassett et al.

(2012) concluded teams that developed unique approaches for peer coaching created a safe

environment within which to practice skills. This interactive workshop will satisfy their skills

competency requirement.

The main goal of the educational component is to provide a multimodal approach to

learning and assimilating information. Castro et al. (2015) determined multimodal staff education

contributed to decreasing staff bias early in mobilization of SICU patients. Tactics utilized are

meant to engage and educate including presentations, posters, computer-based learning modules

and 1:1 "how-to" instruction.

The third phase is implemented after building knowledge about the change in practice,

which was completed through multiple educational strategies. Cullen & Adams (2012) describe

this phase as the need to move from active to interactive and targeting clinicians so they develop

skills in use of the practice change. As this phase can often take the longest, continued use of the

educational and implementation strategies is important. Change champions are critical to this

phase to demonstrate workflow, troubleshooting at the bedside along with providing recognition

to staff. This creates and promotes peer to peer discussion articulating expectations (i.e. peer

influence) is likely to be effective (Cullen, 2015).

Several educational tools should be available for review by all staff. Specific educational

tools for the local healthcare providers (i.e. RN, RT, PT/OT) includes a mobility algorithm to

guide practice into next steps and practice prompts. Bassett et al. (2012) found having an

algorithm tool was crucial to guide mobility practice, increase consistency, facilitate team

communication and enhance care process. This flow map will be used to guide practice at the

bedside. A mobility practice prompt should also be added in the electronic medical record for staff reminders. Practice prompts can be sophisticated reminders within the electronic record that require justification for practice variation. It creates standing orders to build support within the system (Cullen, 2015). Mobility education and mobility issues should also be addressed daily during morning huddle time and staff were encouraged to teach patients about the importance of mobility (Walters et al., 2017).

Providing audit and data feedback is a critical component in both the phases of implementation and sustainment of clinical practices. Audits with actionable and timely data feedback is essential and highly effective for both adoption and integration of the practice change by building support within the organizational system (Messer et al., 2015; Wyatt & Meacci, 2019). It has been shown with extensive research evidence and supplemented by reports from practice to be effective (Cullen, 2015). This data will be shared out with the interdisciplinary collaborative team to disseminate to their respective teams and take action on any items necessary. Wyatt and Meacci (2019) found reporting and feedback of trended data supports progressive integration providing positive reinforcement.

For rewards and incentives to support mobility, teams can create unique incentives that both engage staff and make it "fun." Bassett et al. (2012) engaged staff with a special incentive, when consistent mobility efforts were noted for a single patient, the care staff were given M&M's® to signify effective "movement and mobility." When the whole team worked to mobilize a patient, they were rewarded with a team candy called "Three Musketeers®. They maintained buy-in by engaging staff in the work of improvement (data collection, etc.) and integrating 'fun' elements (candy and incentives).

Lastly, nursing leaders should begin by communicating the new EBP guideline and progress at every level in the organization using multiple mediums. White and Spruce (2015) discuss posters are not enough, the nursing leader should consider using emails, newsletters, and brown-bag luncheons to emphasize the advantages and anticipated patient effect to create awareness and excitement and rally support for implementation.

The fourth phase of the Iowa Model is essential to realize integration and sustained use of the EBP change. Castro and authors (2017) found repetitive education and training of interdisciplinary staff was helpful in removing the barriers to implementation an early mobility protocol. Additionally, reporting results of project implementation and revision based on valuative data and practitioner feedback can facilitate additional commitment to sustained use of new practices (Cullen & Adams, 2012). Components include local unit progress, audit feedback, and trending results. The collection and sharing of performance data with the unit staff on a regular basis is critical in ensuring patient mobility remains a priority. Project leaders must ensure that pre-implementation baseline data is compared with post-implementation data so key stakeholders can evaluate program effectiveness and contribution to improving patient care. Graphic displays of key indicators should be posted on the unit to track progress. Content and strategies should be updated monthly to attract the attention of busy clinicians (e.g. update pictures and key points, add names of successful staff). Cullen (2015) discussed celebrating successes through senior leadership recognition in public forums supports shifting expectations and group norms or standard operating procedures. Lastly, access to EBP mentors, implementation of consistent and regular journal clubs, grand rounds, audit and regular research meetings are important to embed EBP within the healthcare and education environments. This in turn can nurture a culture which practically supports the observation and actualization of EBP in

day-to-day practice and could in theory allow the coherent development of cohorts of EBP

leaders (Lehane et al., 2019).

Research. In review of the literature, it is well documented early mobility improves

patient outcomes and the Iowa EBP Model has proved to be effective in implementing evidence-

based practices into clinical workflow. Furthermore, education on real or perceived barriers at

the patient, provider, and facility level is key to success but the literature does not delineate on

the most effective educational strategies for the interdisciplinary team when implementing an

early mobility protocol. Implications for research could include a program implementation with

set educational and implementation strategies and tracking the data to prove program

effectiveness. Additionally, implementation science is a young field, and there is a growing body

of research showing the impact of a variety of implementation strategies on nurse-sensitive

outcomes which would help fill this void.

Policy. Nurses are largely responsible for leading evidence-based practice improvements.

An increasing number of national and international agencies, regulatory standards, and

professional organizations endorse evidence-based healthcare. Cullen (2015) further discussed

countries with government supported health care, public policy establishes EBP health care as

the standard. This guide provides an evidence-based template and strategy to assist in

implementation of quality initiative improvement projects and evidence-based practice.

<div style="text-align:center">Summary</div>

Implementation of evidence-based practice change is difficult, consequently, nursing

leaders must use effective implementation strategies to engage clinicians and promote adoption

of evidence-based care delivery to improve patient outcomes (Cullen & Adams, 2012). The Iowa

EBP Model was designed to support evidence-based healthcare delivery by interdisciplinary

teams in following a basic problem-solving approach using a systematic but simple process, and being highly application oriented (Cullen, 2015). Despite extensive use of EBP process models, it is understood additional guidance may be needed at each step as failure to provide guidance for use of effective implementation strategies promote the use of ineffective strategies, or worse, no strategy at all. Selecting implementation strategies based on research evidence can provide some guidance but cannot show decisively which intervention is the most appropriate yet a structured approach to selecting implementation strategies may be helpful. The evidence gleaned from the literature review supported the creation of an educational template meant to serve as a guide for educating interdisciplinary team members. Ultimately, this template provides a strategic approach to guide educational strategies for the interdisciplinary team to improve collaboration and care coordination in clinical practice.

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Appendix A

Interdisciplinary Team:	Create Awareness	Build Knowledge & Commitment	Promote Action and Adoption	Pursue Integration & Sustained Use
Project Lead (Nurse Educator/ Clinical Nurse Specialist/Nurse Manager)	-form interdisciplinary collaborative council -assist in selecting individual(s) for interdisciplinary collaborative team -highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings via presentation	-determine outcome measurement with collaborative council -identify bedside change agents -benchmark data	-interdisciplinary discussion & troubleshooting -provide data and feedback to respective teams -weekly meetings with collaborative teams for first 4 weeks, then biweekly for 4 weeks, then monthly. -data collection -audit key indicators	- gather audit data and feedback -celebrate unit progress (w/incentives, -present in educational programs
Change Agent(s) from interdisciplinary teams	- highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings via presentation	-attend 2-day workshop ▪ mobility education ▪ documentation ▪ training on peer to peer coaching ▪ match practice changes with resources & equipment	-interdisciplinary discussion & troubleshooting -data collection -audit key indicators -present evaluation results to colleagues	-individualize data feedback -celebrate local unit progress -personalize the messages to staff based on actual improvement data
Staff RN	-designate individual(s) for interdisciplinary collaborative team -highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings -CE Program -unit newsletter -unit in-services -posters	-Kick off meeting (2 hours) ▪ project overview/mobility education -CE Lunch N' Learn (1 hour) -Skills competency Workshop (30 min) ▪ interactive coaching session with educational tools ▪ protocol review	-reference source materials and quick guide references -quarterly skill competency -reminders/practice prompts	-celebrate local unit progress -Journal Club

MD	-designate individual(s) for interdisciplinary collaborative team -highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings	Kick off meeting (2 hours) ▪ project overview/mobility education -Focus groups for planning change	-interdisciplinary discussion & troubleshooting -provide recognition at the POC -provide data and feedback to respective teams	-individualize data feedback -celebrate local unit progress -personalize the messages to staff based on actual improvement data
RT	-select individual(s) for interdisciplinary collaborative team -highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings -CE Module	-Kick off meeting (2 hours) ▪ project overview/mobility education -CE Lunch N' Learn (1 hour) -Skills competency Workshop (30 min)	-demonstrate workflow interdisciplinary discussion & troubleshooting -provide data and feedback to -respective teams	-individualize data feedback -celebrate local unit progress -personalize the messages to staff based on actual improvement data
PT/OT	-designate individual(s) for interdisciplinary collaborative team -highlight advantages or anticipated impact in staff meetings, distribute key evidence in staff meetings -CE Module	-Kick off meeting (2 hours) ▪ project overview/mobility education -CE Lunch N' Learn (1 hour) -Skills competency Workshop (30 min)	-demonstrate workflow -interdisciplinary discussion & troubleshooting provide recognition at the POC	-individualize data feedback -celebrate local unit progress -personalize the messages to staff based on actual improvement data
Leadership	-designate individual(s) for interdisciplinary collaborative team -obtain senior executives' organizational commitment	-benchmark data -inform organizational leaders -report to senior leaders	-data collection -audit key indicators provide recognition at the POC -provide incentives	-individualize data feedback -celebrate local unit progress -personalize the messages to staff based on actual improvement data -present in educational programs