Fall 12-1-2023

Block Charting for Hemodynamic Unstable Patients

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DOI: https://doi.org/10.46409/sr.QSFP8223

Block Charting for Hemodynamic Unstable Patients

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This Manuscript Partially Fulfills the Requirements for the

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December 1, 2023

University of St. Augustine for Health Sciences

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Abstract

Practice Problem: The intensive care unit poses many challenges for nurses. Nurses are placed in a position to decide on dosing and administration, which could conflict with their scope of practice, and documentation needs to coincide with orders. The accuracy of nursing documentation plays a vital role in measuring the outcomes, and failure to document accurately could result in noncompliance with scope of practice or a medication error.

PICOT: For intensive care nurses (P), how does block charting of vasoactive medications (I) compared to current documentation practices (C) affect the accuracy of nurses' documentation (O) within 4 weeks?

Evidence: Nursing documentation is a vital source of information regarding the patient's care and is used to assess and manage the patient's condition; further, it is the nurse's professional responsibility to outline the essentials of patient care and to implement patient safety and quality. Noncompliance with documentation can affect the organization legally and financially.

Intervention: Education and training in utilizing block charting were provided to the superusers, who then trained the remaining staff. utilizing block charting. Block charting documents the swift titration and modifications of vasoactive medication dosages in critical scenarios, employing a standardized and structured methodology. Block charting also promotes precise and punctual recording of medication administration and modifications.

Outcome: Before the implementation of block charting, documentation accuracy was 68%. After implementing the intervention over three weeks, compliance increased to 73%, which is an overall improvement of 5% and a change percentage improvement of 7.35%.

Conclusion: The project change needs auditing for at least 6 months to ensure compliance. Further staff education and training are warranted to ensure proper and accurate documentation practices. Continuous improvement is a concern and necessitates education and training for new ICU nurses and a focus on this practice with all new ICU hires.

***Keywords*:** block charting, ICU, documentation, accuracy, nurses, vasoactive medications

Block Charting

The intensive care unit (ICU) poses many challenges for nurses; however, nurses generally report high levels of work satisfaction. One such challenge nurses face is the rapid deterioration of a patient's condition. When faced with this situation, multiple medications must be given all at once and may necessitate a rapid titration in a specific, urgent/emergent manner (The Joint Commission [TJC], 2022). Nurses are authorized to titrate emergency drugs after a clear and concise order from a licensed physician, dentist, podiatrist, or clinical psychologist (California Board of Registered Nursing, 2018). TJC (2021) provided avenues to clinicians after verifying each requirement for proper administration and documentation of rapidly titrated medications and complete and proper medication orders from the provider American Association of Critical-Care Nurses (AACN, 2021). *Block Charting* is an option that can be utilized in documenting the rapid titration of medications (TJC 2022). It is a documentation process used for emergencies when frequent changes in titrating life-sustaining medication are necessary within four hours (Sevcik, 2021). Block Charting requires preparation, well-written organization standard policies, and Intensive Care Unit (ICU) staff education. It should include start and end times, each medication's complete and accurate titration order, start and end rate and dose, maximum dose, and objectives when to make decisions (TJC, 2021).

Block charting saves nurses valuable time when seconds matter most while providing accurate medication delivery to critically ill patients. This DNP project proposal aimed to develop and implement block charting across the intensive care unit and show how proper documentation of vasoactive medication is needed to coincide with the continuity of care.

Vasoactive medications are given during an emergent situation and involve the collaboration of a multidisciplinary team. Collaboration with the interdisciplinary team is needed when ordering, prescribing, and administrating this medication. A trained ICU nurse does the monitoring and titration of the vasoactive medication. Vasopressor medications constrict blood

vessels, increasing cardiac contractility (Smith, 2023). These medications are commonly used in the ICU infusion via intravenous or central line access.

Vasopressors are actively titrated and consist of phenylephrine, norepinephrine, epinephrine, vasopressin, and dopamine. Dopamine is also a vasopressor that can be titrated and has an inotrope property dependent on the dose (VanValkinburgh et al., 2022). Documentation of medications in the ICU shows trends and demonstrates how the patient is managed. Proper documentation is a process of nursing that coincides with basic nursing principles of assessment, planning, implementation, and evaluation. Nursing documentation is a form of communication, and accurate documentation reflects what happened with the patient, highlighting any status changes and the care provided to support the delivery of care (The Royal Children's Hospital Melbourne, 2019).

Significance of the Practice Problem

Nurses are placed in a position to decide on dosing and administration that could conflict with their scope of practice. The documentation needs to coincide accurately with orders; not utilizing block charting can result in errors that could potentially question the patient's safety of the patient. In an ICU setting, charting rate changes, such as mean arterial pressure (MAP) or blood pressure, can cause frustration to the nurse when the patient requires frequent changes in the dosing of the medication. Block charting is a means to document changes in the patient's condition and resultant patient care activities. This is especially important when emergent situations occur where the nurse has the responsibility of noting changes in medication orders and medication dosages (TJC, 2022). Failure to use block charting can cause frustration to the nurse when the patient requires frequent documentation adjustments. In Greater Los Angeles VA, block charting is not utilized; therefore, nurses verbalize frustration during and after a rapid titration of a medication adjustment. During a recent accreditation visit, TJC observed nurses making titration changes that were not aligned with the medication order because the order did not reflect when a patient was in an emergent crisis (TJC, 2022). Nurses are challenged with

managing the patient while focusing on the dosing of the medication and making the necessary document changes to reflect the change per the medication order. The titration requirement is needed to minimize the adverse risk associated with nurses not having to practice outside their scope of practice.

The standard for TJC when titrating medication is to include the administration route and dose adjustments, including the max dose rate, the medication goal, starting dose, and intervals of dose change, and these medications are titrated based on the clinical assessment, such as heart rate, blood pressure, mean arterial pressure (MAP), and cardiac index (Gartley,2022). Critical care nurses are clinically trained to manage vasoactive drips and need adequate clinical support during all duty shifts, emphasizing the night shift where clinical and administrative support is limited or absent. Nurses' clinical competency to wean and titrate vasoactive medications should be monitored for efficiency and safety.

Vasoactive medication, which includes epinephrine, norepinephrine, vasopressin, phenylephrine, and dopamine, is the medication titration that benefits more with block charting. Vasoactive medications are risk drugs where a slight change in dose can cause a significant change in the patient's condition, which could cause significant harm to the patient. The nurse's decision-making process when managing this medication must be based on the clinical assessment, and the documentation must coincide with the patient's condition (Hunter et al., 2022).

Block charting will enable the nurse to care for the patient without the worry of documenting with every dose change, improving care delivery. In addition, it will allow the nurse to care for the patient while meeting the expectation of TJC without having an indirect cost associated with the implementation strategy (Practice Pointers, 2022). Implementing block charting at Greater Los Angeles Veteran Administration (GLA-VA’s) ICU is a process improvement to increase quality and efficiency, minimize errors, increase innovation, and improve ICU nurses' productivity and satisfaction (VHA, 2023).

PICOT Question

The PICOT question encompasses a clinical question that guides the evidence-based practice change to improve patient care and outcomes (Ford & Melnyk, 2019). PICOT stands for P (Population/Patient problem); I (Intervention: What is the plan?); C (Comparison or what is the alternative); O (Outcome); T (Time frame). PICOT question format served as a formula for developing answerable, researchable questions. A good PICOT question will result in a straightforward process of finding and evaluating evidence (Melnyk & Fineout-Overholt, 2022).

For intensive care nurses (P), how does block charting of vasoactive medications (I) compared to current documentation practices (C) affect the accuracy of nurses' documentation (O) within 4 weeks?

Population

The intended population for this intervention includes registered nurses (RNs) working in the intensive care unit (ICU) at the Greater Los Angeles Veteran Administration (GLA-VA). The nurses in question are responsible for providing direct care and overseeing the management of patients in critical condition. Additionally, the nurses document changes in patient conditions and responses to medication changes which include modifications in dosages, discontinuation, and additions of new medications based on physician orders.

Intervention

The proposed evidence-based practice change is the implementation of a block charting policy for vasoactive medications in the ICU. Block charting systematically records the swift titration and modifications of vasoactive medication dosages in critical scenarios, employing a standardized and structured methodology. This procedure promoted a precise and punctual recording of medication administration and modifications. A checklist (see Appendix F**)** was created to review essential information related to the documentation of medication titration dosages to ensure the nurses adhere to the standard of practice that aligns with TJC.

Comparison

The comparison is made with the current documentation practices in the ICU. The ICU employs electronic medical records (EMR) for medication titration but lacks explicit guidelines or checklists. The current procedure may exhibit a deficiency in providing explicit documentation instructions. This may result in discrepancies and irregularities in the recording of medication modifications.

Outcome

The primary objective of implementing block charting enhanced the precision of nurses' documentation about the titration of multiple vasoactive medications. The utilization of a standardized approach for documenting medication adjustments is intended to improve the comprehensiveness, uniformity, and transparency of the recorded data. Enhanced documentation has the potential to impact various aspects of healthcare positively. They include communication, the seamless transition of care, and the overall safety of patients. The initial auditing of vasoactive drips shown in Appendix E demonstrates a 68% compliance of nurses titrating according to the order set indicated by the physician. The implementation outcome will be validated using the block charting checklist in Appendix F, which includes the block charting requirements of the parameters needed for the block charting, the patient's response, and the end time of the block charting is completed with the goal of 90% or greater within three months.

Time Frame

The intervention and comparison were evaluated over 4 weeks. The designated time permits an opportunity to gather and analyze data. This time was needed to evaluate the effects of implementing block charting on the accuracy of documentation compared to the existing practices of electronic medical record (EMR) systems. This intervention offered the chance to observe alterations in documentation patterns and identify potential advantages or obstacles.

As healthcare leaders, nurses have been called to lead conceptual changes for advancing individual, organizational, and professional health (Nelson-Brantley et al., 2017). In comparison, changing to Blocked Charting will provide an exact amount of medication delivered

through timely and accurate titration. It will help reduce multiple medication titration errors as opposed to the current EMR process, which has no detailed outline or checklist.

Evidence-Based Practice Framework and Change Theory

Evidence-Based Practice Framework

The John Hopkins Nursing Evidenced-Based Practice Model uses a three-step model process called PET **(**Dang et al., 2021**).** It includes (P) practice question, (E) evidence, and (T) translation. Every PET phase is a crucial part of the project and helps to integrate evidence-based practice in its entirety.

Formulating pertinent and targeted practice questions is the first stage in the PET process (Dang et al., 2021**)**. These inquiries are intended to address certain problems or ambiguities in clinical practice. Understanding the clinical setting, patient group, and targeted outcomes in-depth is necessary for this step. Healthcare practitioners can focus their research and narrow their queries by formulating specific research questions.

The second stage, evidence, comprises looking for and evaluating critically the evidence that is relevant to the practice questions found in step one (Dang et al.,2021**)**. To do this, a thorough literature review, database searches, and examination and evaluation of pertinent studies are required. The objective is to compile the best information that is currently available to inform clinical decision-making and, maybe, provide answers to practice questions.

The JHNEBP Model's last phase is translation (Dang et al., 2021**)**. The evidence gathered in the previous stage is applied to clinical practice in this step. The emphasis is on applying the evidence in actual healthcare settings and customizing it to meet the requirements and preferences of patients. Creating clinical guidelines, protocols, or recommendations based on the evidence may be a part of the translation process. To encourage the adoption of evidence-based practices, it also includes effectively conveying and disseminating the findings to healthcare professionals, patients, and other stakeholders.

Lewin's theory of change model was utilized for this change in practice proposal (Burnes, 2020)**.** With The John Hopkins EBP framework using PET, the practice question is identified as Block Charting not being utilized in GLA-VA ICU. Block Charting is well supported by literature and governing bodies such as American Association for Critical Care Nurse (AACN) and TJC. The evidence demonstrated that block charting reduces medication errors and inaccurate documentation (TJC,2022.). Thorough planning and collaborations are necessary and are in progress to implement Block Charting in GLA-VA ICU.

Change Theory

Lewin's theory of change model encompasses a tripartite framework consisting of three distinct phases, namely unfreeze, change, and refreeze (Burnes, 2020). Every phase of the block charting process is essential for its successful implementation and long-term sustainability. In the initial stage of unfreezing, a meeting was organized with the members of the Intensive Care Unit (ICU) staff to cultivate awareness and comprehension regarding the necessity for implementing change. The present discourse encompassed an examination of the difficulties and constraints associated with the existing documentation procedure for vasoactive drips, as well as an exploration of how block charting can enhance patient safety and optimize the delivery of healthcare services. This project aims to identify and address potential barriers that may impede the successful implementation of block charting. The objective of this phase is to cultivate a state of urgency and preparedness for organizational transformation among the staff (Malik, 2022).

The change phase primarily centers on the implementation of the new block charting process (TJC,2022.). Policies and procedures shall be formulated and effectively disseminated to all nursing staff working in the ICU. Nurses received comprehensive education and training to ensure their understanding of block charting protocols, documentation requirements, and the significance of precise and punctual documentation. The proficiency of newly hired nurses in block charting was evaluated through competency assessments. The individuals who assumed

crucial responsibilities in delivering the education and offering continuous support to the staff included the subject matter expert, super-users, ICU nurse manager, and assistant nurse manager.

During the refreezing phase, there was deliberate endeavors to strengthen and maintain the implemented change. Monthly auditing will be conducted by the DNP Manager and the ICU management team utilizing the block charting checklist Appendix F; auditing aims to monitor adherence and compliance with the standard of practice of block charting and identify potential areas for more one-to-one education. The interprofessional team engaged in a comprehensive review of the documentation from the previous day, offering personalized feedback and fostering open discussions with the staff members. The forthcoming discussions emphasized the importance of thorough and precise documentation in ensuring patient safety, while also promoting a culture among staff members that encourages inquiry and the pursuit of clarification. The super-users retained their role as motivators and exemplars, advocating for the long-term viability of the block charting process.

Evidence Search Strategy

A computerized literature review was conducted using the University of St. Augustine's for Health Science's (USAHS) library, and 4,123 articles were found. The database searched method included is Academic Journal, Directory of Open Access Journals, Journals OVID, CINAHL Complete, and MEDLINE. The keywords were interchanged to obtain various literature reviews and were not limited to the documentation; they also included words such as quality, charting, errors, drugs, and intensive care unit. Articles included were scholarly reviews, reports, electronic resources, and journal articles. The included articles range from 2018 to 2022, with specific keywords related to ICU medication titration and block charting. The search yielded 46 studies validating the use of vasoactive titration medication and potential errors. Articles were limited to the keywords, including other areas searched for, such as advanced practice and medicine. Articles that were excluded ranged from anything more significant than five years, and

titration of any drugs other than vasoactive drips was excluded as they pertained to more generalized medicine. Added inclusion articles were related to TJC recommendation, block charting, and quality improvement. Twenty articles were related to this literature compilation.

Evidence Search Results

Nursing documentation is a vital source of information regarding the patient's care and is used to assess and manage the patient's condition; in addition to agreeing that accuracy nursing documentation is not only a nurse's professional responsibility but outlines the essentials of the care of patients and a component to implement patient safety and quality and can affect the organization in a legal and financial means if not done efficiently (Munroe et al.., 2021; Peivandi et al., 2022). In addition, McCarthy et al. (2018) found that using documentation via electronic charting has improved the quality of care in patients while promoting safety. Of the twenty articles noted, many did not provide accurate data to support medication errors associated with the titration of vasoactive drips. The reliability and strength were vague as they pertained to documentation or medication associated with using vasoactive drips.

Critically ill patients often need more than one vasoactive drip to sustain life; therefore, block charting is defined as a process to infuse vasoactive medications in an emergent situation rapidly (Astle & Czajkowski, 2022; TJC, 2022). TJC changed the standards of how nurses caring for critically ill patients manage the care of critically ill patients concluded that the policies for documentation and providing care to patients on vasoactive drips created potential harm. The American Association of Critical Care Nurses (2022) and Barden (2021) both related the importance of proper documentation, but not at the expense of the patient. Policies must state the correct dose range for each vasoactive medication and provide guidance based on their physiological condition. The nurse providing care should be allowed to select the appropriate dose range and manage the patient without worrying about legal ramifications regarding proper documentation. Various healthcare organizations are experiencing barriers to complying with the recommendation of TJC medication standards. TJC requires an organization’s policy where

they define the types of medication that can be titrated, starting with the initial dose and ending with the maximum dose. According to Don Janczak, PharmD, a consultant with TJC, balancing the order requirements to align with patient needs was challenging for nurses when life-sustaining measures are needed (“Titrated Medications a Common Challenge,” 2022). Most experienced ICU nurses have noted that the management of titration of medication and its standard has been unrealistic, and 70% say they have deviated from the order set to meet the patient's needs (Firth, 2021), and additionally, Gartley (2022) found that the required documentation standard, such as initial dosing and response to medication, often need to be clarified.

Themes with Practice Recommendations

A systemic review was conducted regarding medication errors and the associated risk factors. A search was conducted using PubMed, CINAHL, Journals @ OVID, and various systematic review databases. Keywords such as medication areas, intensive care units, and interventions in critical care were used. The study involved interventions for adult patients and the reduction of medication errors. Papers published in English were the only reviews included and focused on medication errors. Data were extracted using a form that standard which included design, country of study, setting, sample size, interventions, and outcomes of medication errors (Manias et al., 2012)

Eight types of interventions were recognized, which included computerized physician orders (CPOE), medication reconciliation (MR), change in schedules at work (CWS), mode of education (ME), involvement from the pharmacy (PI), support systems for clinical decision making (SSCD), intravenous systems (IS) and standard of practice protocols (PG). Sixteen of the 24 studies confirmed a decrease in medication error incidence, and four studies outlined an increased rate of medication errors that provided zero change or an unclear result. Table 1 suggests that risk could not be determined in two of the intervention review studies. The

computerized patient entry order and its impact on reducing medication were conducted, and five studies were found (Manias et al., 2012).

Medication Errors

Three studies involved testing, and two focused on how the CPOE decreases medication errors (Manias et al., 2012). The study concluded that there was a 6.2% to not having a dose error in a five- or twelve-month post-intervention period. There was a total number of reported medication errors following the introduction of CPOE from 0.12% to 0.25%, but the number that produced harm decreased. The post-intervention showed a 90% increase compared to pre- and post-intervention. Still, an overall error increase regarding the patient harm CWS used one investigational study using a randomized, non-blinded design. Fewer interns made medication errors while using the CWS compared to the traditional work schedule, 82.5 errors per 1000 patient days of care compared to 99.7 errors per 1000 patient days of care (P=0.03)—two studies used for IS intervention (Manias et al., 2012).

Smart Pumps

Smart pumps provided a decision report during this intervention study, and no changes were found regarding preventable intravenous adverse drug events. Results suggested no difference during this intervention period; 571 staff RNS bypassed the medication library for intelligent pumps. Two studies for the ME were conducted, and a comparison was made for ICU medical nurses versus Critical Care unit registered nurses. At a 12-week post-intervention, errors were 22.6% at pre-training, 15.9% at the post-intervention, and 5.6% at the 6-week post-intervention point ($P < 0.0005$). One study used for the MR demonstrated 10 of the 25 patients audited had their medication orders changed, and there were no details regarding the total number of medication charts audited (Manias et al., 2012).

Drug Compatibilities

Three studies were used in the PG intervention, and drug compatibilities were identified in a 12-bed ICU; the incidence of incompatibility of medication was reduced from 5.8% to 2.4%.

Four studies were used for the PI interventions, and prescription errors decreased from 190.5 per 1000 patient days of care (Manias et al., 2012). Six studies were used in the SSCD intervention. An evaluation was conducted using the dispensing medication errors, and the overall medication rate was the same, 19.3% *vs*. 20.4%, $P > 0.05$ (Manias et al., 2012). The strength of the systematic review did not support the PICO intervention; furthermore, it did not provide significant evidence on post-intervention strategies to decrease the number of medication errors during the hospital stay. The study needed more data to validate the interventions needed to decrease medication errors in the facility; auditing will not provide accurate data to implement the practice change needed in the intensive care Unit. The practice recommendation for block charting is to audit the charting for 4 weeks following the implementation to ensure compliance.

Block Charting

Judy Davidson, DNP, RN surveyed 781critical care nurses took place in January-September 2020, and 70% of the respondents stated that there was a deviation in the expectation of documentation of vasoactive drips due to needing to care for the patient, and 84% asked for physicians to change orders to maintain compliance and standards of TJC (Firth, 2021). In addition, Davidson and colleagues (2020) reported that 80% of the orders for titration caused a delay in patient care, and 30% of the nurses did not comply with the medication orders. In comparison, 68% complied with orders and focused more on the orders than the patient, causing suboptimal care (Firth, 2021). It was noted that if TJC visited the organization during noncompliance with documentation, the organization could be cited and potentially shut down.

The Setting, Stakeholders, and Systems Change

5 West ICU has five patient care pods, separated geographically. Each Pod A, B, C, D, and E have 6 to 10 beds per Pod. Each patient's room is private. The ICU teams perform sterile procedures at the bedside, ranging from bronchoscopy to central line placement. Each room

has a connection for regular dialysis, so critically ill patients remain monitored at the bedside during dialysis. The ICU has one nurse manager, one day shift assistant nurse manager, and one night shift assistant nurse manager.

Population variables include cardiovascular, renal, cardiac care, and telemetry patients. Three primary medical teams oversee patients: Medical Intensive Care (MICU), Surgical Intensive Care (SICU), and Cardiology (CCU). Nurses are also responsible for rapid inductions for emergency intubations. Therefore, ICU Nurses are responsible for monitoring the cardiac monitor for all patients. The five core values, Integrity, Commitment, Advocacy, Respect, and Excellence are defined as trusting in the organization's mission by working meticulously to serve the patient by improving the quality of care and preventing treatment delays. The organization is committed to providing excellent care to veterans. Patient satisfaction is crucial for calculating or measuring the quality of care received in the hospital or outpatient setting. Organizational structure is necessary for a company to perform well and reach its goals. Nurse leaders must guide nursing staff to carry out their duties to the best of their ability, utilize their skills at the highest level, and thus provide high-quality care. Communication is essential among healthcare workers to ensure that patients receive excellent care, treatment, and services.

When discussing continuous quality measures and block charting, the key stakeholders include the ICU nurse manager and ICU asst. The stakeholders include:

- The nurse manager.
- The chief nurse of critical care.
- Critical care nurse educators.
- The medical director of ICU.
- The pharmacy.
- The staff.
- Patient

The goal of the stakeholders included maintaining the organization's mission and core values relative to safe practices of block charting. An effective block charting process involved a detailed dedication of the multidisciplinary team, including the physicians, nurses, and pharmacists, to ensure compliance with the project change. Once the block charting policy was developed and approved by the critical care committee and research development team, it was critical to ensure that staff from ICU are educated regarding the policy and that medical records are audited for accuracy (Sevcik, 2021). The SWOT analysis in Figure 2 shows the strengths, opportunities, weaknesses, and threats of vasoactive titration. It discusses the opportunities and justification to show the importance of block charting. Block charting is a micro-level change since policy implementation is needed to ensure safe practice; the implementation change will only occur in the ICU. The micro-level change was measured over time, and the policy or block charting helped guide the change. The frontline nurses were engaged to ensure efficient practice change, outlining the resources needed to implement the change.

Implementation Plan with Timeline

To address the objectives of this project and provide a clear roadmap for implementation, it was crucial to establish a set of goals and outline a step-by-step process. The overarching goal of implementing block charting was to empower nurses to effectively manage the care of critically ill patients who required emergent changes in vasoactive medication management. Block charting also entailed developing a standard of practice (SOP) that supported the appropriate titration of vasoactive medications by critical care nurses, allowing them to select a dosage range that aligned with the patient's current condition (American Association of Critical Care Nurses, 2022). The standard of practice described how block charting was carried out, in addition meeting the requirement of the organization and TJC standards.

The smart overarching goal started with managing the practice change, including knowing the problem, coming up with solutions and options, implementing and executing the

plan, monitoring the progress, and closing the loop (Heagney, 2012). Once the first goal was completed, the second goal was working with the delegated superusers to educate the staff. Once the superusers were fully trained, the third step in the implementation phase was to educate and disseminate to the ICU nurses. The superusers were available during this 4-week process to allow for questions and to answer any concerns the staff nurse may have had during this process change. The goal was to allow the critical care nurse to properly manage their patient without having to document medication changes every 15 minutes. The overall documentation increased from 68% to 73% (see Figure I7) within four weeks by educating on the practice change of block charting following the implementation and initiating block charting in the ICU, and this will be accomplished by auditing with the block charting checklist (see Appendix F). The increase was due to the standard of practice of block charting and allowing the ICU nurses to document the initiation of block charting, the physiological parameter accepted to use the block charting, the end time, and the physiological parameter that indicated the patient returned to baseline. The goal was to allow the nurse to care for the patients but remain aligned with the TJC standards of adequately documenting the titratable medication set order.

Chart auditing was conducted following an educational process to ensure compliance with the block charting protocol. The DNP manager, ICU nurse manager, and assistant nurse manager conducted the chart auditing. This auditing phase aimed to achieve a minimum of 90% compliance. Identified barriers were addressed through reeducation and reinforcement strategies. The reeducation and reinforcement were outlined utilizing coaching. Coaching was described as a communication approach that supports an interpersonal process that demonstrates a one-to-one approach used to support the nurse in the practice change of block charting documentation. The collaborative approach aided in self-knowledge of behavior practices while reeducating the nurse to establish the goal for better practice outcomes in proper documentation using block charting (Costeira et al., 2022). The timeline for the

implementation plan began with a stakeholder meeting involving the nurse manager and chief of critical care in Week 1. Subsequent weeks involved collaboration with the stakeholders including the CPRS committee to integrate block charting into documentation practices, as well as educational sessions to discuss the intricacies of the implementation process. The full timeline was expected to span 4 weeks, providing ample opportunity for training, policy implementation, and chart auditing to assess compliance (Gartley, 2022).

The implementation phase began with a meeting of the DNP manager, ICU Nurse Manager, and Chief of Critical Care to indicate the need for block charting. The DNP manager was the leader and chair of the block charting practice change. The DNP manager worked with ICU nurse manager and assistant nurse manager to change the documentation of vasoactive titration by creating block charting documentation. The DNP manager assisted the ICU nurse in meeting the standards of TJC to ensure compliance by providing training during the implementation phase of the DNP project. The DNP manager audited the charting during the evaluation phase by utilizing the block charting checklist, Appendix F, to assess the compliance data for vasoactive documentation from the initial 68% compliance. The DNP manager presented the auditing of vasoactive drips, Appendix E and indicated the critical need for practice change due to the lack of compliance of documentation of vasoactive drips that aligns with the set parameter orders indicated by the physician. After meeting with the leadership team, the DNP Manager met with the ICU education team to discuss the plan, and the timeline for implementation of the block charting.

The super-users met with the DNP manager and reviewed the PowerPoint (Appendix H) and Standards of Practice (Appendix E). Training with the super-users was essential, so questions and concerns could be addressed to disseminate the learning objectives to the remaining staff. Once the superusers clearly understood what was needed to educate the remaining nursing staff, including the documentation in ICCA, dissemination to the staff was initiated to the remaining RN staff. The superusers met with each staff individually and provided

one-to-one training. The 1:1 meeting allowed for understanding and clarity as each staff member signed the education plan to indicate understanding with 100% of the education completed within the four weeks. In addition to these individual objectives, a confluence of goals contributed to the comprehensive execution process for the implementation of the block charting. The active participation of super users played a pivotal role in the successful execution of change initiatives. Super users had a significant impact on the delivery of education, as well as the provision of ongoing support and the resolution of any inquiries or issues raised by the nursing staff. According to Heagney (2012), the participation of individuals in the implementation process plays a crucial role in promoting effective teaching, fostering understanding, and ensuring the delivery of high-quality care. The implementation plan adhered to the PET framework, with a particular focus on the translation phase.

Unfreezing

A meeting with stakeholders was essential before implementing block charting to achieve success. Subsequently, subprocesses were created for each key implementation plan stage. These subprocesses outlined the actions to be taken, the people involved, the date and place, the rationale, and the means of execution. This subprocess ensured a structured project approach. The method included identifying nursing staff and training needs. The DNP Managers, Nurse Educators, and Super-users completed their task, and a pre and post-test highlighted nursing staff block charting knowledge and ability gaps. The nursing unit or a training room hosted the assessment during the second week of implementation. This step determined which education and training areas needed assistance.

Changing

Instructional resource production follows. DNP managers and super-users created PowerPoint presentations, training manuals, and reference guides. The implementation timeline placed this phase in weeks 3-4. This step was done at the designated workplace in the ICU unit. The goal is to provide organized and regular training tools for nursing staff. Facilitating training

sessions follows training material development. The super-users and nurse educators completed the education training. Training was delivered in the nursing unit during weeks 3-4 of the implementation timeframe. This stage ensured nursing staff receive adequate block charting training.

Refreezing

After training, the subprocess evaluated its effectiveness, by focusing on Lewin's theory (Lewin K. (1947) of change to strengthen and ensure compliance of implemented change. Nurse Educators and Super-users will test nursing staff knowledge and competency via quizzes, demonstrations, and simulations. The ICU unit evaluation phase was during week four of the implementation timeframe. This step evaluated the training program and identified opportunities for improvement. This step solidified the shift and ensured that the nursing staff's new block charting knowledge and that skills were integrated into their routines, establishing the new practices as the norm for long-term sustainability.

Budget

The budget consists of the education time needed for the RN. Dedicated education is needed, and the average RN makes $75.00; education will take four hours to complete, with a return demonstration. The intensive care unit registered nurse administered, titrate, and wean vasoactive medications for a hemodynamically unstable patient, and despite their involvement in managing these vasoactive drips, there needs to be more knowledge regarding why registered nurses make specific titration rate decisions (Hunter et al.,2020).

The John Hopkins Nursing for Evidence-Based Practice (EBP) guided how the intervention was measured and how often the data will be collected during monthly auditing by educating ICU RN Champions, with the guidance of the ICU Nurse Manager. One-to-one nurse education were conducted by identifying super users and allowing indirect nursing education time to educate the nurses with the new implementation of block charting. As indicated previously, the education was one-to-one to allow for questions and understanding of the new

implementation tool. The ICU had 64 nurses to ensure patient ratio and staffing; the budget was $19,200 (Appendix G) for one-to-one teaching of block charting.

Results

The first steps for block charting were presented to the superusers, clearly defining the objectives, scope, documentation requirements, and expected results (Amouri & Ramukumba, 2020). The DNP manager provided education and training to the superusers and champions of block charting for two days for 4 hours. The DNP manager emphasized and discussed the benefits of effective documentation techniques and the significance of accurate and timely documentation (Amouri & Ramukumba, 2020). The data was audited utilizing the block charting checklist Appendix F to indicate compliance or improvement. The DNP Manager, management team, and ICU educators conducted a biweekly meeting to discuss barriers or any change strategies that needed to occur or to determine if the block charting has made a difference in the block charting implementation.

The results of the evidence-based practice change were focused on the block charting documentation. The data collected was transcribed on the audit checklist tool Appendix F. The data collection was conducted utilizing the checklist auditing tool where transcribing the data occurred (see Appendix F). Appendix F outlines the reviewed documentation identifying patients who received vasoactive drips. A review of block charting was completed pre-and post-implementation of the intervention. The DNP manager spoke with the ICU management team and indicated that some nurses should have indicated the name of the drip because it is already written in the documentation for ICCA. The DNP manager asked the ICU assistant nurse manager how TJC would know which vasoactive drip was used, if there were multiple vasoactive drips, and if the ICU nurse would know how to speak to the actual drip. The ICU management team assumed the ICU nurse should know; therefore, the DNP manager advised the management team only to assume some staff nurses would accurately verbalize the block

charting process. It was concluded that the actual name of the vasoactive drip would be documented in the block charting to prevent confusion and heightened transparency.

The DNP manager collaborated with the ICU assistant nurse manager by identifying the critically ill patients in the ICU by rounding with the charge nurse to review the clinical history. The ICU assistant nurse manager and the DNP manager audited the charting of the vasoactive drips to determine if the patient could have benefitted from block charting and if the ICU RN initiated block charting during the emergent situation. The DNP nurse manager and ICU assistant nurse manager audited the documentation to determine if the RN documented the time of the initiation of block charting, the name of the vasoactive drip that was being titrated, the physiological parameter to initiate the block charting, and the end time of the block.

The nurse documenting the block charting into the electronic medical record system CPRS and ICCA were used to determine accurate and efficient documentation. The auditing of block charting verifies the accuracy of documentation to ensure compliance with the recommendations of TJC. ICCA and CPRS. Protecting patient data and ensuring compliance with HIPAA regulations are critical. The data was secured in password-protected folders with limited access to authorized personnel, and the education and training reinforced Confidentiality and data integrity (Moore & Frye, 2019). The data was stored in an ICU-secured folder for auditing block charting under a password-protected folder and will be maintained for twelve months to track accuracy trends.

The DNP manager and ICU management team assisted the ICU champions in conducting the auditing for block charting for three weeks. Chart audits were conducted to monitor compliance and evaluate the correctness, thoroughness, and proper utilization of block charting (Amouri & Ramukumba, 2020). The outcomes included were:

- the time of the initiation of block charting
- the name of the vasoactive drip during titration
- the physiological parameter to initiate the block charting.

- the end time of the block charting

The accuracy of auditing of the block charting documentation played a vital role in measuring the outcomes; it was done utilizing a systematic approach to ensure compliance. The outcome included is the time of the initiation of block charting, the name of the vasoactive drip during titration, the physiological parameter to initiate the block charting, and the end of the time of the block charting. The criteria to complete block charting is determining if the patient has reached the physiological parameter stated in the physician's order; block charting is discontinued once the patient has reached the parameter goal. When auditing the documentation, the DNP manager met with the ICU champions of block charting to re-educate any ICU RN who demonstrated a need for more understanding of the block charting process.

Before the initiation of block charting, the ICU documentation was done by auditing the charting for titration accuracy. During preintervention, the ICU unit demonstrated 68% compliance due to the ICU focusing on the care of their patients and having very little time to focus on documentation. After training in the evidence-based block charting process, compliance increased to an overall score of 73% (see Appendix I, Table 2). One RN had 0% accuracy in the documentation, which significantly impacted the overall accuracy for the block charting documentation; the RN was re-educated to understand when the documentation should have been initiated and the vital importance of accuracy.

A descriptive statistic was conducted to determine the accuracy and compliance of block charting documentation. The Intellectus statistics software was used to determine accuracy. The accuracy of the documentation was calculated utilizing six questions. Question 1 (Q1) emergent situation (Q2) initiation time (Q3) rate of medication, (Q4) maximum rate achieved (Q5) physiological parameters, and (Q6) rate and time at completion. The descriptive statistic's purpose was to measure accuracy in the documentation for vasoactive drips; vasoactive documentation is independent data and determines if the required documentation was followed

utilizing the block charting checklist Appendix D. The percentage of outcome indicated measured the compliance or noncompliance in the accuracy of utilizing the block charting check Appendix D. Each element in the standard of practice shown in Appendix D must be present to meet the standard of the TJC.

Accuracy was determined by looking at each question and determining the most accurate observed category by answering yes or no. YES for accuracy in the documentation or NO, indicating the RN failed to document appropriately. Q1, the emergent situation, YES, was the most observed category (*n* = 4, 80.00%). In Q2 initiation time, YES was the most observed category (*n* = 4, 80.00%). Q3 rate of medication, the most observed category was NO;(*n* = 3, 60.00%). Q4 maximum rate achieved, YES was the most observed category; YES (*n* = 4, 80.00%). Q5 physiological parameters, YES was the most observed category (*n* = 4, 80.00%). Q6 rate and time at completion, the most used category was YES (*n* = 4, 80.00%). Accuracy in the documentation is presented in the appendices (see Appendix I Table 1).

The descriptive statistics calculated the total accuracy and the accuracy of the percentage. The observations for the total accuracy had an average of 4.40 (*SD* = 2.51, Min = 0.00, Max = 6.00), and the observation for the total accuracy percentage had an average of 0.73 (*SD* = 0.42, Min = 0.00, Max = 1.00), (see Appendix Table I2). The implementation and practice change recommending the need for block charting resulted in an overall improvement of the accuracy in the documentation of 7.3% (see Appendix I, Figure I7) to reinforce and understand the barriers such the nurse understands the clinical significance of using the block charting when the patient experiences an emergent condition. Block charting contributed to evidence-based practice and the recommendation of TJC. Block charting can provide accuracy in documentation and strengthen the quality of care the patient receives through evidence-based practice (Carpenter et al., 2021).

Impact

In the ICU, nurses play a critical role in making complex life-saving decisions during assessments. Documentation is a vital aspect of nursing practice, with significant implications for patient safety and ethical considerations. *Block charting* is a method that empowers ICU nurses to provide optimal care in emergent situations while ensuring compliance with documentation requirements (The Office of Corporate Compliance, 2023). ICU nurses can initiate block charting when a titrated medication is needed to explain the steps of the medication initiation or change in the block charting. The nurse must document the time of the medication initiation and when the medication ended. Timing is crucial since block charting must commence within 4 hours of the block time. Previously, nurses had to balance quality patient care with documentation, especially when a patient's condition changed. As block charting represents a practice change, chart audits will continue for at least six months. During this evaluation period, the assistant nurse manager and DNP manager must ensure ongoing compliance, given the likelihood of TJC audits for critically ill patients. Continuous improvement is a concern, necessitating education and training for new ICU nurses and a focus on this practice with all new ICU hires.

Continuous auditing is essential for success, with retraining provided if a nurse becomes non-compliant. Block charting will be included in ICU orientation and reinforced by preceptors working with new hires. The assistant nurse manager will consistently audit charting to ensure alignment with the new SOP (see Appendix D). TJC acknowledges the challenges of documenting rapidly changing patient conditions, but adherence to clinical guidelines and practice changes must meet TJC's expectations. The assistant nurse manager will continue monthly success measurements. However, a limitation lies in needing more data analysis to audit nursing documentation for initiating block charting, as it requires patients to be in emergent situations as outlined in the SOP.

Block charting is a practice change, and it will require at least six (6) months to audit the chart to have an accurate percentage of compliance or accuracy. Presently, Block Charting

compliance is at 75%, and this is a slight improvement from the 68% prior to implementation. To meet the goal of 100% after the results period, the ICU nurse assistant nurse manager and DNP Manager must monitor compliance through frequent rounding, listening to the nurse's feedback, and chart audits. The ICU educators will include block charting in newly hired ICU nurses and will be included in the bi-annual skills lab for ICU nurses. Chart audits for proper documentation should be an ongoing activity and will be carried out by the ICU assistant nurse manager.

Block Charting was implemented first in the ICU, and the goal is to expand this practice to all critical care departments, including the emergency room, post-anesthesia care unit, and the operating room. Education related to block charting will be available to all nurses newly hired to the ICU. Education and training will include 1:1 coaching by ICU nurse educators, preceptorship, mentorship, and simulation labs for new nurses orienting to the ICU.

The VA-GLA has processes for reviewing proposed Memorandum or SOPs (see Appendix D); it took several reviews and revisions before it was approved by the Associate Director of Patient Care Services (ADPCS), and the implementation of block charting was initiated. Nurses' perceptions and resistance to practice change were other barriers to block charting; subsequently, all these barriers have been resolved through staff education and revising the SOP as directed, and blocked charting went live without difficulty. Block Charting is now in its third week and needs another three to six months to have adequate data to evaluate the documentation's overall success and accuracy. The ICU educators will include the block charting in the ICU orientation period, and the ICU assistant nurse manager must be reinforced during orientation and continue to measure success monthly.

Dissemination Plan

The DNP manager will disseminate the block charting results by utilizing a PowerPoint presentation to all stakeholders via Microsoft Teams meeting. The stakeholders include the chief critical care nurse, ICU nurse manager and assistant nurse managers, ICU educators, pharmacy and medical and surgical medical directors, and the Multidisciplinary Critical Care

Committee. After the initial dissemination, the DNP manager and stakeholders will plan to meet monthly to discuss documentation accuracy and results.

The block charting results will be disseminated to the University of Saint Augustine faculty through an oral presentation. The oral presentation will discuss the problem, PICOT question, need for quality improvement change, intervention timeline, outcomes, and next steps.

The DNP Manager will present a poster presentation of block charting in the upcoming year to the American Organization for Nursing Leadership (AONL) Conference, 2024, in New Orleans, LA. Presenting via poster at AONL will allow the DNP manager to be one of the expert subjects regarding the practice change to provide insight to other healthcare industry leaders to explore the possibility of implementing this project change in their organization. Wider dissemination of the manuscript submission of the block charting will be sent to *The American Journal of Critical Care* (AJCC). AJCC is a peer-reviewed publication for communicating advances in research in critical care due to its mission of addressing topics that address critical care nursing and the delivery of critical care (AACN Publishing, 2023**).** The manuscript will also be submitted to the Scholarship and Open Access Repository (SOAR) for the University of St. Augustine for Health Sciences; SOAR shares the scholarly work of all DNP students to assist new DNP students and enhance the work of new DNP students in promoting care.

Conclusion

Patient safety is the absence of harm that could have been prevented to the patient and the decrease of redundant errors related to the patient's health care (Bessa Mieiro et al., 2018). Maintaining a culture of safety in the intensive care unit is vital. A complex medication change surrounding vasoactive drips is challenging and creating a safer process that results in fewer errors is imperative. Fewer errors will result in less harm to the patient, and the outcome will result in better outcomes. Vasoactive medications are administered continuously, and the responsibility of the registered nurse is to ensure the patient is adequately managed due to the

risk of cardiac arrest, stroke, and or necrosis. The documentation process should be the slightest issue to address to ensure that registered nurses correctly manage the patient, resulting in less harm.

A medication error, or adverse event is highly vulnerable in the intensive care unit. The titration of vasoactive medication is a necessity when attempting to return or maintain a patient in a hemodynamic state and utilizing the block charting in the EMR will prevent documentation errors and titration errors due to the availability of allowing the nurse to manage the patient and decrease errors and causing a safety risk in the intensive care unit.

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Table 1

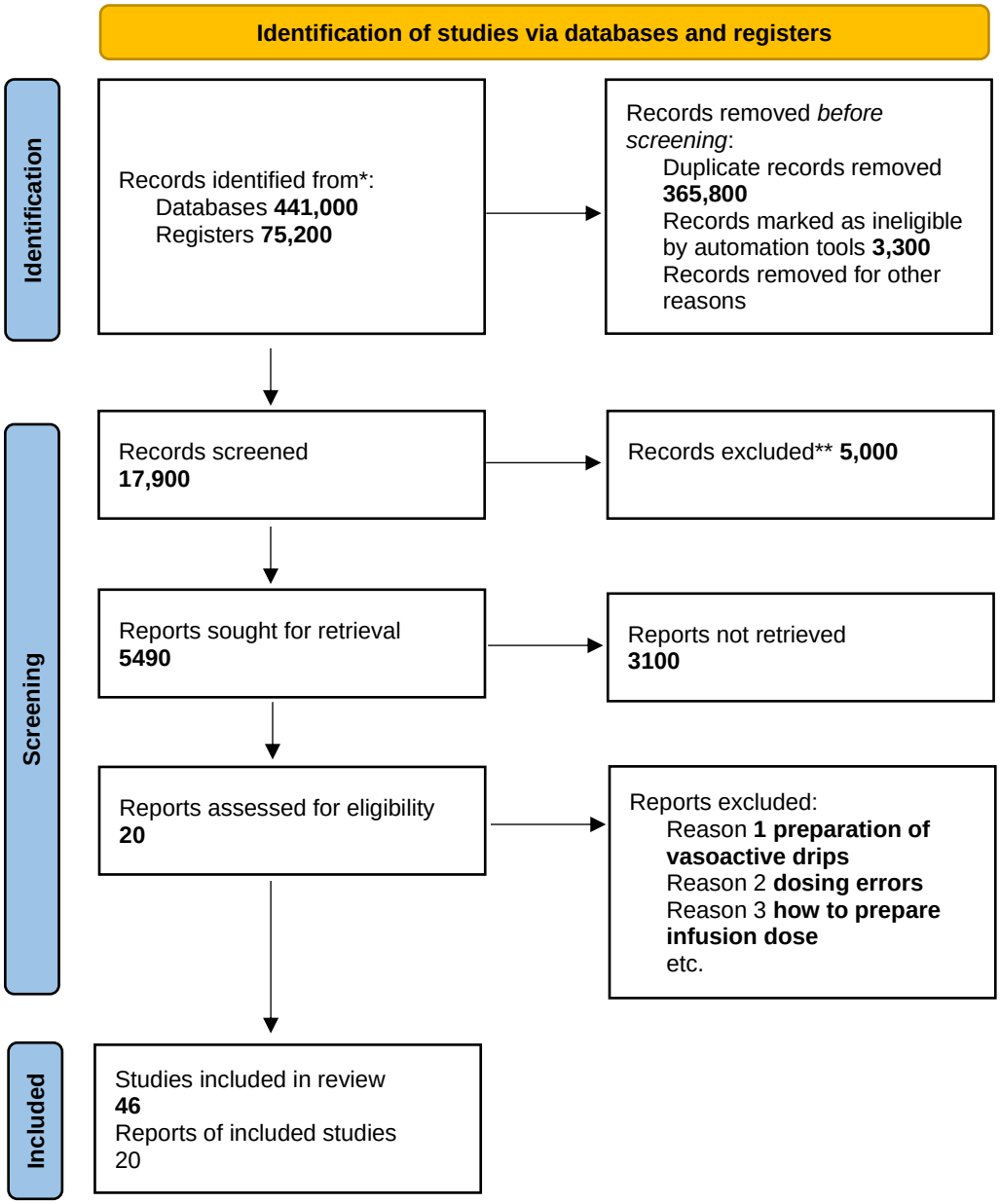
Pre and Post Intervention for Prevention of Medication Errors

Intervention	**Number of studies**	**Pre intervention**	**Post intervention**	**Demonstration evidence of decrease in medication usage**
ME	2	Prescribing errors ranged from 22.6% at pre-training to	15.9% at the post-intervention and 5.6% at the 6-week post-intervention point (*P* < 0.0005).	**Y**
PI	4	190.5 per 1000 patient-days	62.5 per 1000 patient-days (*P* < 0.001)	**Inclusive due data indicating the number of charts audited**
IS	2	4.78 per 1000 patient-days,	4.95 per 1000 patient-days, *P*= 0.96)	**No change**
CPOE	3	50.4% of patients during the pre-intervention period	44.0% of patients during the post-intervention period (*P* < 0.001)	**Not significant**
CWS	1	99.7 errors per 1000 patient-days	82.5 errors per 1000 patient-days (*P*= 0.03).	**Y**

(Manias et al., 2012)

Figure 1

Identification of Studies Via Databases and Registers



Note. Prisma flow chart diagram from "Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement," by D. Moher, A. Liberati, J. Tetzlaff, & D. G. Altman, 2009, *Annals of Internal Medicine, 151*(4), p.267 (https://doi.org/10.7326/0003-4819-151-4-200908180-00135). Copyright 2009 by The American College of Physicians.

Appendix A

Summary of Primary Research Evidence

Citation	Design, Level Quality Grade	Sample Sample s	Intervention Comparison	Theoretical Foundation	Outcome Definition	Usefulness Results Key Findings
Munroe, B., Curtis, K., Fry, M., Shaban, R. Z., Moules, P., Elphick, T.-L., . . .Considine, J. (2021). Increasing accuracy in documentation through the application of a structured emergency nursing framework: A multisite quasi-experimental study. *Wiley Online Library*.https://doi.org/10.1111/jocn.16115	A multisite quasi-experimental study, LOW	120 patients	No significant change in the quantity (p = .625) or quality (p = .457) of interventions when compared from pre- to post-intervention (p = .625), nor the frequency of reassessment following interventions	D-Catch tool were used to assess accuracy. Differences between pre-post groups were analyzed using Wilcoxon rank-sum and two-sample *t*-tests for continuous variables.	Assessment, Interventions, Diagnostics, reassessment, and communication) improves emergency nursing care by reducing treatment delays and improving escalation of clinical deterioration.	This overall improvement was demonstrated in the care of the patients. Both the quantitative and qualitative measures of documentation on patient history and physical assessment findings improved significantly. Education and implementation strategies helped improve documentation
McCarthy, B., Fitzgerald, S., O'Shea, M., Condon, C., Hartnett-Collins, G., Clancy, M., . . . Savage, E. (2018). Electronic nursing documentation interventions to promote or improve patient safety and quality care: A systematic review. *Journal of Nursing Managment*. Retrieved from https://doi.org/10.1111/jonm.12727	A systematic review, LOW	6 documents	The six studies focused on improving quality of care using END	findings from two studies point to implications for patient safety, particularly documentation	While END was shown to have some positive outcomes, the results are inconclusive due to the	Limited evidence of interventions' effects on promoting or improving quality care and patient safety in acute hospital settings.

Legend:

Appendix B

Summary of Systematic Reviews (SR)

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/Implications
Documentation errors	Low	Nursing documentation in the intensive care unit?	A computerized literature review using MEDLINE and online data reviews	Inclusion: quality improvement Exclusion: nursing flowsheet documentation	The use of safe practice in documentation	Nurses are held accountable for their documentation	Very useful in understanding the importance of documentation strategies and implementation.
Medication tirtration	Low	How does error occur in medication titration?	GOOGLE and University Library	Inclusion: TJC recommendation, block charting Exclusion: anything more significant than five years, and titration of any drugs other than vasoactive drips	Titration in emergent care of a patient	Nurses are burden to care for patient while accurately documenting	Recommend the use of block charting to prevent documentation, while also protect the nurse

Figure 3

SWOT Analysis

Strengths: Titrated vasoactive agents in the intensive care unit would be appropriate to have a policy that states the chosen dose within a range can be selected by the nurse, given the patient's physiological condition. The nurse should be allowed to select a dose in the range based on the current condition of the patient and consistent with state law and patient response. Block charting enables the staff to be at the bedside and care for the patient, not worrying about documentation with every single titration.	**Weakness:** Nurses in the ICU are often challenged to document each dose adjustment of complicated medication titrations while simultaneously providing emergent/urgent care to patients.
Opportunities: Once the plan starts, monitoring and evaluation will be ongoing and discuss monthly with the leadership team. Monitor of the documentation will occur before the initiation of the practice change and after to determine the effectiveness of the practice change.	**Threat:** Selecting a dosing regimen that is both safe and effective for patients is one of the most critical elements of a successful drug development program. Titrating the dose regimen of a drug based on patient response may help to identify safe and effective dosages at the individual patient level and when charting each dose change can potentially create an undue burden when a patient requires frequent titration changes.

Appendix C

Project Schedule Block Charting

	NUR7801								NUR7802								NUR7803							
Activity	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15
Meet with preceptor	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**																
Prepare project proposal		**X**	**X**	**X**	**X**	**X**	**X**	**X**																
List the steps for your project. Specifically, and operationally define what you plan to do and when.		**X**	**X**	**X**	**X**	**X**	**X**	**X**																

	NUR7801								NUR7802								NUR7803							
Activity	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15
Plan	X																							
Research	X	X	X																					
Audit Charting		X		X																				
Write Proposal		X	X	X		X																		
Present to Mgmt. Team																								
Work on policy			X		X	X	X																	
Meet with ICU educators																								
Meet with Multidisciplinary Team																								
Educate Champions																								

	NUR7801								NUR7802								NUR7803							
Activity	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15	Week 1	Week 3	Week 5	Week 7	Week 9	Week 11	Week 13	Week 15

Appendix D

Auditing of Vasoactive Drips

	Patient Name [Patient Last Name]	Last 4 [Last Social Security]	Date	Were the appropriate titration instructions included in the titratable medication order? [Yes, or No]	If yes, did the RN follow the Titration instructions? [Yes, or No]	If no, was there documentation validating deviation from titration instructions? [reason]	Were Vitals Documented when actively titrating medication? [Yes, or No]	Comments [including action taken if not compliant with SOP]	Medication [Name of Vasoactive drips]	RN
1			1/4/2023	Y	Y		Y	Could titrate more often to keep MAP >65	Norepinephrine	
2			1/9/2023	Y	Y		Y		Norepinephrine	
3			1/15/2023	Y	Y		Y		Norepinephrine	
4			1/14/2023	Y	Y		Y		Vasopressin	
5			1/15/2023	Y	Y		Y		Vasopressin	
6			1/22/2023	Y	N	N	N	Vitals should be documented q 15 mins when pts are on pressors. Vitals	Norepinephrine	

								missing at 2230, 2245, 2330, 2345, 0330, 0345		
7			1/25/2023	Y	Y		N	Vitals should be documented q 30 mins when pts are on pressors with no A-line. Vitals missing throughout shift.	Phenylephrine	
8			1/25/2023	Y	Y		Y		Phenylephrine	
9			1/25/2023	Y	Y		Y		Phenylephrine	
10			1/30/2023	N	N		N	Vitals missing throughout shift. MD titration orders appear incorrect, will discuss orders with MD.	Norepinephrine	

Appendix E

Medication Titration and Documentation

1. PRINCIPLE STATEMENT

In the critical care setting, charting each individual rate change can potentially create undue burden when a patient requires frequent titrations of a medication. Registered Nurses (RN's) may utilize block charting as a form of documentation in the critical care setting.

2. PURPOSE

a. To provide a system of documentation in a defined period or "block" that reflects multiple dosing changes when rapid titration of medication is necessary in an urgent/emergent situation.
b. Block charting can only be used for the following critically ill patients:
    i. Patients requiring active medication titration to reach or maintain physiological stability in emergency such as:
        - immediately postoperative
        - active resuscitation
        - during the immediate post cardiac arrest period, after return of spontaneous circulation has been achieved.

c. Block charting does not extend beyond a four-hour time frame.
If the patient emergent situation still exists after 4hrs a new four-hour block must be initiated.

3. DEFINTIONS

a. Block charting is defined as an abbreviated documentation method that can be used when rapid titration of medication is necessary for the critically unstable patient, in an urgent/emergent situation.

b. Titration is defined as increasing or decreasing a vasoactive or other critical infusion for therapeutic effect.

c. Medication titration pausing: The titrated medication infusion is titrated off, once the desired goal is achieved based on assessed physiological parameters, but the medication order is still active.

4. POLICY

1. Medication titration must be in accordance with the physician order and parameters that are set within the titration order.
2. The registered nurse should consult with the provider or clinical pharmacist if there is a question about the safe administration of a medication.
3. The provider's medication order shall include the following:
    a. Medication name
    b. Dose (concentration)
    c. Route of administration
    d. Frequency of administration, as applicable
    e. Duration of order, as applicable

4. Registered nurses shall adjust titratable IV drip medication per provider orders. These orders shall include:
    a. Starting infusion rate or dose
    b. Maximum infusion rate or dose
    c. Incremental units to which the rate or dose can be increased or decreased.
    d. Frequency of rate or dose changes
    e. Titration parameters

5. The measurable criteria shall be documented upon initiation of the titratable medication.
6. If there is an immediate risk to patient safety or a life-threatening condition and rapid titration of a medication is necessary, the registered nurse may titrate as needed and document all the titration elements below. If the episode of emergent/urgent titration exceeds four hours, a new block of charting documentation must be utilized.
    a) time of initiation
    b) name of medication administered.
    c) starting rates/dose and ending rates/dose of medications
    d) maximum rate/dose of medications administered.
    e) time of completion
    f) physiological parameters evaluated to determine the administration of titratable medications.
7. If there is an immediate risk to patient safety or a life-threatening condition and rapid titration of a medication is necessary, the provider will be notified as soon as reasonably possible and additional orders will be instituted as ordered by the provider.

5. ASSIGNMENT OF RESPONSIBILITIES

Equipment: Documentation will be conducted in the electronic documentation system outlined in the Intensive Care Unit.

Steps of documenting in electronic documentation system is as follows:

a. Click Add Row

b. Click Block Charting initiation and indicate the time.

c. Documents findings in the Remarks section to indicate the reason for block charting according to the physiological parameter.

d. Name of vasoactive medication and starting dose

Once goal has been met

a. Click Block Charting Completed and indicate the time.

b. In the Remarks section indicate the physiological parameter that has been achieved based on the physician’s order.

6 REFERENCES

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The Joint Commission. (2022, December 19). *Does The Joint Commission require specific elements for titration orders when such orders are permitted by an organization, and what other quality or safety advances should be considered?* The Joint Commission: https://www.jointcommission.org/standards/standard-faqs/critical-access-hospital/medication-management-mm/000002114

VanValkinburgh, Kerndt, & Hashmi. (2022). Inotropes And vasopressors. *National Library of Medicine*. Https://www.ncbi.nlm.nih.gov/books/NBK482411/

5. RESCISSION

None

Vasoactive medications

- Dobutamine
  Preparation: 500 mg/250 ml D5W
  Conc: 2 mg/ml
  Initiation: 0.5-1 mcg/kg/min
  Titration: 2 mcg/kg/min q 10 min
  Max Dose: 40 mcg/kg/min; MAP goal

- Dopamine
  Preparation: 800 mg/250 ml D5W
  Conc: 3.2 mg/ml
  Initiation: 1-5 mcg/kg/min
  Titration: 1 mcg/kg/min q 5 min
  Max Dose: 20 mcg/kg/min; MAP goal

- Epinephrine:
  Preparation: 2.5 mg/250 ml D5W
  Conc: 1 mcg/ml
  Initiation: 0.01-0.05 mcg/kg/min
  Titration: 1 mcg q 3 min
  Max Dose: 10 mcg/kg/min

- Norepinephrine
  Preparation: 4 mg/250 D5W
  Conc: 16 mcg/ml
  Initiation: 2-4 mcg/min
  Titration: 2 mcg q 5 min until desired effects

Max Dose: 30 mcg/min

- Phenylephrine
  Preparation: 200 mg/250 ml D5W
  Conc: 80 mcg/ml
  Initiation: 100 mcg/min
  Titration: 10 mcg/min q 5 min
  Max Dose: 180 mcg/min

- Vasopressin
  Preparation: 200 units/500 ml D5W
  Conc: 0.4 units/ml
  Initiation: 0.6-1.8 units /hr.
  Titration: 0.01 units/min
  Max Dose: .04 units/min or 4.2 units/hr.

A. Block Charting Example

1615–1830 Patient blood pressure 78/45, MAP 56 mm/Hg.

Dr. Smith ordered dopamine 400 mg/250 mL D5W, to be started at 2 mcg/kg/min (4.8 ml/hr.), titrated 5 mcg/kg/min every 2 min until MAP >65 mm/Hg.

Patient weighs 65 kg; max dose at 20 mcg/kg/min.

Dopamine is started at 2 mcg/kg/min (running at TLC RIJ), titrated as per MDs order, and now infusing at 15 mcg/kg/min (36.6 mL/hr.) per pump.

BP 95/53 mm/Hg

MAP 67 mm/Hg

(BP = blood pressure, D5W = dextrose 5% in water, MAP = mean arterial pressure, RIJ = right internal jugular, TLC = triple lumen catheter)

B. Example of Physiological/Clinical Assessment or Indicators

- heart rate
- blood pressure
- mean arterial pressure.

Appendix F

Block Charting Checklist

RN_ _ _ _ _ _ _ _ _ _ _ _ _Date__ _ _ _ _ _ _ _ _ _ Medication_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

		Yes	No	Unclear	Not applicable
1.	Did they reach an emergent situation?	□	□	□	□
2.	Was there a start time of the initiation of block charting?	□	□	□	□
3.	Name and rate of the medication at the initiation of block charting period	□	□	□	□
4.	Was the maximum rate achieved during the block charting time?	□	□	□	□
5.	Were the physiological assessment parameters and/or titration goal used during the titration?	□	□	□	□
6.	Was the rate of medication documentation completed after the completion of the block charting.	□	□	□	□

Audit _____

Percentage of Compliance_____

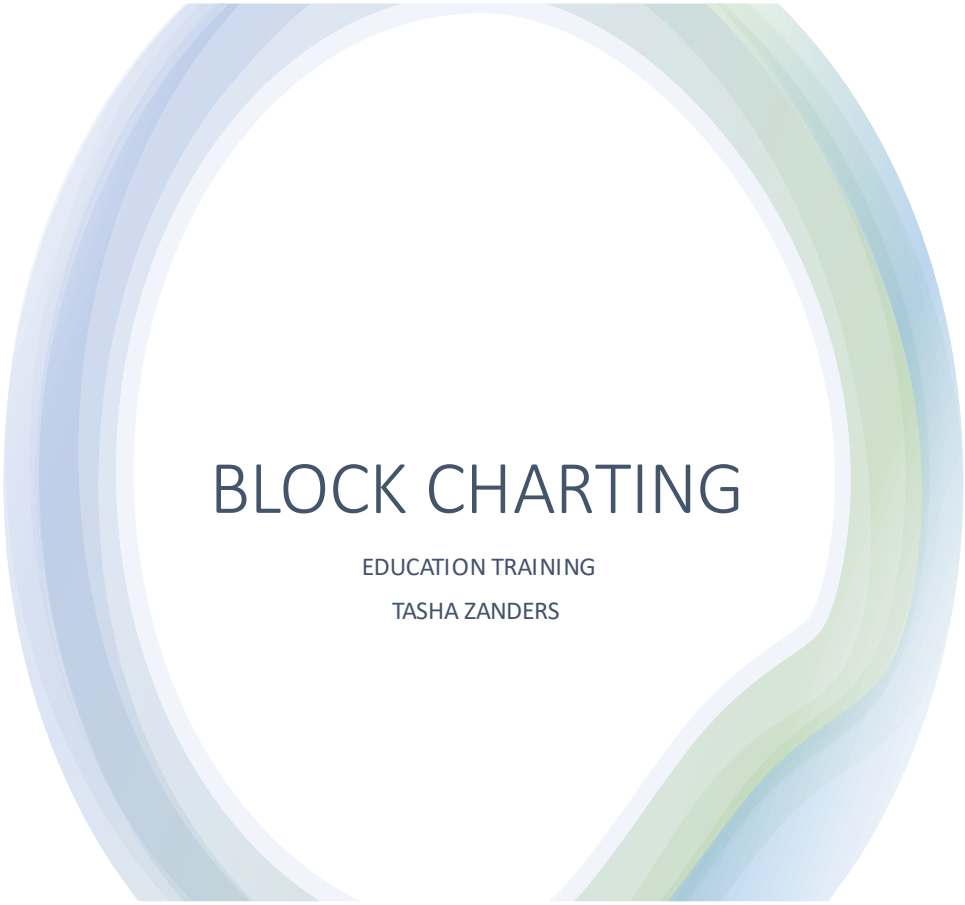
Appendix G

Budget

Budget Items	Description	Cost Per Unit	Quantity	Total Cost
Education Time for 64 RNs	Dedicated education time for RNs	$75.00	4 hours	$ 19, 200
Question Development Tool	Tool for focusing on the problem and explaining the change needed	N/A	N/A	N/A
Measurement of the Problem	Data collection during monthly auditing	N/A	N/A	N/A
				Total Budget
				$ 19,200

Appendix H

Education Module for Nurses on Block Charting



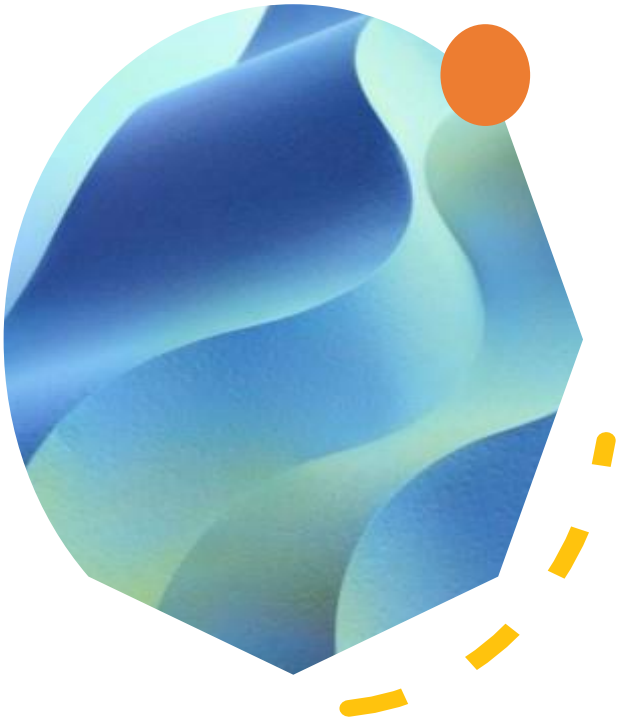
WHAT IS BLOCK CHARTING?

Block charting is atime period when rapid titration of medication was necessary in specific urgent/emergent situations.

(The Joint Commission, 2022)

Block Chart are used for:

- immediately postoperative
- active resuscitation
- other emergent situations
- during the immediate post cardiac arrest period, after return of spontaneous circulation has been achieved



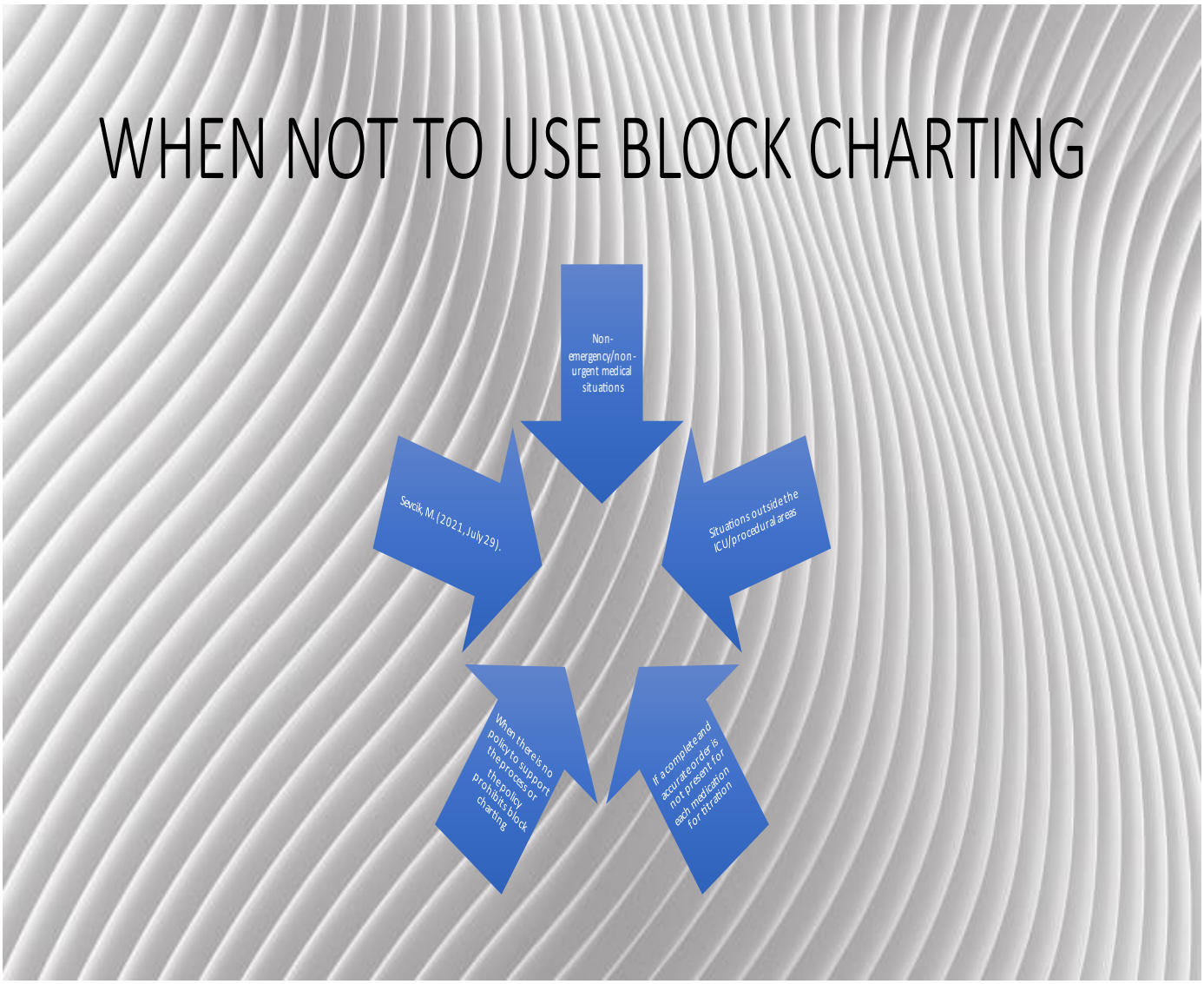
How does Block Charting Work?

- Block charting does not extend beyond a four-hour time frame.
- If the patient emergent situation still exists after 4hrs a new four hour block must be initiated.

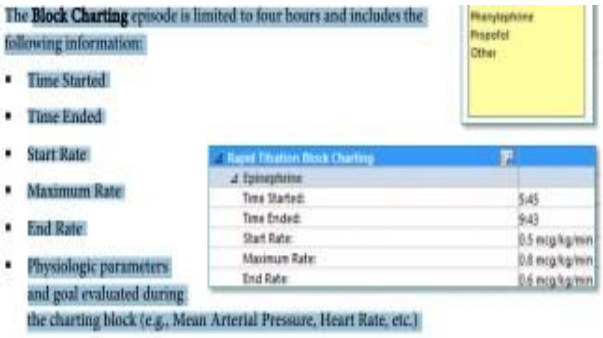
(The Joint Commission, 2022)

What are the elements needed for block charting?

- Time of initiation of the charting block
- Name of medications administered during the block
- Starting rates and ending rates of medications administered during the charting block
- Maximum rate (dose) of medications administered during the charting block
- Time of completion of the charting block
- Physiological parameters evaluated to determine the administration of titratable medications during the charting block


WHEN NOT TO USE BLOCK CHARTING
Non-emergency/non-urgent medical situations
Situations outside the ICU/procedural areas
If a complete and accurate order is not present for each medication for titration
When there is no policy to support the process or the policy prohibits block charting
Sevcik, M. (2021, July 29).

How to initiate block charting?



(Office of Clinical Informatics, 2022)

DOCUMENTATION IN ICCA

https://screenpal.com/watch/crhlY0Vf0qc

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Appendix I

Accuracy of Documentation

Table I1

Accuracy Table for Nominal Variables

Variable	*N*	*%*
Q1_EMERGENT_SITUATION		
YES	4	80.00
NO	1	20.00
Q2_INTIATION_TIME		
YES	4	80.00
NO	1	20.00
Q3_RATE_OF_MEDICATION		
YES	2	40.00
NO	3	60.00
Q4_MAXIMUM_RATE_ACHIEVED		
YES	4	80.00
NO	1	20.00
Q5_PHYSIOLOGICAL_PARAMETERS		
YES	4	80.00
NO	1	20.00
Q6_RATE_AND_TIME_AT_COMPLETION		
YES	4	80.00
NO	1	20.00

Figure I1

Intellectus Plot

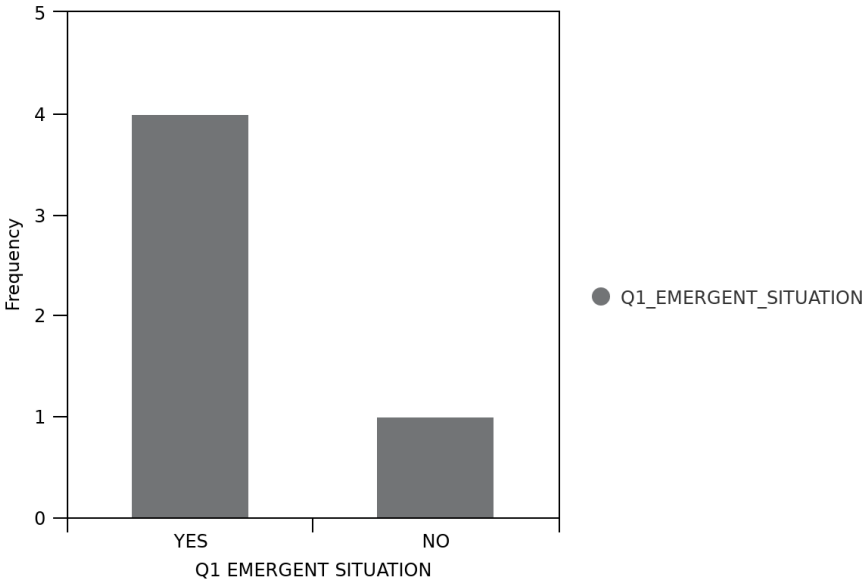


Figure I2

Intellectus Plot

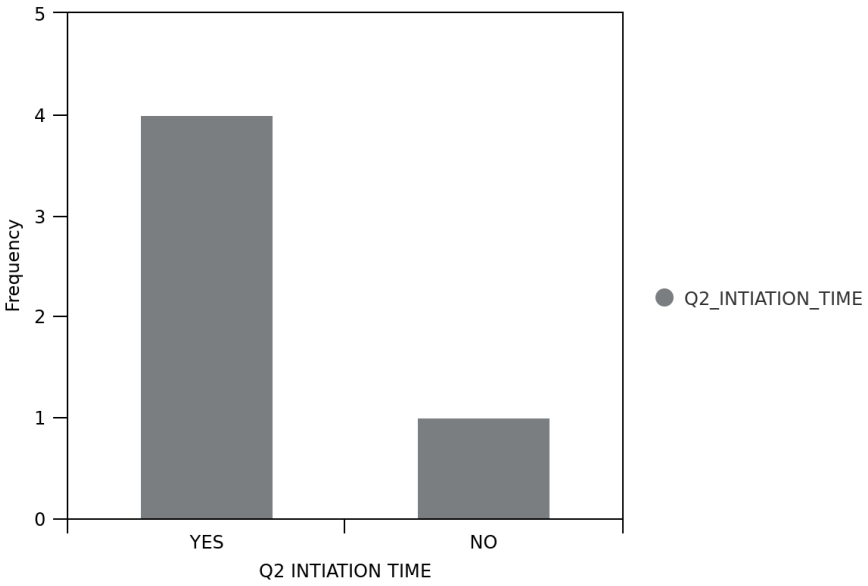


Figure I3

Intellectus Plot

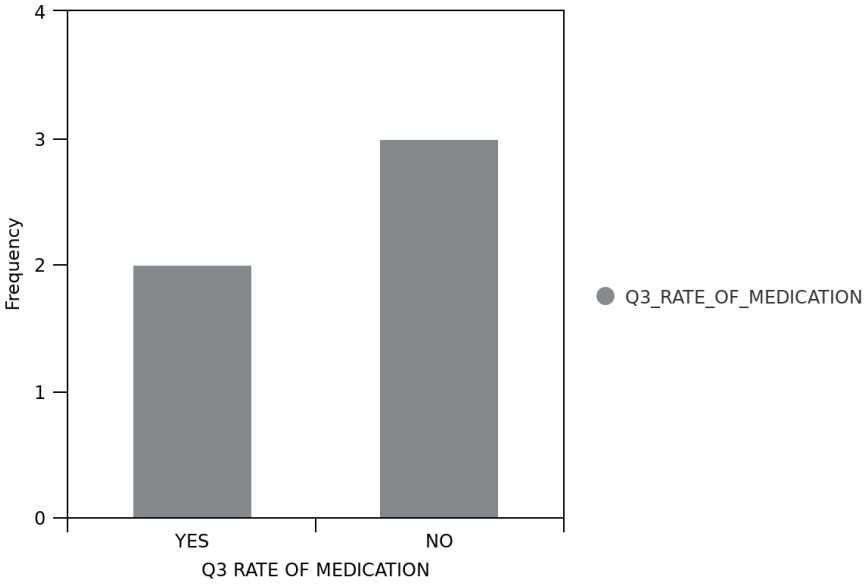


Figure I4

Intellectus Plot

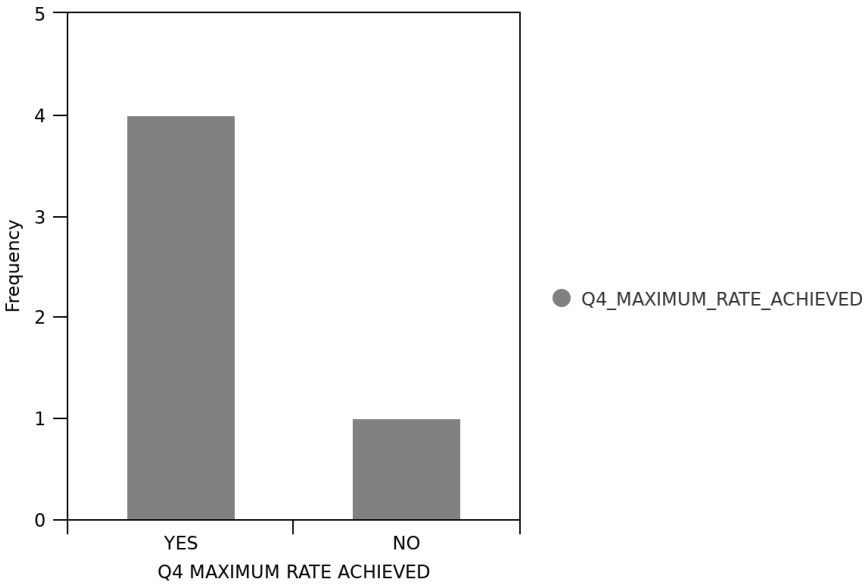


Figure I5

Intellectus Plot

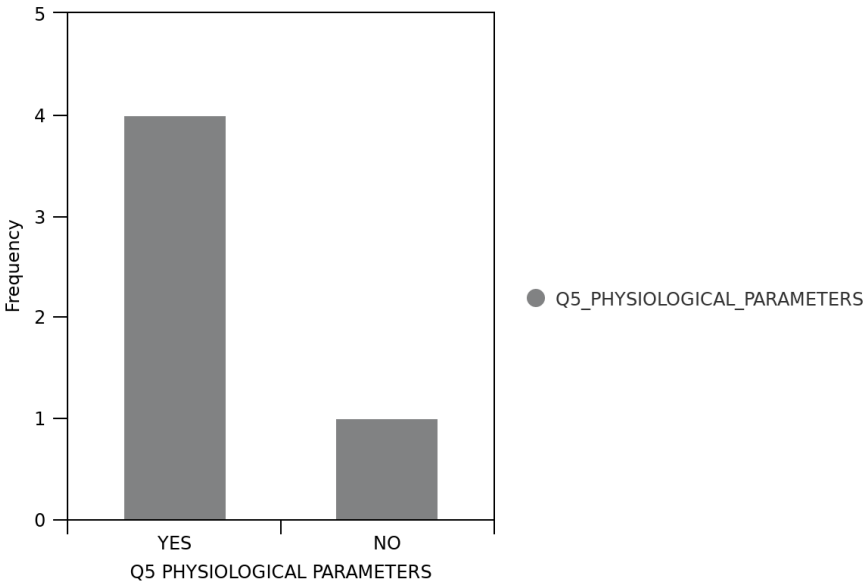


Figure I6

Intellectus Plot

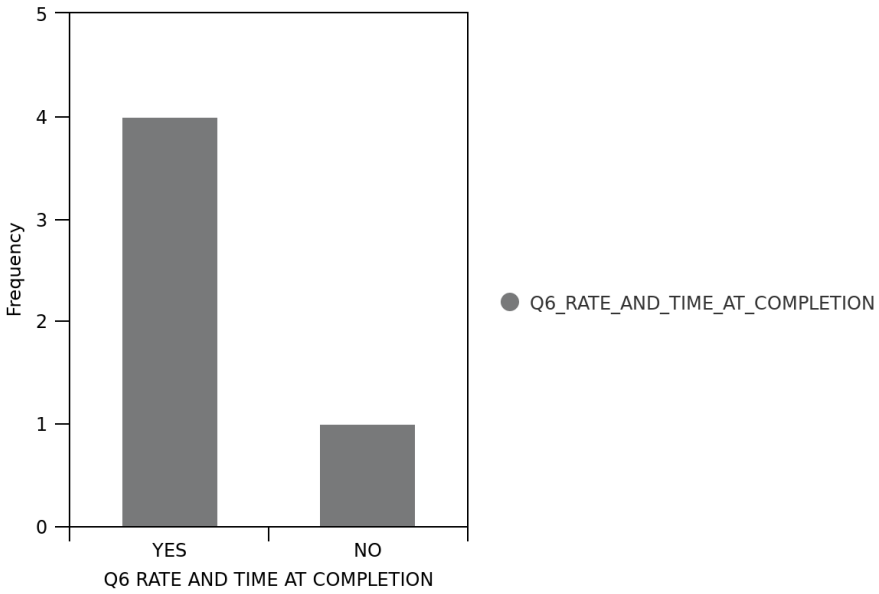


Table I2

Statistics Table for Interval and Ratio Variables

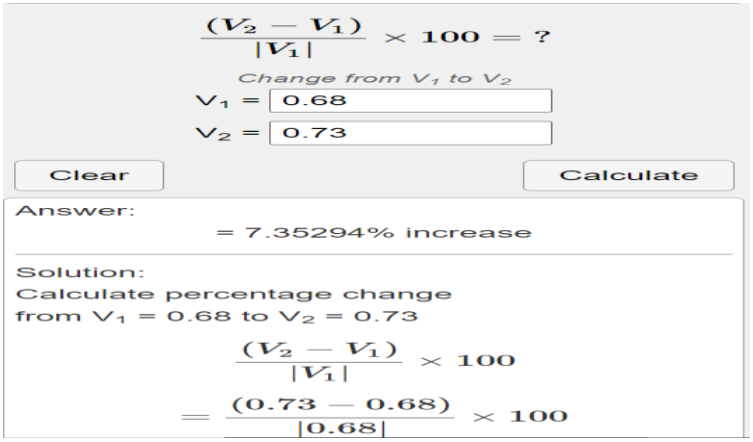
Variable	*M*	*SD*	*n*	Min	Max
Accuracy Total	4.40	2.51	5	0.00	6.00
Accuracy Percentage Total	0.73	0.42	5	0.00	1.00

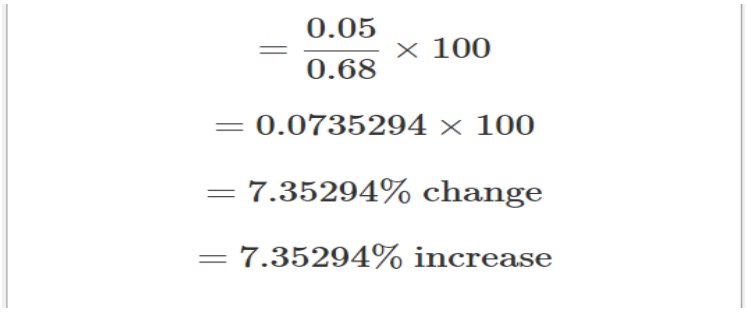
Intellectus Statistics. (2023). *Statistics* [Online computer software].

https://analyze.intellectusstatistics.com/

Figure I7

Percentage Change Calculator





Note. Furey, E. (2023, August 17). *Percentage Change Calculator*. Calulator Soup: https://www.calculatorsoup.com/calculators/algebra/percent-change-calculator