Standardizing Massive Transfusion Protocol Documentation: An Initiative to Improve Quality

Patti C. Boteilho, BSN, RN

School of Nursing, Oregon Health & Science University

NURS 703A: DNP Project Planning

Spring Term, 2024

Submitted to: Dr. Robin Miller – Chair

This paper is submitted in partial fulfillment of the requirements for

the Doctor of Nursing Practice degree.

Abstract

Significant hemorrhage secondary to traumatic injury persists as the primary contributory and preventable factor in mortality for trauma patients (Cole et al., 2021). Prompt initiation of a massive transfusion protocol (MTP) can significantly improve the rate of hemostasis. However, standardization of protocol can be challenging as MTP may vary between institutions depending on resource availability. Successful massive transfusion administration requires several factors such as interprofessional collaboration, clear communication, and comprehensive documentation. Specifically, standardized documentation continues to be a shared goal across healthcare; a prior QI project identified heterogeneity in MTP documentation. The Nursing Progress Rapid Infusion Record (RIR) is one resource available to RNs at a metropolitan Level I trauma center, employed in the Trauma Surgical Intensive Care Unit (TSICU), charged with MTP documentation that ensures that blood product administration is sufficiently recorded to meet the American College of Surgeons (ACS) Trauma Quality Improvement Program (TQIP) guideline quality measures. Despite the utility of this resource, RIR use has not been adopted as standardized practice. This QI project intended to understand current barriers to utilization of the RIR in the TSICU with the goal of identifying ways to improve MTP documentation and standardization for trauma patients. A Qualtrics survey, consisting of nine questions, was sent via email for an open period between November 1st and December 15th, 2023 to all nurses responsible for MTP documentation. Findings from the survey indicated that while MTP documentation is not occurring by the recommended process with RIR use, there appears to be an unofficial charting process. However, the ability to adequately document all necessary data to meet quality measures remains unclear. This could be due to a variety of reasons, the most notably being a lack of RIR awareness. Based on survey responses, stakeholder buy-in is currently insufficient to support RIR utilization and would necessitate further exploration of additional methods to improve documentation standardization.

Introduction

Problem Description

Significant hemorrhage secondary to traumatic injury persists as the primary contributory and preventable factor in mortality for trauma patients (Cole et al., 2021). Early initiation of a massive transfusion protocol (MTP) can significantly decrease mortality. The American College of Surgeons (ACS) Trauma Quality Improvement Program (TQIP) guidelines advise that initial blood products should be delivered within 15 minutes of activation with additional cooler delivery within 10 minutes of request, demonstrating improved patient outcomes; one study found that every one-minute delay extended the time needed to attain hemostasis and increased mortality by 5% (Meyer et al., 2018; Petrosoniak et al., 2023). Standardized clinical documentation in electronic medical records (EMRs) is one way to decrease errors and promote quality and safety (Ebbers et al., 2022). Currently, there is a paucity of data regarding documentation of key MTP practices (see Appendix A) (Meyer et al., 2018).

One systematic review assessed quality indicators documented during massive transfusion administration and identified a lack in the breadth of data as solely 13 of 107 included studies reported the time between activation and actual blood delivery (Sanderson et al., 2020). This deficiency indicates that improvement of patient outcomes may be largely assumed and requires further evaluation (Sanderson et al., 2020). Other AQS TQIP performance indicators that require ongoing evaluation include the time from MTP activation to infusion of the first unit of plasma, adherence to a set goal or ratio between one to two hours after MTP initiation, documented communication that MTP has been discontinued within one hour of termination, and blood product waste rates (ACS, 2014).

A three month retrospective chart review as part of a DNP quality improvement (QI) project was completed at a metropolitan-based academic level I trauma center in order to assess the time between MTP activation to blood product delivery and the time to transfusion following delivery. Despite seemingly meeting the majority of ACS TQIP guidelines (aside from the delivery time between the first

and second box), deficient and unstandardized documentation made full appraisal of these quality indicators unfeasible at this institution and was determined to directly add time between the MTP order and the first documented blood product administration (Leaper, 2023); average quarterly documentation rates for the time of transfusion were 60%. Furthermore, information was documented across five different locations in the EMR and lacked information such as the specificity of the type of product being transfused. Given the known increased risk for mortality with each minute of delay coupled with the understanding that this QI project was not able to fully assess quality measures due to insufficient documentation, it was necessary to accumulate more data to fully appraise MTP practices and barriers to a standardized documentation practice at this facility.

Available Knowledge

MTP initiated for large-volume blood loss is presently the recommended intervention to address trauma-induced hypovolemia and coagulopathies (Cole et al., 2021); data compiled from treatment for hemorrhagic trauma during armed combat and studies such as PROPPR (Pragmatic, Randomized Optimal Platelets and Plasma Ratios) and PROMMTT (Prospective, Observational, Multicenter, Major Trauma Transfusion) have led to the development of the damage control resuscitation (DCR) model which consists of a minimization of crystalloid infusion in favor of a balanced ratio of blood products, permissive hypotension, and goal-focused coagulopathy correction (Chang & Holcomb, 2017; Colwell, 2023). Specifically, the PROPPR study determined that while there was no significant difference in the 24-hour or 30 day mortality rate, patients who received a 1:1:1: ratio of plasma, platelets, and packed red blood cells (PRBCs) demonstrated improved rates of hemostasis and decreased rates of death secondary to bleeding (Chang & Holcomb, 2017).

Standardization can be challenging; similarly to other treatment algorithms or processes, MTP may vary between institutions and relies on resource availability. Successful massive transfusion administration requires adequate initial and recurrent staff training, clear communication, and effective

interprofessional collaboration (Sanderson et al., 2018). Though massive transfusion does not appear to influence mortality rate, given the increased risk for mortality and improved hemostasis in the setting of hemorrhagic trauma, practice streamlining is imperative.

There are a variety of variables that may negatively affect a massive transfusion. For example, the PROPPR study suggested that the time between provider recognition and initiation was a variable contributor (Meyer et al., 2017). Comparatively, another study determined that delays in the cooler delivery or a lack of familiarity with transfusion equipment were most implicated (Sullivan et al., 2022). Any variety of these factors may lead to negative patient outcomes or systemic consequences. For example, blood produce waste is an underreported outcome in the majority of MTP initiations that often results from ineffective coordination; this could increase healthcare costs and deplete valuable resources (Panganini et al., 2021). Alternatively, overtransfusion of PRBCs during MTP is also a potential outcome and may predispose patients to an increased risk for infectious complications (Barmparas et al., 2022; Nederpelt et al., 2020); approximately 6.5 to 65% of MTP cases reported overtransfusion (Cowan et al., 2022). Given the notable range of this estimation and the scarcity of data regarding documentation in MTP, it is possible that deficient documentation may exacerbate these issues. Accurate evaluation of institutional MTP practices lends to the identification of opportunities for improvement and the overall growth of organizational practices; standardized documentation allows for appropriate assessment and advancement (Cole et al., 2021).

Rationale

The Institute for Healthcare Improvements' (IHI) Model for Improvement provided a framework that allowed this project to incorporate the findings of prior QI projects. Specifically, the Plan, Do, Study, Act (PDSA) cycle framework was particularly useful as it was geared toward instituting changes in healthcare and focused on a multidisciplinary approach via team building and stakeholder buy in (Institute for Healthcare Improvement, 2023). A key step in initiating a PDSA cycle involves acquiring

adequate data that informs proposed changes for improvement. Prior to this project, there was a paucity of information regarding utilization barriers to the current recommended process for MTP documentation in the TSICU and revealed areas that future iterations may build upon.

Specific Aims

This QI project intended to understand current barriers to utilization of the Nursing Progress Rapid Infusion Record (RIR) in the TSICU with the goal of identifying ways to improve MTP documentation and standardization for trauma patients.

Methods

Context

The location of this QI project was the TSICU of a metropolitan trauma center. This facility is the sole Level I academic trauma center in the state and is well versed in providing care for traumatic injuries requiring MTP administration for both adults and children with continued trauma focused research and treatment development in collaboration with the U.S. Army and the VA Health Care System.

In 2021, this trauma service provided care for 4,035 patients; of these, 2,461 were direct transports from the site of injury, whereas 1,574 who required a higher level of care were transferred from an outside facility (OHSU, 2021). Most patients who received treatment ranged from ages 25 to 64 years; the primary causes of injury for 2021 included motor vehicle collisions, mechanical falls, and high mechanism falls (OHSU, 2021). Penetrating trauma represented 9% of cases. Between 2020 and 2021 there was an observed increase of 27.7% in the total number of patients managed by the trauma service at this facility (OHSU, 2021).

Many trauma activations are transported directly from the scene for initial treatment and stabilization in the ED; depending on the level of their injury, patients may require continued management that includes admission to the TSICU. Full trauma activations, which are most likely to

require invasive interventions like an MTP activation, are staffed by a trauma surgeon, anesthesiologist, ED physician, the trauma chief and emergency medicine residents, a respiratory therapist, a primary trauma nurse, a trauma recording nurse, a procedure nurse, and a transportation aide (OHSU Trauma Center, 2021). This multidisciplinary approach indicates that full trauma activations are, at least in theory, well-staffed, making improvement and standardization of MTP documentation promising in these locations. However, as prior QI project findings demonstrated, no official standardized process is currently practiced.

Interventions

The Nursing Progress Rapid Infusion Record (RIR) is a paper document that allows for blood product administration charting during MTP in an organized and systematic manner that meets the ACS TQIP guideline quality measures. If used, the RIR is scanned and becomes a part of the patient's permanent EMR. Utilization of the RIR is not currently standardized practice and the overall rate of implementation has been low. Identification of baseline competency with MTP administration, current documentation practices, familiarity with and current use of the RIR, and barriers to RIR use appropriately identified ways that may improve RIR usage and standardize MTP documentation. Please see Appendix B for additional details.

A survey via Qualtrics was sent via email to all nurses currently charged with being the primary RN for MTP cases and responsible for MTP documentation. Currently, there are a total of 100 nurses (80 core staff and 20 travelers) that are charged with MTP documentation. The survey consisted of nine questions; the survey was open for submissions between November 1st and December 15th. Please see Appendix C for additional information. Weekly in-person visits to the unit in tandem with the Trauma Coordinator encouraged participation and offered opportunities to discuss questions regarding the survey. Additionally, fliers with a QR code to aid in ease of access to the survey were placed throughout

high traffic areas in the TSICU. Please see Appendix D for additional information. Finally, a follow-up reminder email was sent three days prior to the survey's end.

Study of the Interventions

Data were catalogued and organized based on each question's respective responses in order to identify themes that may inform addressable barriers to RIR utilization and provide data to support alternative methods for documentation standardization if necessary. This information was provided to the Trauma Coordinator at the facility and will help to inform future interventions.

Measures

The primary process measure was that survey participation included at least 75% of nurses charged with documenting during MTP. This percentage would ensure that the data collected was representative of the majority and accurately identified barriers to RIR use. The primary outcome measure was to identify barriers to RIR utilization. Together, this data intended to garner a greater understanding of whether the RIR is an effective tool for standardizing MTP documentation or if there is evidence to support integration of alternate methods.

Analysis

Due to the qualitative nature of the survey responses, the data that was gathered was synthesized and communicated in a narrative format and disclosed to the Trauma Coordinator for the facility; additionally, data for all non-free-text questions were displayed utilizing bar charts generated by Qualtrics software (Please see Appendix E). This included data on the baseline experience level of both the process and documentation of an MTP but also disclosed identified common themes described by the survey responses regarding barriers to RIR utilization for the TSICU unit RNs.

Ethical Considerations

This QI project was submitted to the institutional review board (IRB) to identify any ethical concerns; additional approval for this project was provided by the institution as well as the participating

unit' managers with support and oversight from the institution's Trauma Coordinator. Full transparency of progress and any changes made throughout the project were disclosed. Furthermore, implementation of the survey did not alter patient care decision-making and did not negatively affect patient safety. Rather, understanding barriers to RIR use promoted patient safety as gathered data helped to identify areas for future improvement to standardize blood product administration at this facility lending to improved data sharing between specialties and further interprofessional collaboration.

Results

In total, 21 survey responses were submitted during the open period. Baseline experience of respondents ranged from moderately experienced (7) to very experienced (14). General awareness as to whether there was a current standardized documentation process for MTP demonstrated 11 respondents being unsure, six being aware and four being unaware. A total of 20 respondents provided information regarding where they were currently documenting MTP blood product administration. Eighteen of the 20 respondents reported documenting blood product administration in the EMR; this included documentation under the blood product volume tab in the intake and output (I/O) section, under the trauma narrator in ED charting, in the 8C designated I/O flowsheet, under blood product administration, or under the blood component volumes group. Of these responses, four shared that they signed and submitted the labels that accompany blood products distributed by the blood bank; these were then scanned at a later date and became part of the patient specific EMR. Other variations in answers included "on the blood tags and then back charting", "code runner, paper doc", and "sheet". Please see Appendix F for a complete list of responses.

Regarding sentiments of being able to document all the necessary information during an MTP with the current documentation process, six respondents reported they felt able, six reported not being able, and nine reported maybe. A total of 15 respondents shared that they were not aware of the RIR while six noted being familiar. Of the 12 respondents who provided answers to how readily available the

RIR was on the unit, nine reported not readily available, two reported mostly available, and one reported very available; eleven of the respondents reported that they were not using the RIR for MTP documentation. One individual reported using the RIR every time. In response to RIR feasibility during documentation, seven respondents reported RIR use to not be feasible, four noted RIR use was moderately feasible, and two shared that RIR use was very feasible. Regarding a lack of feasibility, barriers to use included eight respondents being too busy, four citing inadequate support to enable use, one sharing that RIR use is confusing, and seven selected *other* as their reason with five of these respondents providing free text entries. Please see Appendix G for additional information.

Discussion

Summary

The findings of this survey revealed that the majority of respondents utilized the blood administration column under the I/O flowsheet in the EMR for documentation of blood product administration during an MTP (85%). The pathway by which these respondents accessed and interacted with the EMR for charting purposes varied to some degree. This included free-texting additional information such as the volume of blood product infused as well as the unit number. Of the respondents documenting in the EMR, 22% also signed and submitted the corresponding paper tags that accompany blood products from the blood bank; this aligns with the current practice on the unit as all paper documentation that corresponds with patient information is scanned with the ability to be accessed under the scanned documents tab in the EMR. Also of note, 71% of respondents shared that they were not aware of the RIR; of those who provided answers regarding availability of the RIR on the unit, 28% reported adequate accessibility.

Interpretation

The prior QI project determined that MTP blood administration documentation was diverse with charting that occurred across five different locations in the chart. This is not mirrored by the current

survey findings as data suggests that there is a more standardized approach currently in action. Though not uniform across all responses, there was a marked tendency to document blood administration in the EMR under the I/O flowsheet; the responses of the survey also illustrate that the process by which this is accomplished may vary, whether that is adding a row dedicated to blood components or free-texting in blood volumes or unit numbers. Also in line with charting variability, there was also a trend of combining both EMR and paper documentation. In total, 42% of respondents felt that they were potentially able to document all the necessary information with the current MTP documentation process where as 28% of respondents felt unable.

The RIR was designed in collaboration between the blood bank and the TSICU to ensure that all quality measures for MTP documentation were recorded and met. However, 71% of respondents reported being unaware of the RIR. Of the 12 respondents who answered the question regarding frequency of RIR use during an MTP, one of the 12 reported utilization; these sentiments were mirrored similarly by responses to the feasibility of RIR use with seven of the 13 responses reporting the RIR was not feasible.

In summary, these findings indicate that while MTP documentation is not occurring by the recommended process with RIR use, there appears to be an unofficial charting process. This could be for a variety of reasons, the most notably being a lack of RIR awareness. Based on survey responses, stakeholder buy-in is currently insufficient to support RIR utilization and would necessitate further exploration if determined to be best practice. Additionally, despite finding a semi-uniform documentation practice, the ability to adequately document all necessary data to meet quality measures remains unclear; this was a primary concern at the conclusion of the prior QI project. This, coupled with the given room for variability in charting practices, buttresses the need for additional standardization. This would potentially include exploration of staff understanding of necessary documentation to meet quality measures.

Limitations

This QI project had several limitations. Firstly, the number of respondents was low and did not meet the goal of 75%. Additionally, the use of a survey lends to self-selection bias and thus, responses may not be representative of the whole population. As such, generalizability may not be applicable to populations outside of the TSICU. Secondly, though the intent of the survey was to be brief, perhaps rounding weekly and encouraging participation during working hours was not amenable to engagement. Finally, the design of the survey could be improved with future iterations. For example, some of the free-text survey responses were not descriptively clear and could be reflective of poor question receipt; when responding to where charting is currently occurring, one response was “sheet”. It was not clear whether this meant paper or EMR charting and with no ability to clarify, it was calculated as referring to paper charting. This could have inadvertently resulted in inaccurate results.

Conclusions

Standardized documentation has been shown to improve efficiency and patient outcomes. Additionally, it is a valuable tool to measure and assure quality. The current recommended documentation tool, the RIR, as part of MTP documentation protocol in the TSICU is not currently well utilized. The findings of this survey determined that a lack of awareness was a key factor which may support a project that explores improving RIR awareness and utilization in the future. Alternatively, though documentation is not occurring by utilizing the recommended standardized tool, there is a reasonably uniform method currently being practiced. However, whether this data is sufficient to measure quality to assure that ACS TQIP measures are being met remains unclear. Prior QI project findings determined that documentation practices at that time were unable to assure sufficient documentation and was associated with more variability than current survey findings demonstrated. Ultimately, additional research is recommended to streamline and unify documentation practices as well as to ensure that documentation provides proof of clinical excellence.

References

American College of Surgeons, Committee on Trauma (2014, October). *ACS TQIP Best practices guidelines: Massive transfusion*. American College of Surgeons. Retrieved March 2022, from https://www.facs.org/quality-programs/trauma/tqp/center-programs/tqip/best-practice

Barmparas, Huang, R., Lee, W. G., Hashim, Y. M., Pepkowitz, S. H., Klapper, E. B., & Margulies, D. R. (2022). Overtransfusion of packed red blood cells during massive transfusion activation: A potential quality metric for trauma resuscitation. *Trauma Surgery & Acute Care Open*, *7*(1), e000896–e000896. https://doi.org/10.1136/tsaco-2022-000896

Chang, R., & Holcomb, J. B. (2017). Optimal fluid therapy for traumatic hemorrhagic shock. *Critical Care Clinics*, *33*(1), 15–36. https://doi.org/10.1016/j.ccc.2016.08.007

Cole, Weaver, A., Gall, L., West, A., Nevin, D., Tallach, R., O'Neill, B., Lahiri, S., Allard, S., Tai, N., Davenport, R., Green, L., & Brohi, K. (2021). A decade of damage control resuscitation: new transfusion practice, new survivors, new directions. *Annals of Surgery*, *273*(6), 1215–1220. https://doi.org/10.1097/SLA.0000000000003657

Colwell, C. (2023). Initial management of moderate to severe hemorrhage in the adult trauma patient. *UpToDate.* Retrieved April 14, 2023, from https://www-uptodate-com.liboff.ohsu.edu/contents/initial-management-of- moderate-to-severe-hemorrhage-in-the-adult-traumapatient?search=massive %20transfusion%20protocol&source=search_result&selectedTitle=2~114&usage_type=default&display_rank=2

Cowan, T., Weaver, N., Whitfield, A., Bell, L., Sebastian, A., Hurley, S., King, K. L., Fischer, A., & Balogh, Z. J. (2022). The epidemiology of overtransfusion of red cells in trauma resuscitation patients in the context of a mature massive transfusion protocol. *European Journal of Trauma and Emergency Surgery: Official Publication of the European Trauma Society*, *48*(4), 2725–2730. https://doi.org/10.1007/s00068-021-01678-0

Ebbers, T., Kool, R. B., Smeele, L. E., Dirven, R., den Besten, C. A., Karssemakers, L. H. E., Verhoeven, T., Herruer, J. M., van den Broek, G. B., & Takes, R. P. (2022). The impact of structured and standardized documentation on documentation quality; a multicenter, retrospective study. *Journal of Medical Systems*, *46*(7), 46. https://doi.org/10.1007/s10916-022-01837-9

Institute for Healthcare Improvement (2023). *Science of improvement: How to improve*. http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementHowtoImprove.asp

Leaper, M. A. (2023). *Massive transfusion protocol: Identifying time to blood delivery & transfusion.* [Doctoral quality improvement project, Oregon Health & Science University].

Meyer, D. E., Vincent, L. E., Fox, E. E., O'Keeffe, T., Inaba, K., Bulger, E., Holcomb, J. B., & Cotton, B. A. (2018). Every minute counts: Time to delivery of initial massive transfusion cooler and its impact on mortality. *The Journal of Trauma and Acute Care Surgery*, *83*(1), 19–24. https://www.ncbi.nlm.nih.gov/pmc/articles /PMC5526458/

Nederpelt, C. , El Hechi, M. , Parks, J. , Fawley, J. , Mendoza, A. , Saillant, N. , King, D. , Fagenholz, P. , Velmahos, G. & Kaafarani, H. (2020). The dose-dependent relationship between blood transfusions and infections after trauma: A population-based study. *Journal of Trauma and Acute Care Surgery, 89* (1), 51-57. doi: 10.1097/TA.0000000000002637.

Oregon Health & Science University. (2021). *Annual trauma report*. https://www.ohsu.edu/sites/default /files/2022-11/Trauma%20Annual%20Report%202021%20Final.pdf

Paganini, Abowali, H., Bosco, G., Balouch, M., Enten, G., Deng, J., Shander, A., Ciesla, D., Wilson, J., & Camporesi, E. (2021). Quality improvement project of a massive transfusion protocol (mtp) to reduce wastage of blood components. *International Journal of Environmental Research and Public Health*, *18*(1), 1–9. https://doi.org/10.3390/ijerph18010274

Petrosoniak, Li, W., & Hicks, C. (2023). Just the facts: massive hemorrhage protocol. *Canadian Journal of Emergency Medicine*, *25*(2), 115–117. https://doi.org/10.1007/s43678-022-00423-9

Sanderson, B., Coiera, E., Asrianti, L., Field, J., Estcourt, L. J., & Wood, E. M. (2020). How well does your massive transfusion protocol perform? A scoping review of quality indicators. *Blood Transfusion*, 18(6), 423–433. https://doi.org/10.2450/2020.0082-20

Sullivan, T., Milestone, Z., Alberto, E. C., Waibel, E. M., Gestrich-Thompson, W., Tempel, P. E., Fritzeen, J. L., O'Connell, K. J., Cheng, J., & Burd, R. S. (2022). Reducing the time to blood administration after pediatric injury: A quality improvement initiative. *Pediatric Quality and Safety 7*(3). doi: 10.1097/pq9.0000000000000563

Appendix A

Search Methods to Inform the Problem Description and Available Knowledge

An initial search in PubMed for the term *massive transfusion protocol(s)* yielded 831 results. Additional search parameters such as *full text*, *clinical trial, meta-analysis*, *randomized controlled trials*, and *systematic review* produced *within the last five years* were applied and maintained for all following search attempts. With the reported filters applied, this initial search resulted in 24 results. Of these, five were selected to provide literature regarding current practice and policies in the clinical setting. Additional included sources for the literature review were mined from the reference sections of database collected studies as well as by searching for *massive transfusion protocol* on UpToDate. Searching for *transfusion protocol* identified 381 studies. This was further filtered to include studies that focused on *adults, 19 years of age or older* yielding 182 results. A combined search including *transfusion protocol* and *documentation* yielded one result. Unfortunately, it was not applicable to this review. *Nursing documentation* and *transfusion protocol* provided zero results. Searching for *nursing documentation* and *trauma* or *traumatic injury* also did not provide any applicable data.

Continued searches for the term *clinical documentation* yielded 1,064 results; the term *documentation standardization* produced 356 results. An advanced search was conducted that combined these search terms listing 78 results. A review of the included studies indicated that they were not applicable to the query. A search that combined *documentation standardization* and *transfusion protocol* provided zero results. A combined search of *massive transfusion protocol* and *clinical documentation* also yielded zero results. These initial searches suggest that though there are continual data being contributed regarding massive transfusion protocol in the setting of adult trauma, there is a lack of data regarding both the documentation of these processes as well as the impact that a lack of standardization of documentation may have on quality and patient outcomes.

An additional search was attempted with CINAHL, which also provided zero results with search combinations of *massive transfusion* and *clinical documentation, clinical documentation* and *transfusion*, *documentation* and *blood,* and *clinical documentation* and *transfusion protocol.* Searching for *documentation* and *trauma* provided 708 results; none of which were beneficial to the query as these parameters were too broad and included studies across a variety of disciplines. None were identified that explored traumatic injury documentation let alone massive transfusion protocol documentation or interventions to standardize this documentation process.

Appendix B

Nursing Progress Rapid Infusion Record

[redacted]

NURSING PROGRESS
RAPID INFUSION RECORD

Page 1 of 1

ACCOUNT NO.
MED. REC. NO.
NAME
BIRTHDATE

Patient Identification

Start Date/Time ______________________ Ending Date/Time ______________________

Unit# (affix label from back of unit bag)	ID verifier Initials		Start Time	Stop Time	Whole Blood	RBCs	Plts	Plasma	Cryo	Salvaged RBC	Saline	Infused Volume
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
					☐	☐	☐	☐	☐	☐	☐	
Totals												

Initials above indicate that the unit labels, transfusion tags, and patient wristband ID were verified with one another and no discrepancies were identified.

Suspected Transfusion reaction: ☐ No ☐ Yes (If Yes, Date/Time of reaction ______________________)
See anesthesia record and/or ICU flow sheet for vital signs taken between start and stop times listed above.

Initials and signatures of transfusionist(s) and witness(s): [Must match initials documented above]

____

Ordering Physician/LIP/RN signature: ____

Page: 1/2
Revision: 1.0
Printed On: 07/21/2023

ONLINE 3/19 (superseded 4/17) **NU-4831**

Appendix C

Qualtrics Survey to Identify Baseline Experience, Current Documentation Practice, Awareness of RIR Documentation Flowsheet, and Barriers to Use

How experienced are you with the process of MTP?

- ◯ Not experienced
- ◯ Slightly experienced
- ◯ Moderately experienced
- ◯ Very experienced

Are you aware of as to whether there a current standardized process for MTP documentation?

- ◯ No
- ◯ I'm not sure
- ◯ Yes

How/where are you currently documenting MTP blood product administration?

In your opinion, do you feel that you are able to document all the information necessary during an MTP with the current documentation process?

- ◯ No
- ◯ Maybe
- ◯ Yes

Are you familiar with the Nursing Progress Rapid Infusion Record?

- ◯ Yes
- ◯ No

If yes, answer the following.

	No	Occasionally	Mostly	Yes/Every time
Is the Rapid Infusion record readily accessible on your unit?	◯	◯	◯	◯
How often are you using this for MTP documentation?	◯	◯	◯	◯

How feasible is it to document via the Rapid Infusion Record?

- ○ Not feasible
- ○ Moderately feasible
- ○ Very feasible

If not feasible, what are some barriers to use? Please feel free to select all that apply.

- ☐ I'm too busy
- ☐ Inadequate support to enable use
- ☐ It's confusing
- ☐ Other

If other, please share

Appendix D

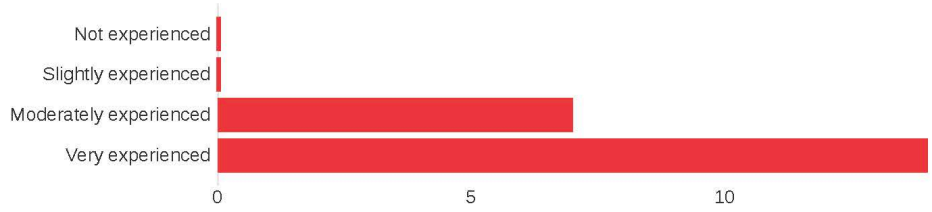
Flier to Spread Awareness and Ease Access to the Qualtrics Survey

Appendix E

Qualtrics Survey Generated Data Display

1

Q1 - How experienced are you with the process of MTP?

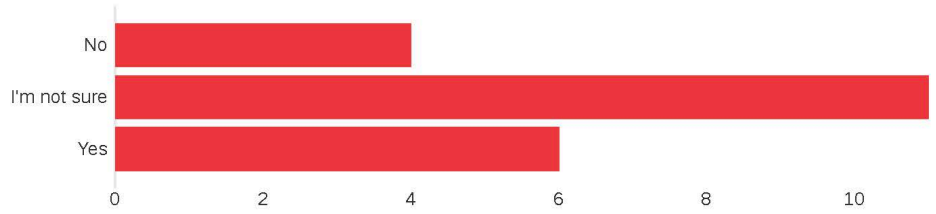


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
How experienced are you with the process of MTP?	3	4	4	0	0	21

Field	Choice Count
Not experienced	0
Slightly experienced	0
Moderately experienced	7
Very experienced	14
Total	21

2

Q2 - Are you aware of as to whether there a current standardized process for MTP documentation?

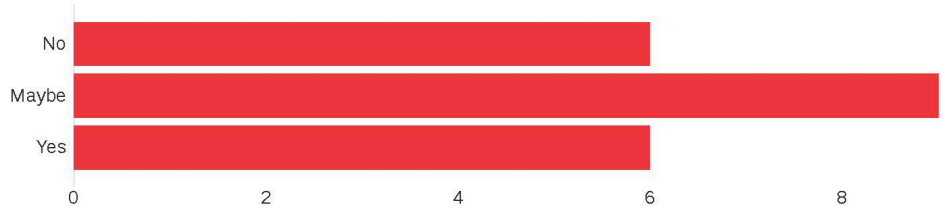


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Are you aware of as to whether there a current standardized process for MTP documentation?	1	3	2	1	0	21

Field	Choice Count
No	4
I'm not sure	11
Yes	6
Total	21

4

Q4 - In your opinion, do you feel that you are able to document all the information necessary during an MTP with the current documentation process?

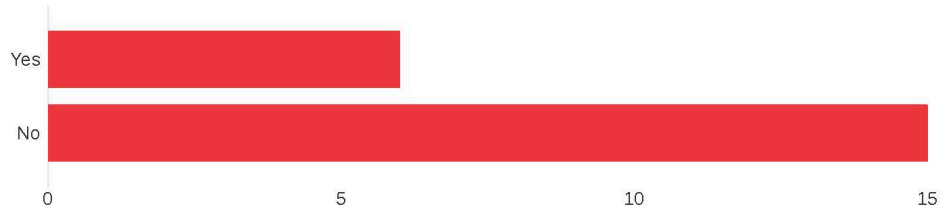


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
In your opinion, do you feel that you are able to document all the information necessary during an MTP with the current documentation process?	1	3	2	1	1	21

Field	Choice Count
No	6
Maybe	9
Yes	6
Total	21

5

Q5 - Are you familiar with the Nursing Progress Rapid Infusion Record?

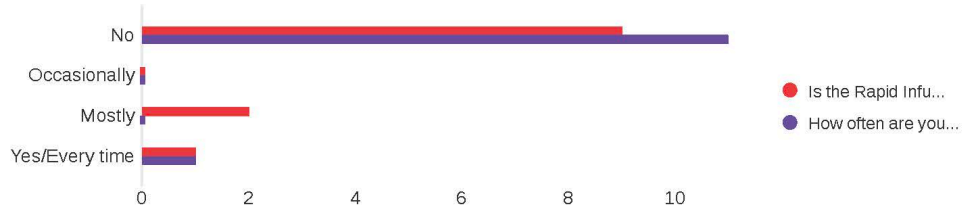


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Are you familiar with the Nursing Progress Rapid Infusion Record?	1	2	2	0	0	21

Field	Choice Count
Yes	6
No	15
Total	21

6

Q6 - If yes, answer the following.

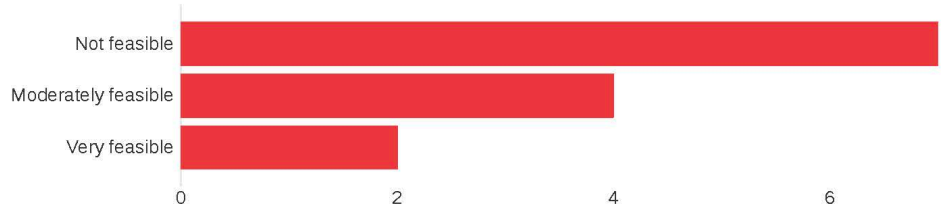


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Is the Rapid Infusion record readily accessible on your unit?	1	4	2	1	1	12
How often are you using this for MTP documentation?	1	4	1	1	1	12

Field	No	Occasionally	Mostly	Yes/Every time	Total
Is the Rapid Infusion record readily accessible on your unit?	9	0	2	1	12
How often are you using this for MTP documentation?	11	0	0	1	12

7

Q7 - How feasible is it to document via the Rapid Infusion Record?

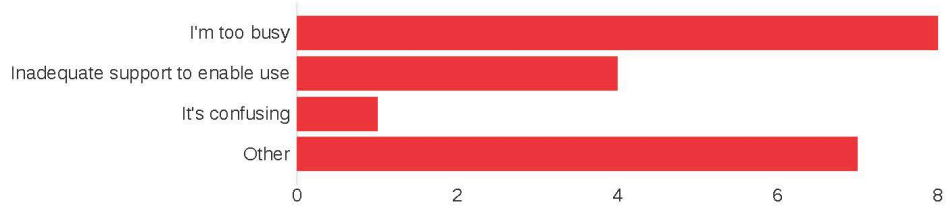


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
How feasible is it to document via the Rapid Infusion Record?	1	3	2	1	1	13

Field	Choice Count
Not feasible	7
Moderately feasible	4
Very feasible	2
Total	13

8

Q8 - If not feasible, what are some barriers to use? Please feel free to select all that apply.



Field	Choice Count
I'm too busy	8
Inadequate support to enable use	4
It's confusing	1
Other	7
Total	20

Appendix F

Free Text Responses to Question Three of the Qualtrics Survey

Q3	How/where are you currently documenting MTP blood product administration?
	Blood product Volume i/o
	I/Os flowsheet and scan in labels that are duel signed
	In the IO
	Blood admin flowsheet
	I enter volumes into the blood products flowsheet with the unit number in the comments section
	In the blood volume
	I/O flow sheet under Blood Product
	In the I&O flow sheet and on the papers that we receive from blood bank
	i+o flowsheet
	in trauma narrator in ED I's & O's/on 8C in the flowsheet I's and O's
	# of products given or by volume given in epic
	Under "blood product administration" in the I/Os flowsheet as volumes. For example, entering "500 ml" under whole blood.
	Just documenting IOs for blood products
	Under blood volume in I/O flowsheet and saving blood labels to be scanned into echart
	TSICU/upon order of MTP, add in blood component rows and documents there in EPIC
	In the i/o tab of flowsheets under the Blood Component Volumes group
	Code Runner, Paper Doc
	We keep the paper copies that come with each unit of product from the blood bank, total up the volumes of product administered to document in the flowsheets, and then scan the paper copies into the patient chart.
	On the blood tags and then back charting
	sheet

Appendix G

Free Text Responses from Question Nine of the Qualtrics Survey

Q9	If other, please share.
	I think the MTP documentation is always confusing. Is there a way to create a specific epic tab to document it? Just the basics of which products and times? Maybe like an epic alert to remind to draw labs and give TXA?
	When we are performing an MTP there is often not space to keep track of a paper copy to mark products on, it will potentially get soiled with blood or body fluids, and with the urgency and often chaotic nature of these situations doesn't lend itself to keeping track of a piece of paper.
	Unaware of where the documentation is.
	It seems like duplicate charting - we are verifying the product with two RN, signing the form, and documenting the volume in EPIC.
	The information is captured in EPIC, the form is duplicate work.