

Creating a Process for the Implementation of Tiered Huddles in a Veterans Affairs Medical Center

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ABSTRACT

Introduction:

In 2019, the Veteran's Health Administration began its journey in pursuit of becoming an enterprise-wide High Reliability Organization (HRO). Improving the delivery of safe, high quality patient care is a central focus of HROs. Requisite to meeting this goal is the timely identification and resolution of problems. This is best achieved by empowering and engaging both clinical and non-clinical staff across the healthcare organization through the promotion of robust collaboration and communication between various disciplines. Improved care coordination and increased accountability are two important subsequent outcomes. One method for accomplishing this is through the implementation of tiered huddles.

Materials and Methods:

An extensive review of the current literature from 2013 until June 2021 was conducted for evidence highlighting the experiences of other healthcare organizations during implementation of huddles. Following the review, a tiered huddle proposal was developed and presented to the executive leadership team of a healthcare system for approval. Pilot testing of the tiered huddle implementation plan began in October 2021 over a 12-week period with three services. On average, the pilot services had between three to four tiers from frontline staff to the executive level of leadership.

Results:

Over the 12-week period, out of the possible 120 tiered huddles that could have been conducted, 68% ($n = 81$) were completed. Of the tiered huddles conducted, 99% ($n = 80$) started and ended on time. During the pilot test, seven issues were identified by frontline staff: coordination of pre-procedural coronavirus testing, equipment/computer issues, rooms out of service, staffing levels, and lack of responsiveness from other departments. Issues related to staffing, unresponsiveness from other departments, and equipment concerns required elevation to a higher-level tier with no issues remaining open. Delays in patient care, or prolongation of shift hours for staff because of tiered huddles, was low at 2.5% ($n = 2$). For the duration of the pilot test, a total of 75 minutes accounted for shifts being extended among five staff members.

Conclusions:

The success of this initiative demonstrates the importance of thoughtfully creating a robust process when planning for the implementation of tiered huddles. The findings from this initiative will be of immense value with the implementation of tiered huddles across our healthcare system. We believe that this approach can be used by other healthcare institutions along their journey to improving patient safety and quality.

In 2019, the Veteran's Health Administration began its journey in pursuit of becoming an enterprise-wide HRO. HROs are continuously focused on ways for improving the delivery of safe, high quality patient care. Providing optimal care requires that problems are identified and resolved in a timely manner. This is best achieved by empowering and engaging both clinical and non-clinical staff across the healthcare organization through the promotion of robust collaboration and communication between various disciplines.

Improved care coordination and increased accountability are two important subsequent outcomes. Literature to date suggests that a method for doing this is through the implementation of huddles.¹⁻³² The purpose of this brief report is to share how one Veterans Affairs Medical Center created a robust process for the implementation of tiered huddles as part of their journey to becoming an HRO.

INTRODUCTION

Team Huddles Vs. Tiered Huddles

The concept of huddles originates from industries other than healthcare such as automotive, commercial and military aviation, nuclear power, and firefighting.^{9,14,18} In the USA, huddles have become increasingly common in healthcare organizations, and across diverse health care settings, as an essential step for improving safety for patients and staff.^{2,9,13,15} HUDDLE is an acronym which stands for: Healthcare, Utilizing, Deliberate, Discussion, Linking,

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Events.^{6,17} Huddles are short (up to 10 minutes), interdisciplinary meetings that occur in a specific work area (e.g., primary care, ambulatory surgery, inpatient units, laboratory, radiology, environmental services, etc.). The aim of huddles, which have taken on wide-ranging descriptions, structures, forms, and functions, is to improve cross-discipline communication, review day to day activities, share information, coordinate care and services, discuss workflow issues, and address patient safety concerns.^{1-4,7,9,12-14} Tiered huddles, in contrast to traditional huddles, are innovative and less common due to their novelty and complexity (e.g., mechanics of elevating safety issues, feedback loops, etc.). Tiered huddles consist of a series of brief (typically no more than 15 minutes), focused, and transparent forums including front-line staff all the way to the senior leadership to proactively identify, share, and address safety concerns, staffing levels, resource allocation, operational issues, and more across an entire organization or healthcare system.^{4,5,14,30-32} The number of tiers is dependent on the size and scope of care provided in the organization or healthcare system.¹⁸ The most critical unresolved issues identified are quickly elevated to leadership to pinpoint those concerns requiring hospital and possibly system-wide attention.^{4,5,30-32} Tiered huddles have been found to be effective with strengthening the flow of information, improving collaborative communication, focusing care coordination, increasing accountability for safety, and promoting optimal patient outcomes.^{5,30-32}

MATERIALS AND METHODS

Creating a Process for the Implementation of Tiered Huddles

The U.S. Department of Veterans Affairs Connecticut Healthcare System (VACT) includes an inpatient facility (191 operating beds) and Ambulatory Care Center; a community-based Ambulatory Care Center; and six primary care Community Based Outpatient Clinics. The healthcare system employs 3,100 individuals, providing care to 55,558 veterans.

Executive-level commitment

Prior to planning for the implementation of a tiered huddle process, an extensive review of the current literature from 2013 until June 2021 was completed to explore the experiences of other organizations.¹⁻³² As with any successful organizational change, consensus in support of the initiative must be established.³³ As such, following the literature review, a tiered huddle proposal was developed and presented to the VACT Executive Leadership Team (ELT). The proposal highlighted the following related to tiered huddles: (1) purpose; (2) structure; (3) participants; (4) standard tools; (5) action items; (6) benefits; (7) implementation plan for pilot testing with timeline; (8) process, outcome, and balancing measures; and (9) lessons learned from healthcare organizations found in the review of the literature. Three services

were identified for pilot testing: Primary Care, Anesthesiology, and the Surgical Intensive Care Unit (SICU). It was also determined that during pilot testing, tiered huddles would take place on 2 weekdays each week to begin. Advancing to additional days was decided based on feedback and data received from the initial pilot test.

Staff education

In preparation for the pilot testing, a Tiered Huddles Implementation Guide, based on the literature review,¹⁻³² was created for all healthcare system-wide stakeholders, the content of which was similar to the information presented earlier to the ELT. Additionally, the following content was added to help tiered huddle participants plan a successful launch: Considerations When Getting Started (e.g., involve staff from different disciplines, create a way of documenting action items, assign accountability, follow-up to completion of action items, etc.), Suggested Focus Areas to Include in Tiered Huddle Discussions (e.g., patients, staff, processes, equipment, supplies, environment, etc.), and Closing the Loop (e.g., a system for communicating how safety concerns have been addressed to keep staff engaged and ensure they value the process). In order for organizational change to be successful, information related to planning and implementation needs to be shared as widely as possible.³³ In addition to the implementation guide, a video was created detailing the same information, which was especially valuable for staff working evening and night shifts as well as weekends and holidays. A folder containing these materials was created on the VACT HRO Microsoft Teams page for easy access.

Selecting a visual management system

For this initiative, it was decided that whiteboards would be used as the visual management system (VMS) for the tiered huddles. VMSs are used to view (see at-a-glance) and guide discussions on the current status and trends in safety in the work area where the tiered huddle is taking place. The VMS is designed to quickly identify problems that can be addressed either by frontline staff themselves or those that need to be elevated to the next level of leadership so that countermeasures can be established and implemented in a timely manner.²⁴ The VMS format used for the tiered huddles is the acronym **MESS** which stands for **M**ethods, **E**quipment, **S**taffing, and **S**upplies. Use of this format allows participants to address whether or not the correct procedures and practices are in place, needed equipment and supplies available, and proper staffing on hand to provide safe, high-quality patient care.²⁴ Colored magnets are utilized to identify areas with low or no safety risks (green), at-risk (yellow), or high risk (red). High risk is considered to be an issue that would affect patient care that particular day. Each pilot service was asked to identify a tiered huddle leader and a champion. The huddle leader was responsible for reviewing the MESS checklist with the frontline staff while the champion was responsible for placing the

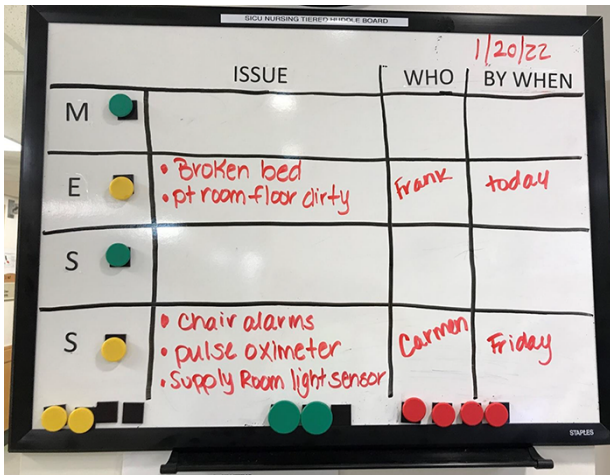


FIGURE 1. Surgical Intensive Care Unit tiered huddle board—MESS format (Methods, Equipment, Staff, Supplies).

appropriate colored magnets in each of the four categories of the MESS board for the day, documenting issues (if any), identifying the person(s) responsible for addressing the issues, and collecting and recording metrics. Figure 1 provides an example of a VMS at VACT.

Determining tier interaction

When creating a process for implementing tiered huddles, consideration needs to be given to deciding on the number of tiers and how the different tiers will interact dynamically to resolve problems and systemic challenges from the front-line to senior leadership. It was determined that the three pilot testing sites would go through two to four tiers of huddles, depending on the layers of supervision. Each tier would huddle for no more than 15 minutes and then use the same amount of time to prepare for and join the next huddle tier. Information shared moves up consecutively and vertically from the frontline staff all the way to the ELT. Figure 2 provides an example of the different tiers for the SICU. Tiered huddle content is displayed on a VMS customized for that group using the MESS format as previously noted.

Measures and procedure

Tiered huddle champions were responsible for collecting process (e.g., number of weekly huddles/huddles canceled with explanation, number of staff attending, etc.), outcome (e.g., huddle compliance such as possible versus actual huddles, number of issues: identified, addressed, elevated, remaining open, etc.), and balancing (e.g., number of: extended work days due to huddles, staff staying overtime, delays in patient care activities, etc.) measures.

Stages in the Pilot Testing Implementation Process

There were five stages designated for pilot testing of the implementation process. Stage one was dedicated to preparing

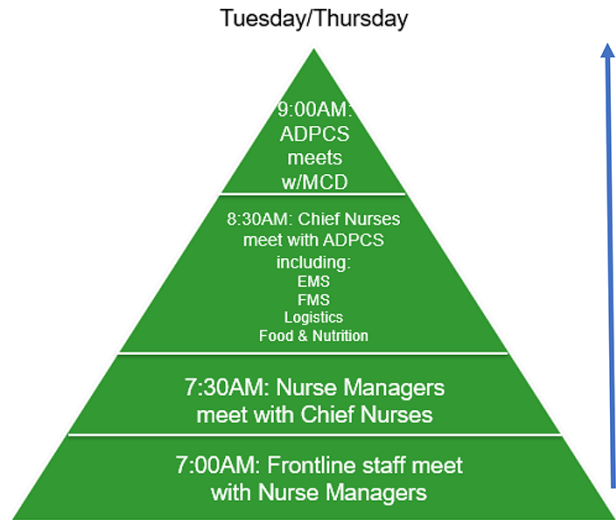


FIGURE 2. Number of tiers for the Surgical Intensive Care Unit (SICU). The tiers represent participation from frontline staff all the way to the highest SICU and medical center leadership. The arrow represents direction of information flow from the frontline staff all the way to executive leadership. Huddles occur on Tuesdays and Thursdays of each week. Abbreviations: ADPCS: Associate Director of Patient Care Services; EMS: Environmental Management Services; FMS: Facility Management Services; MCD: Medical Center Director.

for implementation of the tiered huddles. Pilot services were chosen from each of the ELT areas (Chief of Staff, Nursing, and Administrative Services). The services selected were already involved in the use of some form of a huddle. The HRO lead and HRO champion for the medical center provided education on tiered huddles to the pilot units as well as identified any potential barriers to implementation (e.g., no VMS, buy-in from staff, time frame to begin tiered huddles, etc.). Champions were identified for each pilot service and oriented to the tiered huddle processes and procedures. The HRO lead and HRO champion ensured that a suitable physical space was available for each service involved in the pilot testing of the tiered huddles. During this stage, tiered huddle champions were also introduced to the tracking sheets that would be used for collecting and reporting metrics. All pilot services were coached on conducting and responding to tiered huddle questions and concerns. This was done by the HRO lead and HRO champion who regularly attended the huddles to provide real-time feedback. Supervisory staffs were also coached on appropriate responses to issues that could potentially be brought up by frontline or lower tier supervisory staff. It was shared with supervisors/managers that if they are able to address issues themselves, the information would not need to be elevated to the next level. Hence, the only issues that would reach executive leadership would be those that truly could not be addressed by any tier of supervisors/managers for the day. Finally, necessary supplies were identified, acquired, and provided to each of the pilot services in order to successfully conduct the tiered huddles.

Stage two began in October 2021, with pilot testing of the tiered huddle implementation plan over a 12-week period with three services. On average, the pilot services had between three and four tiers from frontline staff to the executive level of leadership. The HRO lead and HRO champion ensured that measurement data was being collected and entered in Microsoft Teams by huddle champions on the 2 days of the week the tiered huddles occurred. All services used a physical VMS board (e.g., whiteboard). Additionally, weekly check-ins with supervisors and tiered huddle champions took place. Feedback shared with the HRO Lead and HRO Champion during this phase demonstrated that most frontline staff, including the tiered huddle champions, perceived the huddles positively but were not sure if their concerns were being heard or if their supervisors were working to resolve them. The staffs were also not sure if they could use tiered huddles to bring up chronic issues which were part of their daily frustration and for which no satisfactory solution had been introduced so far. Some chronic issues raised by frontline staff were related to staffing levels, malfunctioning equipment, and temperatures in the workplace. Some of the lower tier supervisors were uncomfortable regarding what issues they could bring up easily with their own bosses. The HRO lead and HRO champion coached all levels of supervisory staff, in a psychologically safe manner and location, to assist in closing the loop of communication with the staff they supervise when an issue was brought up. The HRO lead and HRO champion also coached mid-level managers to be responsive when a lower-tier supervisor brings an issue to them. Whether issues are communicated in a closed loop manner back to the staff who brought them up, and the quality of issue resolution, is an area that should be explored further.

Stages three and four focused on continued data collection, monitoring for issues, and regular check-ins. During the final stage of pilot testing, results were reviewed to determine next steps including appropriateness of a phase two launch.

RESULTS

As previously noted, data was collected by the tiered huddle champions and entered into a Microsoft Teams database. The HRO lead and HRO champion team regularly checked the database to ensure entries were being made on a regular, recurring basis. Data was interpreted by the HRO lead and HRO champion as well as the Executive Leader Coach for VACT. Data collected during the pilot study, which lasted for 12 weeks, showed that out of the possible 120 tiered huddles that could have been conducted, 68% ($n = 81$) were completed. The Omicron variant of COVID-19 resulted in a number of tiered huddles being replaced with unit-based, COVID specific huddles. Of the tiered huddles conducted, 99% ($n = 80$) started and ended on time. Over the 12-week period, there were seven issues identified by frontline staff: coordination of pre-procedural COVID testing, equipment/computer issues, rooms out of service, staffing levels, and lack of responsiveness from other departments. Issues of

staffing levels, lack of responsiveness from other departments, and equipment concerns required elevation to a higher-level tier with no issues remaining open. Delays in patient care or prolongation of shift hours for staff because of tiered huddles, was low—2.5% ($n = 2$). For the entire 12-week period, a total of 75 minutes accounted for shifts being extended among five staff members (Table I).

DISCUSSION

The results of this initiative demonstrated the importance of thoughtfully and carefully creating a robust process for the implementation of tiered huddles. The insight gleaned will be of immense value with subsequent phases of implementing tiered huddles across the entire VACT healthcare system. Through informal feedback, staff generally felt positively about the tiered huddles and appreciated the opportunity to have face time in a collaborative manner with their supervisors. Staff also felt that this forum provided a psychologically safe opportunity to raise concerns in front of teammates and supervisors. To address the concern regarding closed loop communication (CLC), an evidence-based information sheet was developed which provides guidance on: the meaning of CLC, steps involved in the process, and actions to ensure the practice is effective.

A key contributing factor to the successful launch of this initiative was the mentoring, coaching, and feedback provided to all pilot services on a regular, real-time basis by the HRO lead and HRO champion. The HRO lead and HRO champion ensured that mentoring, coaching, and providing feedback was conducted in psychologically safe spaces for each group of frontline staff, middle-tier supervisors, higher-level supervisors and beyond. Being regular attendees and observers at the tiered huddles, the HRO lead and HRO champion were able to gain real-time insight on how the huddles were taking place at each of the tiers within each pilot service, identify barriers, and make adjustments to meet the needs of the various staff members participating in the tiered huddle. This flexible, psychologically safe approach to mentoring, coaching, and feedback was instrumental in keeping staff engaged and ensured that their input was being sought and considered along the way.

Due to the surge of the Omicron variant of COVID-19, it was decided that keeping to 2 days a week was the most beneficial continuation plan for the tiered huddle implementation process. Even with the surge of the Omicron variant, the launch of phase two was discussed between the HRO lead, HRO champion, Medical Center Director, and Executive Leader Coach. Due to an overwhelming interest by services not involved in the pilot, it was determined that two to three services from each ELT section would be brought into the tiered huddle implementation process. These services include: Radiology, Physical Medicine and Rehabilitation, Social Work, Mental Health Nursing, Acute Care, Logistics, and the Business Office. The same staged approach will be taken with these new services.

TABLE I. Tiered Huddles Data (Over 12 Weeks)

Metric		N	%	
	# Possible separate tiered huddles	120	–	
	# Tiered huddles completed	81	68	
Process	Start/End on time? YES/NO % Start on time (of those completed)	Yes	80	99
		No	1	1
	Average # of staff attending tiered huddle per huddle	13	–	
	# Tiered huddles canceled WITH justification	35	100	
	# Tiered huddles canceled WITHOUT justification	0	0	
Outcome	# Issues IDENTIFIED during tiered huddles	7	–	
	# Issues ADDRESSED during tiered huddle	6	–	
	# Issues ELEVATED to next tier	2	–	
Balancing	Any delay in patient care or prolongation of the shift hours for the staff as a result? YES/NO	Yes	2	2.5
		No	77	95
		Missing data	2	2.5
	# Minutes by which the work shift was extended—e.g., between 5 and 10 minutes	75	–	
	# Staff members who needed to stay past their assigned shift hours	5	–	

The initiative also demonstrated the impact and unique challenges that the COVID-19 pandemic had on implementation of a new process as well as the importance of sustained commitment to the discipline of continuous improvement during a crisis. The initiative also serves as an exemplar for the importance of leadership commitment along the journey to becoming an HRO.

Our initiative had two main limitations. The first was lack of enough time for the HRO lead and HRO champion to consistently observe all levels of tiered huddles due to competing clinical and administrative responsibilities. Data collection was another limitation. The HRO lead and HRO champion frequently had to remind the tiered huddle champions at the lower-level tiers to collect and enter data, and additional details on issues identified, into the database. The tiered huddle champions also worked fulltime in patient care which impacted time available for data entry.

CONCLUSION

Tiered huddles are an important way to positively impact patient and staff safety and are considered a hallmark of high reliability. With increased sharing of information across organizations, problems can be quickly identified and resolved. Before implementation of tiered huddles, thoughtful consideration and time is needed to create a robust process to ensure they are effective, successful, and sustainable. We believe that this approach can be used by other healthcare institutions along the journey to improving patient safety and quality. We also hope that sharing this experience of continuing quality improvement efforts during a pandemic will be of value to others experiencing the same. Future directions for this initiative include conducting tiered huddles 7 days a week, further extending the roll out to additional services, and developing metrics to track CLC, impact on patient safety events, and overall staff satisfaction with the process. Furthermore, staff involved in phase one will be identified to assist with observing tiered huddles during phase two in support of the HRO

lead and HRO champion. A data analyst will help with ensuring tiered huddle champions are collecting and entering data into the database.

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CONFLICT OF INTEREST STATEMENT

None declared.

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