

Streamlining Communication: “Resident Huddle” on General Medicine Wards at a Veterans Affairs Hospital

Liat Litwin, MD
 Brian McGarry, MD
 Bryn McGhee, MD
 Kyle Kent, MD

Scott Warner, MD
 Shona Hunsaker, MD
 Andrea Smeraglio , MD

ABSTRACT

Background Orienting medical trainees to new practice environments is essential. Huddles have been shown to improve communication and safety outcomes. However, their use in orienting trainees to systems processes and changes on inpatient general medicine (GM) wards remains unexplored.

Objective Implement a weekly inpatient huddle between residents and hospital leaders to improve dissemination of information around health system operations.

Methods In 2019, we established “Resident Huddle,” a weekly 20-minute huddle for senior internal medicine residents rotating on GM wards at a US Department of Veterans Affairs Hospital led by the site leads. Resident Huddle content included system updates, rotation updates, process reminders, performance feedback, and systems and patient safety concerns raised by trainees. Reactions to the huddle were assessed via survey. Behavioral change was assessed by rates of complete trainee admission medication reconciliation documentation before and after huddle implementation.

Results Resident Huddle started in October 2019 and continues to this day. Between October 2019 and June 2022, 136 of 205 participants completed surveys (66% response rate). Respondents agreed or strongly agreed that the huddle provided useful information for care delivery (94%, 128 of 136), improved work engagement (73%, 99 of 136), provided feedback on practice patterns (90%, 121 of 135), and that issues they experienced were acknowledged and acted upon (86%, 114 of 133). Retrospective medical record analysis demonstrated improvement in admission medication reconciliation completion rate by trainees from pre-intervention (32%, 19 of 60) to post-intervention (73%, 44 of 60).

Conclusions A weekly huddle between hospital leaders and residents strengthened communication and equipped trainees with operational health systems knowledge to enhance patient care outcomes while fostering a greater sense of engagement with their work environment.

Introduction

Effective communication with medical trainees within complex hospital systems is both vital and challenging.¹ Despite concerted efforts, a communication gap persists in orienting trainees to new environments and informing them of vital organizational changes for safe systems-based practice.¹⁻³ Brief meetings between health care team members, coined “huddles,”⁴ have gained popularity for improving patient safety outcomes⁵ and culture,^{6,7} interdisciplinary communication, teamwork and community,^{6,8-12} and learning.^{13,14} Huddles have been described in a myriad of settings with a range of content topics,^{5,6,15-18} but none have focused on orienting medical residents to systems-based changes within the inpatient wards environment.

We recognized this gap locally after a series of resident-centered patient safety events involving recently changed systems processes. In response, we developed “Resident Huddle,” a platform for disseminating information to medical residents rotating on general medicine (GM) wards at the US Department of Veterans Affairs (VA) Portland Healthcare System (VAPORHCS). This report describes the development, design, and outcomes of Resident Huddle following SQUIRE 2.0 guidelines.¹⁹

Methods Setting

VAPORHCS is a 120-bed tertiary care teaching hospital that hosts internal medicine (IM) residents from its academic affiliate Oregon Health & Science University. The IM residency is structured on a 3-week inpatient, 1-week outpatient schedule. There are 5 GM teaching teams, each comprising 1 senior resident,

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2 interns, and 1 medical student. Interns spend 9 to 12 weeks, and senior residents 3 to 6 weeks annually on GM wards at the VA, often with considerable time between rotations.

In 2019, VAPORHCS leaders identified the need for a structured platform to share operational updates, as many residents were unaware of critical changes despite emails, fliers, and an online share-point with guidance materials. The initial focus was on changing systems that may have evolved since a resident last rotated on VA wards. As the platform developed, additional gaps emerged. These resulted in expanded content, including (1) process reminders where trainees underperformed according to hospital metrics, (2) rotation updates as residents were often unaware of changes despite program-wide emails, and (3) performance feedback to highlight areas of progress.

Resident Huddle Design

The Section Chief for Hospital Medicine, the Residency Health Systems Science (HSS) Director, and the VA Residency Site Director determined content, and the latter 2 facilitated the weekly 20-minute Resident Huddle. It occurred on Monday afternoons, a time distinct from other educational conferences. Senior residents from each GM team were required to attend, unless it was their day off, in which case their linked interns attended. Senior residents were chosen in order to give interns additional time for patient care, create an atmosphere where senior residents felt they could speak openly about logistical hospital and team concerns, and provide leadership opportunities for senior residents to disseminate knowledge and guide team practices. Senior residents were expected to disseminate Resident Huddle information with their teams. The site and HSS directors sent a Microsoft Teams message and a page reminder 15 minutes prior to the meetings. Content was tailored to each week of the rotation, addressing critical patient safety content in week one and less time-sensitive information in subsequent weeks (online supplementary data Appendix 1). Groups of residents generally started their 3-week rotation at the same time. If residents were off cycle, critical content reminders were sent via email.

Evaluation of Resident Huddle

Kirkpatrick's hierarchy was used as a framework to evaluate the impact of Resident Huddle on achieving educational outcomes.²⁰ Residents' reactions and attitudes were assessed via a Qualtrics survey consisting of 5 questions on a 5-point Likert scale (Kirkpatrick levels 1 & 2) that was completed by residents at the

end of their 3-week rotation (online supplementary data Appendix 2).

To assess behavior changes (Kirkpatrick level 3), we evaluated completeness of admission medication reconciliation documentation, which is completed by the intern as part of the admission note. Medication reconciliation was chosen because it is a quality metric in which our resident teams routinely underperformed, is completed solely by trainees, was discussed every 3 weeks during the huddle, and gauged knowledge-sharing between senior residents and interns (given interns did not regularly attend). No other institutional interventions regarding medication reconciliation documentation occurred during the study period, and participants were unaware documentation was being monitored as an outcome.

In 2019 (pre-implementation) there were 1736 admissions, and in 2021 (post-implementation) there were 1943 admissions to the GM teaching service. We randomly selected 60 admissions from 2019 (January to October) and 60 from 2021 (January to December) for review based on power calculations from preliminary data. Medication reconciliation documentation was deemed complete if each active medication was annotated as "taking" or "not taking" according to standard institutional process. Auto-generated medication lists or partially annotated lists were deemed incomplete. Topical creams and medical supplies were excluded.

This study was approved by VAPORHCS and Oregon Health & Science University Institutional Review Board.

Results

Resident Huddle Structure

Resident Huddle covers 4 domains: rotation updates, systems updates, process reminders, and resident performance, with modifications to reflect real-time events and operational changes. Residents are directly queried about general concerns at each meeting. Topics covered are displayed in TABLE 1. During the COVID-19 pandemic, Resident Huddle transitioned to a virtual format with a fifth pandemic-related domain added. All content was synthesized into a Microsoft Word document and emailed for later reference (online supplementary data Appendix 3).

Resident Huddle Outcomes

Between October 2019 and June 2022, there were 140 occurrences of Resident Huddle with an average attendance rate of 98% (763 of 778). Residents present during week 3 of the huddle were surveyed with 136 of 205 responses (66% response rate).

TABLE 1

Domains and Topics Covered During Resident Huddle

Domains	Topics
System updates	EMR updates
	Staffing issues and shortages
	Cancer care navigator
	Imaging availability
	Cardiac catheterization lab availability
	Consultant availability/changes
Rotation updates	Call/admitting schedule changes
	Sign-out modifications
	Educational conference updates
	Primary care inbox coverage
	Mock code training
Process reminders	Medication reconciliation reminders
	Discharge orders
	Telemetry appropriateness
	Death certificates
	Discharge to skilled nursing facilities
COVID-19 pandemic updates	Treatment algorithms
	Census data
	PPE plan/availability
	Surge protocols
	Patients on research protocols
Performance feedback	Patient safety incidents
	Life-sustaining treatment plan completion
	Quality improvement and safety metrics
Resident feedback	Admission and bed flow concerns
	Equipment needs
	Work room cleanliness
	Interpersonal/interprofessional conflict
	Cross coverage issues
	Patient health information

Abbreviations: EMR, electronic medical record; PPE, personal protective equipment.

The denominator varied for each question, as some were unanswered. At Kirkpatrick level 1, residents agreed/strongly agreed that Resident Huddle provided useful information for care delivery (94%, 128 of 136), feedback on practice patterns (90%, 121 of 135), and felt issues experienced during the rotation were acknowledged and acted upon (86%, 114 of 133). At Kirkpatrick level 2, residents attested improved engagement with their VA wards rotation (73%, 99 of 136). At Kirkpatrick level 3, residents reported sharing Huddle information with their team members (88%, 107 of 122) (TABLE 2). Resident Huddle resulted in improved medication reconciliation completion rates by trainees post-implementation in 2021 (73%, 44 of 60) compared to pre-implementation in 2019 (32%, 19 of 60).

Discussion

As a testament to its value, Resident Huddle continues to be a staple of our rotation structure to this day. It has successfully endured leadership changes and was even replicated for our academic affiliate's GM wards rotation. It has proven an effective medium to keep trainees informed, troubleshoot logistical concerns, and amplify resident concerns while improving work engagement and systems knowledge. Resident Huddle has driven behavior change and knowledge transfer among trainees, evidenced by improved rates of medication reconciliation documentation by interns, despite mainly being attended by senior residents. Resident Huddle is also a venue to showcase health systems science principles in action, with regular

TABLE 2
Resident Huddle Feedback Survey

As a Result of the Inpatient Resident Huddle ...	Agreed or Strongly Agreed, n (%)	Neither Agreed Nor Disagreed, n (%)	Disagreed or Strongly Disagreed, n (%)
I received useful information about delivering patient care at the VA. (N=136)	128 (94)	6 (4)	2 (1)
I feel more engaged with work at the VA. (N=136)	99 (73)	30 (22)	7 (5)
I received feedback about resident practice patterns at the VA. (N=135)	121 (90)	13 (10)	1 (1)
Issues residents experienced during this rotation were acknowledged and acted upon when appropriate. (N=133)	114 (86)	16 (12)	3 (2)
Did you talk with your team (interns and medical students) about information conveyed during huddle? (N=122)	Yes, n (%)		No, n (%)
	107 (88)		15 (12)

Abbreviation: VA, US Department of Veterans Affairs.

emphasis on quality improvement and patient safety. These outcomes are consistent with benefits of huddles described for other applications in the literature.⁵⁻¹⁸

While Resident Huddle was developed and implemented within a GM wards rotation, communication barriers around health systems processes are not unique to our service, program, or specialty.¹ Other GME programs could replicate this model with content and structure changes tailored to their program. We have learned several implementation lessons. First, as previously described, huddles require significant time to prepare, facilitate, and respond to concerns.^{6,9,10} Faculty leads must be aware of ongoing systems changes and communicate with hospital leaders to address raised concerns. Second, residents must allocate time amid their clinical and educational obligations. While the afternoon timeslot aims to minimize disruptions, achieving this, especially for clinical care, is not always feasible. Third, facilitators found that sending reminders to trainees before the meeting was essential for attendance.

Several limitations exist in our study. Our analysis relied on surveys with a 66% response rate, potentially self-selecting more favorable opinions. Furthermore, we did not study the impact of the Resident Huddle's time commitment on burnout or attention fatigue in trainees or faculty. Future directions include integration of a formal quality improvement and patient safety curriculum, qualitative study to guide continuous improvement of the Resident Huddle, and dissemination to other contexts.

Conclusions

Resident Huddle has increased awareness of health system processes and resulted in measurable practice

change among trainees on our GM wards rotation while fostering a greater sense of engagement with their work environment.

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Liat Litwin, MD, is Chief Resident in Quality and Safety, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA; **Brian McGarry, MD**, is Chief Resident in Quality and Safety, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA; **Bryn McGhee, MD**, is Assistant Professor, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA; **Kyle Kent, MD**, is Associate Professor, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA; **Scott Warner, MD**, is a Fellow in Cardiology, University of Virginia, Charlottesville, Virginia, USA; **Shona Hunsaker, MD**, is Associate Professor, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA; and **Andrea Smeraglio, MD**, is Associate Professor, Oregon Health & Science University and Portland Veterans Administration, Portland, Oregon, USA.

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Corresponding author: Andrea Smeraglio, MD, Oregon Health & Science University, Portland, Oregon, USA, smeragli@ohsu.edu

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