The effect of dyad rounding on collaboration and patient experience

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Communication among the healthcare team is essential to providing high-quality patient care. In the hospital, nurses care for multiple patients during their shift. Physicians or advanced practice clinicians (APCs) visit hospitalized patients daily to update orders, complete assessments, and contribute to care plans. One method to ensure that healthcare providers communicate effectively is interdisciplinary, or dyad, rounding in the hospital. This consists of purposeful rounding on each patient by the nurse and the physician or APC together to review the patient’s status and update the care plan.1 When healthcare providers and nurses round together, it improves communication, patients are more satisfied, and patient safety is increased.2-5

Interdisciplinary rounding isn’t a new concept. Teaching hospitals often have multidisciplinary...
teams that round on patients at specific times. However, in non-teaching, regional or rural hospitals, admitting healthcare providers are also responsible for office visits or surgeries in addition to rounding on their patients in the hospital. Healthcare provider visits are spread throughout the day, making it challenging to collaborate directly with the nurse caring for the patient.

Interdisciplinary rounding improves teamwork among nurses and physicians and patient perceptions of care.\(^5\)\(^6\)\(^7\) It also influences the quality of care delivered.\(^8\)\(^9\)\(^10\) Despite clear evidence that interdisciplinary rounding improves care, many hospitals find the barriers difficult to overcome.\(^6\)\(^3\)\(^1\) A systematic, rigorous, and sustained quality improvement (QI) approach is essential to successfully implement interdisciplinary dyad rounding.\(^5\)

The purpose of our QI project was to implement a systematic approach to dyad rounding using the PDSA (Plan, Do, Study, Act) methodology to answer the following questions: 1) How would implementing dyad rounding affect patients’ perceptions of hospital care related to communication with their healthcare providers and nurses and care transitions? and 2) How would implementing dyad rounding affect nurses’ and healthcare providers’ perceptions of collaboration and satisfaction about care decisions?

**Methods**

This QI project was implemented at a 284-bed community hospital and Level II trauma center with an average daily census of 215 patients. The hospital has a combination of employed and affiliated (nonemployed) physicians and APCs who admit and round on patients. It employs hospitalists who see approximately 60% of the inpatients. The remaining patients are seen by a variety of specialists (obstetrics, orthopedics, general surgery, urology, nephrology, neurosurgery, neurology, cardiology, and cardiovascular surgery). The project was determined to be exempt by the hospital’s Institutional Review Board.

The project included the following six steps: baseline measurements, standard operating procedures and education plan, implementation on one pilot unit then all medical-surgical units using a systematic process, adherence measurement, sustainability, and follow-up measurements.

**Step 1: Baseline measurements.** Baseline measures included patient perceptions of hospital care related to healthcare provider communication, nurse communication, and care transitions; nurse and healthcare provider satisfaction with collaboration about care decisions and dyad rounding; and nurse and healthcare provider perceptions of dyad rounding.

Patient perceptions of hospital care were measured by Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey top-box composite scores for communication with nurses, communication with physicians, and care transitions. The score displays the percent of patients who reported that their nurses or physicians “always” communicated well and selected “strongly agree” for the care transition composite.\(^12\) The hospital contracted with an outside vendor for the baseline HCAHPS measurements. A random sample of adult patients was contacted by phone between 48 hours and 6 weeks after discharge to complete the survey.

Before implementation of dyad rounding in 2017, participants (RNAs, physicians, APCs, and ancillary staff) were sent a link to an online 16-item questionnaire measuring collaboration, overall satisfaction, and perceptions of the dyad rounding process and two demographic questions (location and role).

Nurse and healthcare provider satisfaction with collaboration was measured by the Collaboration and Satisfaction About Care Decisions (CASCAD) instrument. The CASCAD is a 10-item instrument measured on a 1-to-7 Likert type scale. Cronbach’s alpha reliability is reported at .950.\(^13\) Respondents rate their agreement to statements about nurse and healthcare provider collaboration.

In addition to the CASCAD, overall satisfaction was measured by one question (How satisfied are you with dyad rounding?) on a 1-to-5 Likert type scale (1 = very dissatisfied; 5 = very satisfied). Three open-ended qualitative responses measured perceptions of rounding: What works well during daily physician/RN combined (dyad) patient rounds? What isn’t working well in daily physician/RN combined (dyad) patient rounds? What change(s) could be made to improve the dyad rounding process?

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Data analysis
The data were analyzed using descriptive statistics and assessed for normality. Mean scores for the CASCD and overall satisfaction were compared before and after implementation of dyad rounding and by type of role using a one-way analysis of variance. Qualitative data (perceptions of rounding) were analyzed using thematic analysis. Qualitative rigor was obtained by having two independent researchers review the qualitative data for themes, compare the findings, and come to a consensus. Qualitative themes were compared before and after implementation of rounding.

Step 2: Standard operating procedures and education plan.
To assist in the development of the standard operating procedures and education plan, the team used the A3 QI approach. This approach is a “structured problem solving and continuous improvement approach” that augments the PDSA cycle. The plan included the development of nurse and healthcare provider standard work as an agreement on the methods to follow dyad rounding and a standard operating procedure consisting of a systematic guide to the dyad rounding process. See Figure 1 and Figure 2 for the standards of work.

A mandatory slide presentation and training video that modeled the ideal rounding process were developed. Ideal rounding was defined as a daily visit with the nurse caring for the patient and the physician or allied health clinician at the patient’s bedside. The hospital nurse administrator, patient experience director, and one of the physician continuous improvement leaders presented the training. Stories from successes and safety catches on the pilot unit were shared with subsequent trainings.

Leaders (hospital administrators, the unit manager, and continuous improvement consultants) also attended huddles at 6 a.m. and 6 p.m. on weekdays to obtain feedback, show support, clarify questions, identify barriers, and maintain focus. The schedule of leader visits was slowly tapered off over 6 weeks. Communication tools already used in the hospital were employed as part of the process.

Step 3: Implementation.
The implementation of dyad rounding took approximately 6 months. Hospital departments were chosen to implement the new process in a specific order. The first department was chosen because hospitalists provided most of the care and there was less variation in which nurses and healthcare providers would be working together. Implementation was augmented by mandatory standardized education. However, to create more ownership of the process, nurses and unit secretaries were encouraged to work out their systems for alerting nursing staff when a healthcare provider came onto the unit. Some of these unique systems included the healthcare provider calling the unit ahead of arrival to alert staff, the healthcare provider notifying the secretary when he or she arrived on the unit and the secretary notifying the nurses, alerts on staffing boards, and use of nursing Bluetooth devices.

Step 4: Adherence measurement.
Adherence audits were an essential part of the successful rollout process. Continuous improvement leaders worked with unit secretaries to create daily adherence spreadsheets listing each patient on the unit. If the day-shift nurse didn’t self-report dyad rounding by the end of the day, the unit secretary would approach the nurse and ask two questions: “Did dyad rounding occur on your patient today?” If yes, “Who was the healthcare provider who completed dyad rounding with you?” It was expected that every patient listed on the spreadsheet would have a “yes” or “no” recorded. Data were tracked daily and feedback was given to the nursing team. Healthcare provider adherence data were displayed in the hospitalists’ office in plain view.

After approximately 8 months of tracking adherence postimplementation, the units moved to a sustainability audit. The project team met weekly during the first 6 months of implementation and then tapered to twice a month when the daily tracking ended and the sustainability plan was put in place.

Step 5: Sustainability.
According to the Institute for Healthcare Improvement, “the key to sustaining improvement is to focus on the daily work of frontline managers, supported by a high-performance management system that prescribes standard tasks and responsibilities for managers at all levels of the organization.” When the department reached

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80% adherence with dyad rounding for at least 2 weeks, the sustainability plan was put into place. The plan entailed a quarterly weeklong adherence audit. The sustainability goal was to maintain 80% or above adherence with dyad rounding. If 80% wasn’t achieved during the assessment week, the department continued tracking until a 2-week average of 80% was obtained.

Unit managers were sent calendar reminders before the sustainability audits took place to support the sustainability plan. Signs were created and distributed to all units. Simplified tracking sheets were created to only assess if dyad rounding occurred and no longer captured the healthcare providers’ name or specialty.

**Results**

**Step 6: Follow-up measurements.** After dyad rounding adherence reached 80%, follow-up measurements were taken using the same process as the baseline measurements. However, the hospital changed vendors for the follow-up HCAHPS surveys. With the new vendor, patients were contacted by mail to complete the survey between 48 hours and 6 weeks after discharge.

Two hundred and seventy-seven participants completed the baseline survey from 14 departments and all 5 roles (patient care technician, nurse, APC, attending physician, patient).
and PR increased for all three measures. (See Figure 3.)

The mean overall CASCD score for all participants was 5.3 before and 5.2, respectively. There was no significant difference between the overall collaboration score before and after implementation of dyad rounding (F (1, 368) = .845; P = .358). There was also no difference in collaboration by role or unit. There was a difference in one item on the scale (decision-making responsibilities for patient care are shared between nurses and physicians). However, the mean score decreased from 5.3 to 4.9. (F (1,369) = 4.433; P = .036). The Cronbach’s alpha for this project was .963 and .954, respectively.

Overall satisfaction with rounding was 3.7 before and 3.9 after implementation; however, this improvement wasn’t statistically significant (F (1, 352) = 2.289; P = .101). There was also no difference in overall satisfaction with rounding by role or unit.

Three themes (communication/collaboration, rounding process, and patient/family focus) were identified from the qualitative questions. These themes were present both before and after implementation of dyad round-
However, the sentiment of the themes differed. Following dyad rounding, respondents expressed more collaboration, were more positive about the process, and felt rounding resulted in a more patient-centered approach. (See Table 1.) The qualitative responses also captured information on safety near-miss events (good catches) that occurred because of dyad rounding. The following are three representative examples of how implementation of dyad rounding improved care transitions, safety, and patient-centered care:

- **care transitions.** A patient was to be discharged to a skilled nursing facility and the nurse was concerned about possible premature discharge. While rounding with the physician and patient, the nurse asked clarifying questions, which led the physician to extend the patient’s hospital stay.

- **safety.** During dyad rounding, the physician said verbally that he was going to order 2 units of blood for the patient. When the nurse looked later, the order was for 2 units of platelets. Had the nurse not rounded and heard the correct order, the opportunity to clarify the incorrect order would’ve been missed.

- **patient-centered care.** Dyad rounding occurred with a patient and nine family members. The healthcare provider introduced the nurse and physician as part of the team, and the patient/family were able to ask clarifying questions. They reported how great it was to have them all there at once.

### Discussion

This QI project is an example of a systematic and rigorous approach to a hospital-wide improvement process. HCAHPS surveys showed improvement in top-box scores, as well as PR. These findings are similar to other research identifying improved HCAHPS scores following nurse-led interdisciplinary rounding and establishing that interdisciplinary rounds improved communication, awareness of clinical issues, and team building.\(^4\)\(^,\)\(^6\)

Although the other quantitative measures (CASCD and overall satisfaction with dyad rounding) in this project failed to show statistical significance, these nonsignificant findings may be, in part, due to the low response rate for the follow-up survey. However, other studies found improvement in safety attitudes after implementing nurse-physician rounding. Specifically, Henkin and colleagues reported that interprofessional bedside rounding improved nurses’ perception that they would feel comfortable speaking up and physician residents’ attitude that nurses’ input into patient care is well received.\(^6\)

The qualitative results in our project suggest that implementation of dyad rounding improved satisfaction with communication and had the potential to identify near-miss situations. In another project of interdisciplinary rounding on the ICU, a standardized approach using Lean methodology increased nurse participation in rounds from 36% to 72% on a surgical ICU and from 35% to 100% on a medical ICU.\(^8\) Bedside miscommunication and errors were corrected in nearly half of the rounding episodes observed.\(^8\) These results are relevant because...
nurse satisfaction with bedside interdisciplinary team rounds may support nursing retention and decrease errors.16 Further, failure in communication between nurses and physicians is associated with higher medical errors and poor patient safety outcomes.9,10

Another important aspect of this project is the demonstration of sustainability. During the sustainability measures, all units except for one were able to demonstrate 80% sustainability within a few weeks. The adherence rates for our project are quite different from other reports, where only 58% adherence with bedside rounds was achieved across four medical teams.6 Sustainability is an essential aspect of any QI endeavor. Indeed, Donnelly reported that 70% of organizational changes aren’t sustained.17 Further, Silver and colleagues claimed that for QI initiatives to be successful, they must be integrated into the workflow rather than seen as an add-on initiative.18

They recommended using a

Table 1: Qualitative themes

<table>
<thead>
<tr>
<th>Theme 1: Collaboration/communication</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>What works well</td>
<td>“I wasn’t aware we were doing physician/RN combined rounding.”</td>
<td>“I like that I have a better picture of the patient’s plan of care.”</td>
</tr>
<tr>
<td>What doesn’t work well</td>
<td>“I feel sometimes that I’m the last one to know the plan of care. Then I have to call the physician and sometimes get orders changed, which could’ve been avoided if I was there.”</td>
<td>“The physicians aren’t asking the nurses questions.”</td>
</tr>
<tr>
<td>Suggested changes</td>
<td>“Have concerns listed by RN on the whiteboard.”</td>
<td>“More interaction from nursing.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme 2: Rounding process</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>What works well</td>
<td>“When it does happen, it’s more of a coincidence rather than a planned event. But just being in the room at the same time as the physician is doing his or her rounds is a big first step.”</td>
<td>“When the RN coordinator calls and says the physician will be rounding in a few minutes, this helps so you can manage the time you have and finish any tasks that you’re in the middle of.”</td>
</tr>
<tr>
<td>What doesn’t work well</td>
<td>“If I don’t make an effort to step in on physician rounding, I don’t hear the updated plan of care most times.”</td>
<td>“Not sure how to avoid it, but sometimes multiple physicians are rounding on more than one of my patients. I can’t be all places all the time.”</td>
</tr>
<tr>
<td>Suggested changes</td>
<td>“Physicians could let RN staff know when they’re going to round on their patient(s) so RNs have the opportunity to be at the bedside during the round and/or express concerns or bring up patient and RN questions before the round.”</td>
<td>“Set times for rounding. This would be difficult to arrange.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme 3: Patient/family focus</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>What works well</td>
<td>“Patient interaction with the care team to feel involved.”</td>
<td>“Patient and family satisfaction is high when they can see the team working together even if they don’t understand all the lingo and when they’re invited to ask questions.”</td>
</tr>
<tr>
<td>What doesn’t work well</td>
<td>“Patients say the physician wasn’t in long and they forgot their question they had for them. Family members want to know what time [rounding will be].”</td>
<td>“Physicians need to continue to be awesome, but also ask nurses individually what’s going on with the patients. So, physicians can get a better understanding of patient status.”</td>
</tr>
<tr>
<td>Suggested changes</td>
<td>“Anticipating guidance for patients, all team members feeling comfortable answering family questions.”</td>
<td>“Preparing the family and patient to participate actively in rounds, knowing how to reach the nurse in case he or she isn’t at the bedside.”</td>
</tr>
</tbody>
</table>
sustainability model before, during, and after implementation initiatives, which includes addressing the organization’s contextual factors.¹⁸

Limitations and barriers
This QI project was limited because it was implemented only at one tertiary medical center, concentrated on increasing adherence with dyad rounding rather than the quality of the rounding process, and had a low response rate. Additionally, the baseline and follow-up surveys weren’t matched and the HCAHPS data collection methods changed after implementation. Another limitation was that the project didn’t address if the patient or family were present and interacted with the nurses and healthcare providers during dyad rounding.

The most significant barrier to implementing dyad rounding was the logistics of coordinating the healthcare provider schedule with the nurses to ensure that they would be in the room at the same time. This project identified that finding ways to improve coordination and smooth the transitions between patients helped the implementation and sustainment of dyad rounding.

Interventions to decrease barriers to dyad rounding are essential for success. In one study, the amount of minutes per day spent searching for the right team member was significantly decreased following implementation of an app designed for this purpose.²⁰ Use of this type of technology may address barriers to implementing dyad rounding.

Lessons learned
The following are lessons learned during this QI project:
• Identifying that the first goal was to get the nurse and healthcare provider in the room together was important.
• Receiving support from administration and key stakeholders was essential to success. Managers and charge nurses met weekly, even when their unit wasn’t scheduled to implement for several months.
• Starting with a pilot unit, refining the implementation, and then following a strategic rollout plan resulted in a stable process.
• Obtaining data promptly and distributing them to key stakeholders facilitated sustainability.
• Standardizing education and setting clear expectations were necessary. However, units adapted implementation to their unique circumstances.
• The nurses and unit secretaries drove the success of the project. Nurses used innovative ways to engage healthcare providers.

Improving communication
Communication between nurses and healthcare providers remains a problem in healthcare. Dyad rounding is one method to improve communication and identify potential communication-related errors. To sustain improvements, systematic QI methods need to be rigorously applied. Although communication among the healthcare team is of utmost importance, teamwork and communication may be difficult to quantify. More research is needed to measure the effect of innovations such as dyad rounding quantitatively.

REFERENCES


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