Use of Peer- and Self-Evaluation to Improve Conversations with Interfacility Referring Clinicians

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ABSTRACT

Background: Pediatric hospital medicine physicians receive little formal training in communicating with interfacility referring clinicians. We sought to improve pediatric hospital medicine physician confidence and communication scores by 10% during patient triage calls from interfacility referring providers via a continuing professional development initiative.

Methods: We conducted a single-center 10-month quality improvement project. Confidence was assessed via survey before and after the initiative. A novel self- and peer-evaluation tool was used to assess accepting pediatric hospital medicine physician communication on recorded calls. Call assessment scores were measured at baseline, cycle 1, and cycle 2. Interventions included group discussion and development of a scripting flowsheet.

Results: Twenty pediatric hospital medicine physicians participated and completed a total of 203 call assessments. From baseline to post-initiative, general confidence communicating with referring clinicians increased by 13% (mean ranks 11.8, 16.8, respectively), and specific confidence communicating when there is a difference of opinion increased significantly by 37% (mean ranks 9.8, 19.2, $P < 0.001$). Interfacility transfer conversation evaluation scores increased by 11%.

Discussion: Our initiative improved accepting physician's confidence and communication evaluation scores using self- and peer-evaluation, group reflection, and a scripting flowsheet. Self- and peer-evaluation of recorded calls can be an effective intervention for building physician confidence in communicating with referring clinicians.

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BACKGROUND

Interfacility transfers of pediatric patients from community sites to a tertiary children's hospital are common and have increased over time.[1,2] Hospitalists accept a large proportion of transferred patients.[3,4] Pediatric hospital medicine (PHM) physicians are expected to be competent in managing conversations with referring clinicians, but there is no training in the literature or widely accepted standardized handoff for interfacility transfers.[5-7] These conversations have been described as "frustrating and time consuming" and clinicians sometimes feel the need to "convince" the receiving physician to accept their patient.[8] The pressure referring clinicians feel to "sell" their patients to the accepting clinicians is consistent with the finding that upon arrival, patients appear to be in a different condition than expected 14.3% of the time.[3] Referring clinicians may perceive the accepting clinicians to be "rude, difficult, and unpleasant," while accepting physicians are "hesitant" to ask questions for fear of being perceived as "disrespectful."[9] Differences of opinion between the referring clinicians and accepting clinicians can be challenging to navigate. At our institution, PHM physicians have expressed discomfort with accepting interfacility transfers and a desire for more formal training in this area.

Our aims were to improve PHM physician confidence and evaluation scores during interfacility transfer conversations with referring clinicians by 10% from baseline scores by Plan-Do-Study-Act (PDSA) cycle 2.

METHODS

Context

Our PHM group comprised 32 physicians at a single freestanding children's hospital. During 2017-2018, there was an average of 11.5 admissions per day to the PHM service, and 29% of admissions came from referring clinicians outside our hospital.

Methodology

We conducted a single-center quality improvement (QI) project with 2 PDSA cycles over 10 months. All PHM physicians were eligible to participate on a voluntary basis. Maintenance of Certification Part 4 credit was awarded after project completion.

Interfacility Transfer Conversations

Referring clinicians requesting an interfacility transfer to our service speak to the on-call PHM physician on a recorded line. These calls were defined as "interfacility transfer conversations" and used for self- and peer-evaluation during this project. This included calls from outside emergency departments, urgent cares, and primary care clinicians. It excluded calls from our emergency department or other units within our hospital. Prior to the first cycle, participants were asked to rate their confidence in managing interfacility transfer conversations. Participants logged the calls they took during their clinical shifts by documenting date, time, and patient's medical record number. The call recordings were saved to an encrypted folder accessible to the participants.

Measures

Physician Confidence—Surveys were collected at baseline and after PDSA-2 to measure PHM physician confidence in managing interfacility transfer conversations. The questions assessed general confidence in communicating with referring clinicians on the physician referral line and specific confidence communicating when the clinicians have a difference of opinion on patient care. Clinicians rated their confidence on a 5-point Likert scale from 1 (not at all confident) to 5 (extremely confident).

Interfacility Transfer Conversations Evaluation Scores—A literature review failed to identify a validated tool for assessing interfacility clinician communication. Therefore, we developed a novel evaluation tool to score interfacility transfer conversations (Appendix). It contained a 14-item Likert-type assessment tool adopted from a local institutional "Referring Physician Culture Enhancement Toolkit." Scores for each item ranged from 0 (not done well) to 3 (done very well). A comment section was included.

To obtain a baseline score, participants self-selected 3 recorded interfacility transfer conversations for self- and peer-evaluation. Participants listened to the recorded conversations and scored the accepting physician using the evaluation tool. The average of self- and peer-assessment scores were used as the baseline score. For each PDSA cycle, participants again self-selected 3 recorded interfacility transfer conversations for peer- and self-evaluation with the same evaluation tool. Participant dyads were randomly assigned and differed for each cycle. Dyads met in person to compare evaluation scores and provide feedback.

Interventions— Participants met as a large group at the end of each cycle to review the average assessment scores and anonymized qualitative comments from the peer- and self-evaluations. The group used these data to identify areas for targeted improvement and develop interventions. The first interventions involved a group discussion on how to navigate challenging conversations and differences of opinion. The second intervention was the development and use of a novel scripting flowsheet (Figure 1).

Ethical Considerations—The Children's Hospital of Wisconsin Human Subjects Protection Program reviewed this study and determined it nonhuman subjects research.

Data Analysis

Anonymous self-reported confidence scores were compared between baseline and after PDSA cycle 2 using Mann-Whitney U tests.

Interrater reliability was calculated at baseline using intraclass correlation coefficients. Self- and peer-rating scores from the evaluation tool were combined and averaged for each individual call, which was intended to reduce bias in the call assessments based on evidence on limitations of physician self-assessment.[10,11] To account for nonapplicable items and for ease of interpretability for QI project participants, scale ratings were converted to percentage of all points possible for overall call scores. Average scores across all participants were calculated at baseline, cycle 1, and cycle 2. Descriptive statistics and Cronbach's alpha for the 14 assessment items were calculated and representative open-ended comments were summarized.

RESULTS

Twenty of 32 PHM physicians participated in the study and performed a total of 203 call assessments.

Physician Confidence

On the item "In general, how confident do you feel in communicating with referring providers on the Physician Referral line?", scores from baseline to after PDSA-2 increased by 13%, meeting our QI aim, although the change in mean ranks (11.8, 16.8) did not reach statistical significance ($U = 57.00$, $z = -1.76$, $P = 0.08$). Regarding the item "When you and the referring provider have a difference of opinion on patient care, how confident do you feel in communicating with the other provider?", confidence scores increased by 37%, surpassing our QI aim; this increase in mean ranks (9.8, 19.2) was statistically significant ($U = 27.5$, $z = -3.29$, $P < 0.001$).

Interfacility Transfer Conversations Evaluation Scores

The baseline intraclass correlation coefficient for self- and peer-

Figure 1. Transport Call Scripting Flowsheet

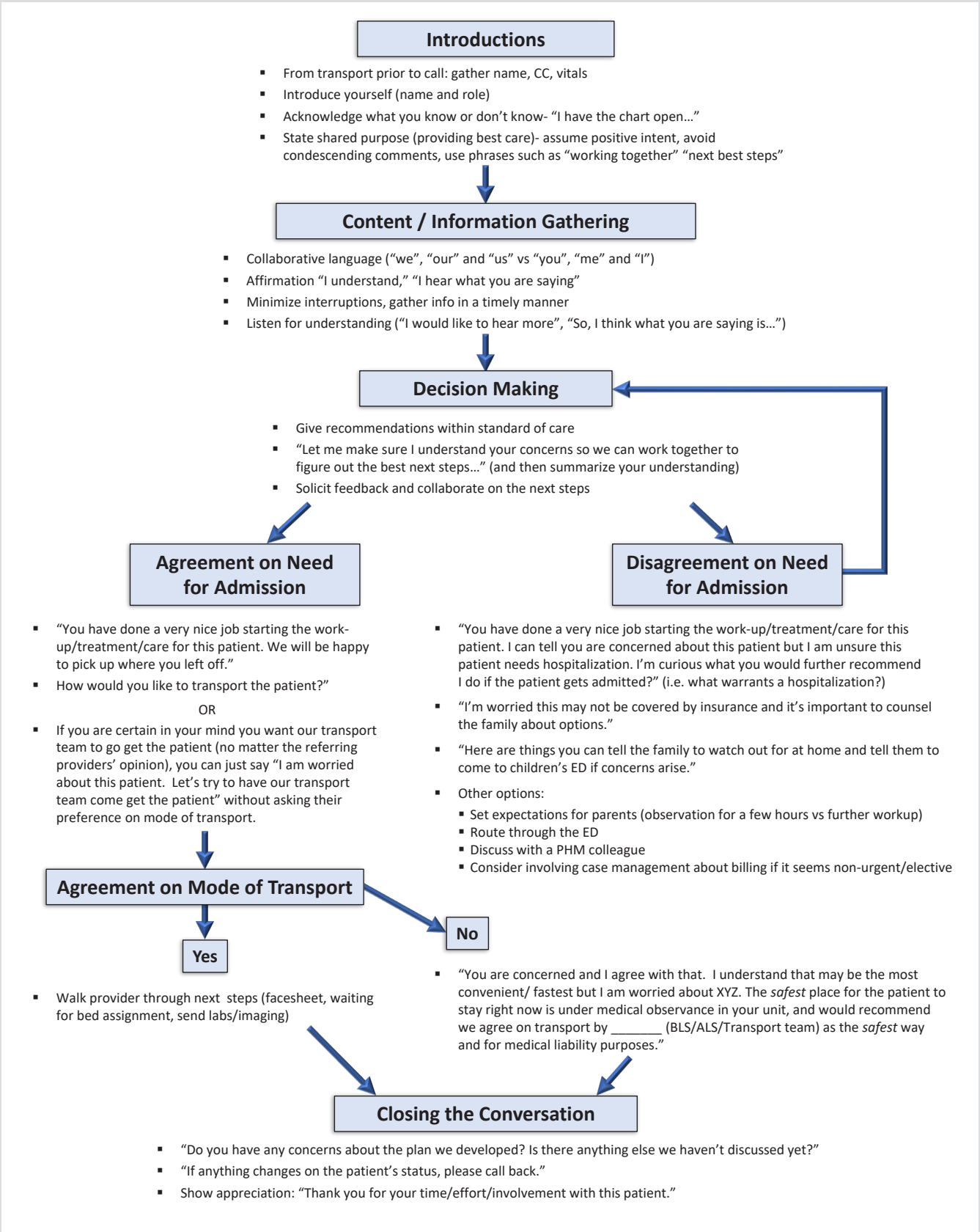
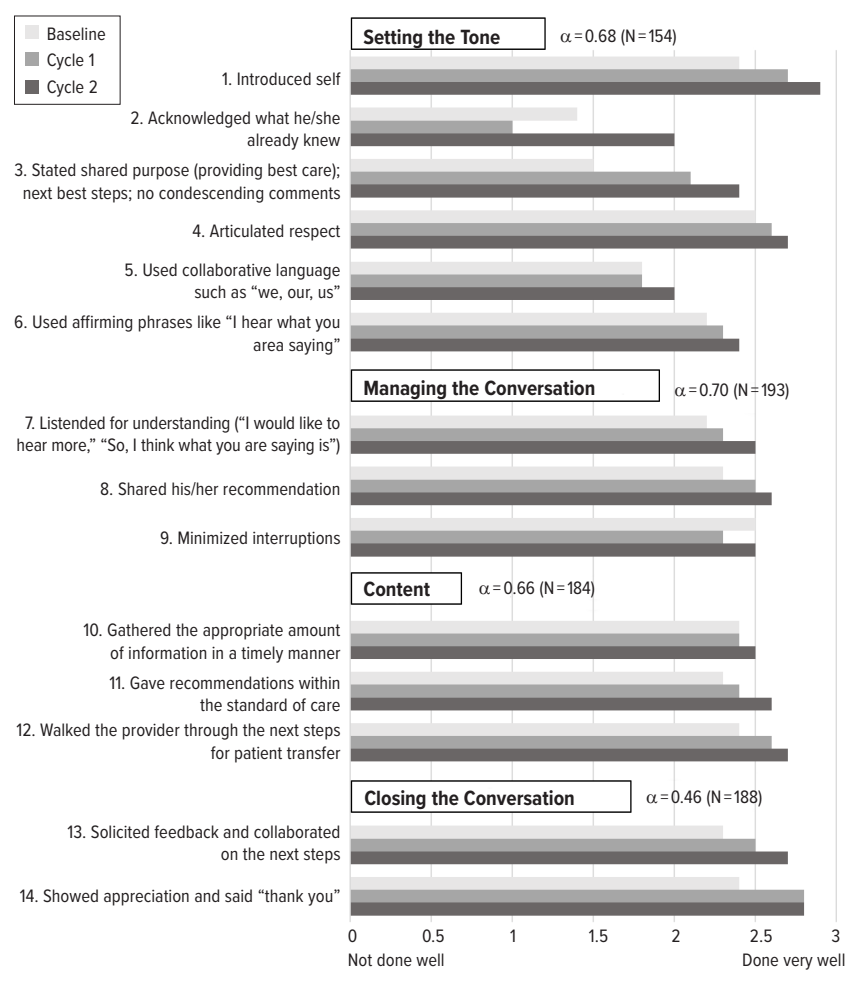


Figure 2. Group Average Scores on 14-Item Call Assessment Tool Across Cycles



Cronback's alpha (α) used to measure internal consistency.
Ns refer to the number of call assessments with evaluable data.

Table. Participant Qualitative Comments

What was done well?	What could the speaker improve upon?
Gathered information well, had clear communication and did repeat back to verify information. (Final)	I really need to watch my tone with referring providers! Accept that not all questions need to have answers. Understand that referring providers are worried and just accept the patient. (Final)
Navigated through differences of opinion to provide best care. Provided systems education to referring provider. (Final)	I sounded distracted. (PDSA1)
Tried to get patient safely here without making him feel like I was stepping on his toes, gave recommendations in a respectful way. Affirmed his impression of patient. Warm tone. (Final)	Many interruptions, I remember feeling like he wasn't giving me a lot of info. I remember worrying that I was coming off as condescending but I was worried about the kiddo. (PDSA1)
Articulated that you understood where the doc was coming from. Respectful. (PDSA1)	"Why did you get a XYZ?" came across a little disapproving. Could have said more statements to help validate what the ED doc was saying. Maybe rephrase some questions... sometimes you sounded a little annoyed. (Final)
Extremely collaborative: "Do you mind giving me a second to review?" "Would you be comfortable?" (PDSA1)	Asking one question at a time rather than multiple questions. (Baseline)

Abbreviations: PDSA1, Plan-Do-Study-Act cycle 1; ED, emergency department.

evaluations was 0.23 ($P = 0.21$, N = 40 calls); baseline call assessment data showed an average self-evaluation overall score of 60% and peer-evaluation score of 85%, with a combined average score of 73%. Results of PDSA cycle 1 increased to 78% and PDSA cycle 2 to 84%, surpassing the target aim by 1%. Figure 2 presents group average descriptive statistics for each item on an ordinal scale, as well as internal consistency within domains.

Open-Ended Evaluations

The Table presents representative comments from participant self- and peer-evaluations of calls.

DISCUSSION

In this single-center study using a QI framework, we improved PHM physician confidence in managing conversations with referring clinicians and increased our accepting physician evaluation tool scores. We addressed a gap in PHM physician training by creating a tool for self- and peer-evaluation of accepting physicians' communication with referring clinicians at the time of interfacility transfer, along with the interventions of a scripting flowsheet and large-group reflection.

Based on qualitative comments (Table), we believe participants made specific changes to the way they manage conversations with referring clinicians and adopted our scripting flowsheet for collaborative language. While not a stated intervention, we suspect the process of listening to one's own calls and those of peers improved confidence in managing conversations with referring clinicians. Participants often reflected on the tone of their voice—that they sounded distracted or unnecessarily interrupted the referring clinician. This self-awareness was likely a motivator for change.

The study was limited by the absence of a previously evaluated tool for assessing clinicians' communication. Despite a broad literature review, we were unable to identify such a tool and, therefore, created our own using our institution's culture

enhancement toolkit guidelines. In practice, the tool showed inadequate interrater reliability between self- and partner-assessments, which is likely due to both limitations of the tool and user biases. Twelve PHM faculty members (38%) did not participate in this voluntary project; therefore, our sample may not be representative. Due to the nature of the project, participants were not blind to the interventions or the goal of improving conversation evaluation scores, and this may have biased our results. Additionally, the calls used for evaluation were self-selected by participants and limited to 3 per cycle. This was done for feasibility as physicians were personally responsible for keeping a log of their calls and, due to the high volume of calls received on an individual shift, logging all calls would have been prohibitively burdensome. Participants were encouraged to log calls that were challenging in some way and, anecdotally, it seems that many did. However, we cannot rule this out as a source of bias.

Finally, we did not survey referring clinicians and do not know if our interventions affected their experience or the quality of the information exchanged during handoff. While participating physicians perceived conversations to be more collegial and collaborative, further studies are needed to assess whether referring clinicians felt similarly or if these interventions affected patient outcomes.

CONCLUSIONS

Self- and peer- evaluation of recorded calls, use of a scripting flowsheet, and large-group discussions can be effective interventions for building PHM physician confidence and skills in communicating with referring clinicians during interfacility transfer calls.

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Appendix: Available at wmjonline.org.

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