Promoting Resident Autonomy During Family-Centered Rounds: A Qualitative Study of Resident, Hospitalist, and Subspecialty Physicians

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ABSTRACT

Background Family-centered rounds (FCR) have become a leading model for pediatric inpatient rounding. Several studies have examined effective teaching strategies during FCR, but none have focused on promoting resident autonomy.

Objective The aim of this study was to identify strategies used by attending physicians to promote resident autonomy during FCR.

Methods We conducted a qualitative study of attending physicians and residents between December 2012 and February 2013 at an academic children's hospital, where FCR is the standard model for inpatient rounds. Attending physicians participated in individual interviews, and residents participated in 1 of 2 focus groups separated by level of training. Focus group and interview transcripts were coded and themed using qualitative content analysis.

Results Ten attending physicians and 14 residents participated in interviews and focus groups. Attending physician behaviors that promoted resident autonomy included setting clear expectations, preforming a prerounds huddle, deliberate positioning, and delegating teaching responsibilities. These were further categorized as occurring during 1 of 4 distinct periods: (1) at the start of the rotation; (2) before daily FCR; (3) during daily FCR; and (4) after daily FCR.

Conclusions Residents and attending physicians identified similar strategies to promote resident autonomy during FCR. These strategies occurred during several distinct periods that were not limited to rounds. The results suggest strategies for attending physicians to help balance appropriate and safe patient care with developing resident autonomy in the clinical setting.

Introduction

During clinical training residents are gradually afforded autonomy in medical decision making and patient care responsibilities. Supervising faculty must balance nurturing trainee independence with appropriate care provision, efficiency, and patient expectations. Recent studies have suggested that provision of autonomy is an area of concern for faculty and residents. Trainees express that they are not given enough opportunities to participate in clinical decision making, while faculty identify the challenges of supporting autonomy for residents in settings of high acuity, high patient census, and limited trainee experience.

Family-centered rounds (FCR), defined as interdisciplinary bedside rounds where the "patient and family share in the control of the management plans,"⁷ have become a widely adopted model for rounds in the pediatric setting.⁸ FCR provide supervising physicians the opportunity to directly observe trainees interacting with patients and families.⁹ This is an important educational benefit, as it can help physicians make informed assessments about their trainees' readiness for independent practice.^{10–12} Multiple studies have described effective teaching practices used by bedside teachers,^{13–15} including 1 study that assessed FCR.¹⁶ However, there is a lack of studies to guide attending physicians toward how to promote resident autonomy during FCR.¹⁷

We designed a qualitative study of residents, hospitalists, and subspecialty attending physicians to discover general teaching strategies used by attending physicians, including those that promote resident autonomy during FCR. Our study describes strategies aimed at promoting resident autonomy, and is 1 facet of a larger study of general teaching behaviors.

Methods

We conducted a qualitative study from December 2012 to February 2013 at Children's National Health System in Washington, DC. Using constructivist methodology, an approach that is designed to help people explain and make sense of their experiences, ¹⁸ we sought to build an understanding

of our participants' perspectives concerning autonomy during FCR.

Study Setting

Children's National Health System is a tertiary care academic hospital, where FCR is the standard model for inpatient rounds. Teams consist of a pediatrics attending physician, occasionally a fellow, a "senior" resident (either a postgraduate year [PGY] 2 or PGY-3), 1 to 2 PGY-1s, and 2 to 4 medical students. PGY-1s complete 5 inpatient unit months, while PGY-2s and PGY-3s complete 2 to 3 inpatient unit months in a supervisory role either on a general pediatrics or subspecialty team.

Participant Sampling

Through an anonymous online survey, pediatrics residents listed the names of 1 to 3 hospitalists and 1 to 3 subspecialists whom they believed consistently exhibited excellent teaching skills during FCR. Of 114 residents surveyed, 47 (41%) responded. The attending physicians who were identified by at least 10% of respondents (11 total) were invited by e-mail to participate in interviews. All 11 initially agreed to participate; 1 left the institution during data collection and was never interviewed. Following the attending physician interviews, we invited all residents by e-mail to participate in a focus group. We conducted 2 separate focus groups using a convenience sample of residents, aiming to achieve optimum focus group size. 19 We divided the sample into 2 separate groups (PGY-1s and PGY-2s with PGY-3s) to identify patterns in perceptions in PGY-1s compared to those of more experienced residents.

All participants provided verbal consent prior to starting the interviews or focus groups. No incentives were provided to participants of this study.

Data Collection

A pair of trained facilitators (research assistants affiliated with Children's National Health System) conducted semistructured, 1-on-1 interviews with attending physicians and focus groups with residents. The facilitators used a focus group moderator guide with the resident focus groups, and a semistructured interview guide with the attending physicians, which was developed by the research team based on existing literature on teaching during bedside rounds. 14,15,20,21 The guides were piloted with residents and attending physicians not enrolled in the study prior to use in the study. In addition to asking a variety of general teaching-related

What was known and gap

Family-centered rounds (FCR) are used in many pediatrics programs, yet little is known about how to promote resident autonomy in this rounding model.

What is new

A qualitative study of attending physicians and residents in a children's hospital using FCR.

Limitations

Single specialty, single institution limits generalizability; recruitment via e-mail may introduce selection bias.

Bottom line

Attending physician behaviors that promoted resident autonomy include setting clear expectations, prerounds huddles, deliberate positioning, and delegating teaching responsibilities.

questions, we asked residents about the challenges of balancing resident autonomy with patient care (eg, "Can you describe ways in which your attendings have effectively managed this balance?") and attending physicians to reflect on their own strategies (eg, "How do you balance giving your resident autonomy while providing optimal and efficient patient care?").

The primary focus group facilitator used the moderator guide to explore the perspectives of the residents, while the other facilitator observed, asking follow-up questions to participants' responses. A single facilitator conducted 1-on-1 interviews with attending physicians using the interview guide, adding follow-up questions as appropriate. A professional transcriptionist transcribed the audio-recorded interview and focus group data verbatim, removing any potential identifiers.

The Children's National Health System Institutional Review Board approved this study.

Data Analysis

Four investigators with experience in qualitative analysis reviewed the transcripts. Two were inpatient providers (P.B. and J.B.), the third was a resident physician with experience participating in FCR (R.M.), and the fourth was an outpatient primary care provider, without experience with FCR, enabling her to provide an outside perspective (T.K.).

Using techniques of qualitative content analysis, ²² the members of the research team each read the first set of attending physician interview transcripts in its entirety, and then reread to individually identify statements of interest, as previously described. ²³ The investigators reconciled differences through discussion to identify emerging themes and to highlight illustrative quotations. They iteratively analyzed the rest of the interview transcripts until no new codes or

themes were generated, and thematic saturation was achieved. Next, the resident focus group transcripts were analyzed separately, but in a similar fashion to the attending physician interview transcripts. AT-LAS.ti version 6.0 (Scientific Software Development GmbH, Berlin, Germany) was used to catalog the codes and quotations. Techniques to ensure trustworthiness included triangulation of data sources (attending physicians and residents), coding and analysis by multiple investigators with different degrees of participation on rounds, and the use of rich description provided by verbatim comments. Preliminary findings were presented to a subset of attending physicians and residents in a member-checking exercise to enhance the trustworthiness of the results.22

Results

Fourteen residents participated in 2 resident focus groups. The first focus group consisted of 8 PGY-1s, and the second focus group consisted of 6 PGY-2s and PGY-3s. Ten attending physicians participated. Six were hospitalist attending physicians, and 4 were subspecialty attending physicians. The participating attending physicians were predominantly assistant professors, with an average of 7 (range 3.5–12) years of academic experience.

The analysis of transcripts revealed numerous teaching strategies that promote autonomy during FCR, as self-identified by attending physicians and as perceived by residents. These strategies were grouped into 13 themes, and then organized into 4 categories based on timing that emerged through the analysis: (1) at the start of the rotation; (2) prior to FCR; (3) during FCR; and (4) following FCR (after all patients are rounded on). A summary of the themes and strategies that we identified, which promote autonomy within the context of FCR, is presented in TABLE 1. Accompanying illustrative quotations are detailed in TABLE 2.

At the Start of the Rotation

Framing Expectations: Participants felt setting expectations before the start of the rotation was a key factor in promoting resident autonomy during FCR. Residents reported that an aspect of setting clear expectations by the attending physician was a discussion about which types of medical decisions are negotiable and which are not.

Using Nonverbal Signals: Attending physicians shared that it was helpful to agree on nonverbal signals that could be used by any member of the

team who did not feel comfortable answering a question or was unsure of the plan for the day. These "signals" could include making eye contact with the attending physician when a trainee needed help, or an attending physician shaking his or her head back and forth to signal to a trainee to "hold back." Participants articulated that this strategy promoted autonomy by creating a safe learning environment, and it also added a protective layer for trainees so that they knew they had "backup" when needed.

Before FCR

Prerounds Huddle: Providing an opportunity for the PGY-2s and PGY-3s to "prebrief" with the attending physician before the start of rounds each morning helped them assume a leadership role. A 2- to 3-minute huddle gave trainees an opportunity to ask the attending physician clarifying questions about plans for the day, thereby avoiding the possibility of giving mixed messages to families during FCR.

Detailed Planning of Rounds—Logistics and Teaching: Another purpose of a prerounds huddle was to enable the PGY-2s/PGY-3s to take ownership of the teaching aspect and logistics of rounds. Participants felt this meeting provided a great opportunity for them to identify the patient rounding order, as well as patients with interesting physical examination findings to highlight during FCR that morning.

During FCR

Deliberate Positioning: Physical positioning while inside patients' rooms was a key strategy in increasing recognition of the PGY-2/PGY-3 as team leader. Traditionally, PGY-1s and medical students present to the attending physician. By having a PGY-2/PGY-3 stand next to the family, oral presentations were more likely to be directed to them, thereby reinforcing to the family and nursing staff that they were in charge.

Delegating Teaching Responsibilities: During FCR, the team leader is responsible for balancing patient and family care priorities with educational objectives of trainees. Many attending physicians described the importance of allowing the PGY-2/PGY-3 to be the primary educator on rounds, including both teaching and giving feedback. Attending physicians felt that the responsibility of giving feedback should be shared with the PGY-2/PGY-3 because it is a vital aspect of being an FCR team leader.

TABLE 1Strategies to Promote Autonomy on Family-Centered Rounds (FCR) Compiled From Attending Interviews and Resident Focus Groups

Timing of Activity	Themes	Strategies
At the start of the rotation	Framing expectations	View attendings as a consultant Set expectations: nonnegotiable things. "I feel strongly about this, so when we are on service together, let's do this for this situation." Define roles of team members, especially the senior resident
	Using nonverbal signals	Agree on nonverbal signals so that the senior resident can notify the attending when to step in or step back
Before FCR	Prerounds huddle	Allow the senior resident to ask major clarifying questions before the start of actual FCR
	Detailed planning	Empower the senior resident to "own" the logistics and teaching aspect of FCR
During FCR	Deliberate positioning	Encourage the senior resident to stand next to the family so that presentations are directed to the senior resident rather than to the attending
	Delegating responsibilities	Delegate teaching responsibilities to the senior resident
	Allowing for flexibility	Allow residents to develop their own plans as long as it does not put patients in harm's way Avoid being a micromanager Correct learners gently More than 1 way to practice Allow for flexibility with methods as long as trainees defend their assessment and/or plans Need to avoid serious morbidity
	Probing for rationale for decisions	Prompt trainees to come up with plan especially when they do not initially share it
	Orienting families	Introduce the senior resident to families as the "primary doctor" to validate that he or she is in charge
	Relinquishing control	Allow residents to be first to answer questions posed by families Relinquish control of rounds and allow residents to be focal point Encourage the senior resident to give feedback to other members of the team
	Using silence	Maintain silence and avoid repeating plans if not needed
After FCR	Promoting reflection	Encourage the senior resident to reflect after rounds
	Facilitating feedback	Allow the senior resident the opportunity to give feedback to medical students and interns Provide residents feedback after rounds

Allowing for Flexibility: Allowing for flexibility with diagnostic plans when appropriate was mentioned by both attending physicians and residents as a strategy that promotes autonomy through creating an environment where the trainees can propose and enact their own plan for a patient, even if it is not identical to what the attending physician may have done. Residents appreciated the opportunities to develop their own plans, as it increased their ability to participate in clinical decision making. Encouraging residents to defend their differential diagnoses and explain their thought process in decision making boosted resident confidence and correspondingly their feelings of autonomy.

Orienting Families: While speaking with patients and families, and orienting them to the team structure, attending physicians were able to reinforce the PGY-2/PGY-3 as the team leader. This set the stage for them to lead rounds with confidence from the family.

Relinquishing Control: To empower the PGY-2/PGY-3 to lead rounds, while balancing logistics with educational and patient priorities, several attending physicians stressed the importance of relinquishing control of the pace and priorities during rounds to the guidance and leadership of the PGY-2/PGY-3.

Using Silence: Residents felt that their autonomy was promoted when their summary of the plan in front of the family and team at the conclusion of each encounter was able to stand on its own. Attending physicians who did not summarize the plan led to greater reinforcement of the PGY-2's/PGY-3's leadership in front of the family.

One attending physician would measure the success of rounds by how much he spoke. His goal was for the PGY-2/PGY-3 to guide the discussion among the team members, including the family, nurses, and residents, on the plan for the day and teaching points without his direction or interjection.

Following FCR

To help the PGY-2s and PGY-3s improve their team leadership skills, attending physicians incorporated mini-feedback sessions after rounds to discuss ways to improve both the efficiency of rounds and the teaching that occurred during rounds.

Promoting Reflection: Attending physicians were able to help the PGY-2s/PGY-3s reflect on the day's experience, and improve their own ability to run FCR. After rounds, attending physicians would use prompts to encourage them to reflect on how they were feeling, state any lessons learned, and plan for the following day's rounds.

Facilitating Feedback: Some attending physicians empowered the PGY-2s/PGY-3s by making them responsible for giving feedback to students and PGY-1s after rounds. Attending physicians felt having the PGY-2s/PGY-3s give feedback reinforced their role as team leader.

Discussion

Attending physicians and residents held similar views on how to best foster trainee autonomy. Qualitative analysis revealed 4 distinct time periods during which attending physicians actively promoted resident autonomy: at the start of the rotation, before, during, and following FCR.

Deciding when to share the teaching and leadership responsibilities during rounds is a complicated task and has been compared metaphorically to a dance, wherein attending physicians have to balance "standing back" and allowing the PGY-2/PGY-3 to "step up."²⁴ Based on a needs assessment, Wipf et al²⁵ established an annual 6-hour resident teaching course, which included a variety of topics including managing an inpatient ward team. Comparison of their casebased curriculum with our study revealed similarities. For example, they suggested that PGY-2s/PGY-3s

meet with the attending physician at the start of the rotation to discuss goals. Another similarity involved the importance of having the PGY-2/PGY-3 pick, at the beginning of rounds, which patients should be discussed in more detail and which patients should be examined at the bedside.

To our knowledge, there is only 1 other article that specifically focuses on promoting PGY-2/PGY-3 autonomy during FCR: Weisgerber et al¹⁷ have described the development of a 21-item FCR checklist to offer residents feedback on their rounds performance. The checklist included strategies consistent with the suggestions of our participants such as avoidance of "micromanaging," delegating teaching responsibilities to the PGY-2/PGY-3, encouraging trainees to answer family's questions first, and having the attending physician stand in a nondominant position.

While our study identified behaviors that promoted autonomy during FCR, many of the strategies identified in our study were not specific to FCR, and are applicable to traditional bedside rounding as well. For example, our participants suggested effective general teaching strategies that are well documented in the literature such as the importance of giving feedback²⁶ and the use of reflection.²⁷ Since our results overlap with many general strategies for successful bedside rounding, institutions that are considering transitioning to FCR may find the process less difficult than initially considered.

Of note, 6 of the 10 inpatient attending physicians chosen by the residents in our study as excellent educators were hospitalists. This is of interest as prior studies have suggested that the use of pediatrics hospitalists compared to general primary care pediatricians may reduce resident autonomy. ^{28,29} As hospitalist programs are growing, ³⁰ and hospitalists are taking on larger teaching roles, it is important for them to have a framework that promotes supervising trainees in a manner that encourages their professional development.

This study has several limitations. It was conducted at a single institution with a small number of participants, and the findings may not be transferrable to other settings. Recruiting residents through email may have introduced selection bias. The vast majority of the resident physician quotations were derived from the PGY-2/PGY-3 focus group rather than the PGY-1 focus group. Finally, it is possible that the roles of 3 of the 4 investigators as regular participants in FCR may have introduced bias into the interpretation of the data despite the aforementioned methods to ensure trustworthiness.

Further research is needed to confirm our identified strategies for promoting autonomy during FCR. New

TABLE 2Illustrative Quotations of Residents, Hospitalists, and Subspecialty Attending Physicians Regarding Autonomy on Family-Centered Rounds (FCR)

Themes	Quotations		
At the start of the rotation			
Framing expectations	"One of my favorite things that an attending and a fellow said to me was, 'We're consultants, we're here, but we're consultants, view us that way. This is your team, you make it work.'" (Senior Resident FG) "I've had attendings say, 'I'm really nitpicky about this 1 thing and this is my reasoning and so while we're on service together let's have this be our plans for these patients and the rest is within your style."" (Senior Resident FG)		
Using nonverbal signals	"Let's have a signal for when you need me and it'll be something as simple as, 'When you need me, turn and look at me.' When they look at me, I'll know I need to take over or address something that the family member says." (Hospitalist)		
Before FCR			
Prerounds huddle	"If it's done right, most of the difficult decisions are made before we round by way of the senior [resident] and I have a quick conversation about either new information or our most concerning patients or unestablished patients. If it's done well, my senior [resident] and I are on the same page about how we're going to approach something and I think that is the right balance between autonomy and input where they need guidance." (Subspecialist)		
Detailed planning	"I think it was helpful to perform a huddle between the senior resident and the attendings before rounds to say, 'Are there 2 to 3 patients that you want to focus our teaching on or that you want to do [physical] exams on today?" (Senior Resident FG)		
During FCR			
Deliberate positioning	"I've tried to encourage the senior [resident] to stand next to the family so that everyone's in a circle but I'll try to [stay] out of the circle so they can see me giving guidance—nodding and shaking my head if they need it." (Hospitalist) "I deliberately position myself to promote eye contact [between] the intern and the senior. I usually try to stand behind the intern so they physically can't present to me." (Hospitalist)		
Delegating responsibilities	"I try to facilitate the senior to do the pointed questioning or facilitate them asking (the student or intern) 'Why?' I'll turn to the senior and say, 'Do you want to ask the intern a little bit more about this diagnosis and how they got to it?'" (Hospitalist)		
Allowing for flexibility	"If their plan is reasonable, even if it's not exactly what I would do, we'll go with it, and I only change their plan if it's not in the best interest of the patient. If their plan makes physiological sense, we go with it." (Subspecialist) "If you're going to use one antibiotic versus another or if you're going to use [medication A] versus [medication B], I think it's nice when they allow us to choose one for whatever reason as long as it doesn't hurt the patient." (Intern FG)		
Probing for rationale for decisions	"I know it sounds really basic, but that's really something that we don't always do (come up with our own plan) because it could be a complicated patient and we might question what we are going to do. And for them to just say, 'Tell me what you think and what you would like to do.'" (Intern FG) "I think it's important for the attending to encourage students and interns to take a shot. When they're coming up with a plan it could be completely wrong but still say it because it shows they're thinking." (Senior Resident FG)		
Orienting families	"I try my best to [convey to] the family that the resident is the primary doctor for that patient. I try to say that this is Dr X, she's your primary doctor." (Subspecialist) "I'm the supervising doctor and I'll tell this to the family, but everyone else does all the hard work. I'm just here to coach them as they need it because she's [the senior resident] really the boss but I'm here as a backup if needed." (Hospitalist)		

TABLE 2
Continued

Themes	Quotations
Relinquishing control	"I think it's a skill to let the senior be the focal point of rounds. I've seen great seniors sit down next to a mom and it's a discussion between the learners, the senior, and the parents, and I'm removed and I'm happy to do that. I think that families appreciate it." (Hospitalist) "Our subspecialty [nephrology] is so specialized that the seniors themselves are not very comfortable with running rounds, but I still encourage them to do it because there are a lot of skills they learn when they do that: time and people management and how to deal with families." (Subspecialist)
Using silence	"There's this idea that the attending should have the last word and summarize for the family. But if something has been said well, and people are on the same page, [attendings should be] okay with saying nothing and just moving onto the next room." (Senior Resident FG) "I had to say nothing. So to me, that was a successful learning opportunity, if I don't have to do the teaching they've [the senior resident] taught others and served as the clinician I would hope them to be." (Hospitalist)
After FCR	
Promoting reflection	"I pregame and postgame FCR often with the seniors to see how they thought rounds went, what can we do differently, what they want to work on." (Hospitalist)
Facilitating feedback	"The medical students had some issues, so an attending said, 'Let's talk about how you want to handle it. Do you feel comfortable talking to them?' Always putting the ball in your court. As a senior, there are times when you want to have the attending handle it. And they're like, 'Nope, the ball's in your court because next year you can't do that.' I think that's very empowering!" (Senior Resident FG)

Abbreviation: FG, focus group.

studies should also focus on whether the implementation of these strategies improves patient and family satisfaction, resident evaluations of their attending physicians, and trainee satisfaction with FCR.

Conclusion

Our results offer multiple strategies for attending physicians to promote autonomy and empower their residents in the context of FCR. The findings of our study may contribute to faculty development efforts aimed at improving the educational value of FCR for all participants.

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