Peer Coaching as a Faculty Development Tool: A Mixed Methods Evaluation

Kristy Carlson, PhD
Allison Ashford, MD
Marwa Hegagi, MD
Chad Vokoun, MD

ABSTRACT

Background In the era of competency-based assessment, medical education faculty are frequently challenged to develop unique teaching approaches. One method to address faculty development needs in a real-time clinical learning environment is peer coaching.

Objective We implemented and evaluated a faculty development program involving peer observation and feedback for attending physicians.

Methods Hospital internal medicine faculty assigned to a teaching service were recruited for the study. Participants voluntarily agreed to observe and be observed by a peer attending physician during a 2-week block of teaching rounds. When serving in the coaching role, faculty were asked to observe 4 separate occasions using an observation tool based on the Stanford Faculty Development Program framework to guide feedback. An outside consultant facilitated a focus group and completed a qualitative content analysis to categorize all participants' experiences during the faculty development activity.

Results Of the 22 eligible faculty, 14 (64%) agreed to participate by committing to 6 to 8 hours observing another faculty member during rounds, 2 feedback sessions, and 90 minutes to provide program feedback during a focus group. The analysis of the focus group revealed favorable reactions to the faculty development program, including (1) observed attending awareness of unrecognized habits; (2) personalized teaching tips for the observed attending to improve teaching quality based on individual style/preferences; and (3) exposure to new teaching techniques.

Conclusions An inpatient-based peer-coaching faculty development program was acceptable and feasible for a majority of faculty and may improve individual teaching effectiveness among conventionally trained physicians.

Introduction

Graduate medical education faculty are enthusiastic about training future health providers in the complex landscape of the health care system,[1–3] but many lack pedagogical training, and their own medical education was organized by exposing trainees to specific content for a set period of time.[4,5] A transition driven by the Accreditation Council for Graduate Medical Education (ACGME) to competency-based assessment[6–10] has propelled faculty, who have traditionally been trained and evaluated on "what they know," into unfamiliar territory.[11–13] Faculty need development on competency-based education, but faculty development can be challenging. Implementing faculty development in a real-time clinical learning environment addresses many of the challenges of low faculty attendance at lectures and workshops. Other common barriers to active faculty participation include time, competing priorities (eg, clinical care, research), and a lack of institutional support.[14]

DOI: http://dx.doi.org/10.4300/JGME-D-19-00250.1

One method to address the requirements of competency-based medical education is peer coaching. This concept reflects a shift away from classroom workshops to a model supporting faculty development designed to address the challenge of translating new learning into the workplace.[15] Further, a peer-coaching approach to developing future educators[16] aligns directly with the clinical learning environment, fulfills ACGME faculty development program requirements, and enhances peer-to-peer connections.[17] Peer coaching is a structured process by which trained faculty voluntarily assist each other within an atmosphere of collegial trust and candor.[18] Published studies[19] have found that giving and receiving peer coaching provides emotional, functional, and developmental value. Additionally, this faculty development approach is relational and collaborative,[20] occurs in multiple real-time contexts,[21] and promotes self-disclosure and engagement in the learning process.[22]

The aim of this study was to implement and evaluate a faculty development program involving peer observation and feedback of peer attending physicians in routine inpatient clinical settings.

Methods

Setting

This study was conducted at a 489-bed, urban, academic medical center between August 1, 2017, and February 28, 2018. Internal medicine faculty assigned to a teaching service during the study period were recruited for participation. Attending physicians on the teaching service rotate in 2-week blocks. They round each day of their rotation with a team of trainees, including a supervising resident, 2 interns, and 2 to 3 medical students. Rounding environments vary and may include the bedside, table/hallway, or a combination approach. Attending physicians' teaching and feedback approaches also vary in content, frequency, and setting.

What was known and gap
Graduate medical education faculty must develop new teaching approaches to meet the requirements of competency-based medical education, but many lack pedagogical training.

What is new
A faculty development program involving peer observation and feedback for attending physicians.

Limitations
This study was conducted with a small group of internal medicine faculty at one medical center, limiting generalizability. Selection bias may have contributed to the positive results.

Bottom line
A peer-coaching program designed to meet the needs of faculty was acceptable and feasible for enhancing teaching strategies for inpatient rounds.

Participants

The principal investigator (C.V.) invited potential participants to a 90-minute training. The session included logistics of the study, details of quantitative and qualitative data collection, a brief coaching video, and an extensive review of the observation tool. The presurvey with an invitation to participate was sent via e-mail to each faculty member in the division. Participating physicians were categorized as either early career faculty (< 5 years' experience) or experienced faculty (> 5 years' experience). Each peer coach was randomly assigned to observe and to be observed by another peer coach within his or her respective group. When serving in the coaching role, attending physicians were asked to observe their peers during rounds on 3 to 4 separate occasions during the 2-week block. A research assistant was assigned to coordinate observations based on scheduling, collect and analyze quantitative data, and facilitate qualitative data collection (0.25 full-time equivalent). A consultant was hired to complete the qualitative analysis.

Observation Tool

The Stanford Faculty Development Program (SFDP) framework[23,24] was utilized by peer coaches to assess observed attending physicians' teaching effectiveness during rounds. This framework addresses 7 domains of the educational process, including (1) communication of goals; (2) learning climate; (3) control of session; (4) understanding and retention; (5) evaluation; (6) feedback; and (7) self-directed learning.[25] Peer coaches were asked to rate each item on a 5-point scale that defined behavioral anchors at points 1, 3, and 5. For example, responses to "Encouraged learners to bring up problems" were as follows: 1, Learners not allowed time to voice concern; 3, Learners occasionally bring up problems; and 5, Learners' concerns clearly acknowledged and discussed. A sixth response option allowed the peer coach to indicate that the item was not applicable or not addressed. Eleven supplementary items using the same format and 2 questions allowing free-text responses were added to the observation tool. Five subject matter experts outside the study team reviewed the behavioral anchors for each SFDP question and the supplementary items for content validity. Expert feedback was incorporated, and study data were collected and managed using REDCap electronic data capture tools hosted at University of Nebraska Medical Center. REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies. Observers could print the tool or use a mobile device to document scores and add notes that were saved for use in future observations. Following the final observation, the peer coach and the observed attending met for approximately 1 hour to review and discuss the behaviors outlined in the observation tool.

Evaluation

Educational outcomes were evaluated using Kirkpatrick's model[26] that was adopted by the Best Evidence Medical Education (BEME) collaboration.[27] Focus group feedback informed the reaction (level 1) to the faculty development program. The focus group analysis, observation tool data, and results from the self-confidence pre-post surveys were used to evaluate learning (level 2a, change in attitudes; level 2b, modification of knowledge or skills). Behavior (level 3), defined by "willingness of learners to apply new knowledge and skills," was evaluated with focus group data.

TABLE 1
Total Responses and Exemplary Responses for Stanford Faculty Development Program Tool and Supplementary Items

Tool Items	Total Responses, No. (%)	Responded 5 (Exemplary), No. (%)[a]	Mean Value
Communication of goals			
Stated goals clearly and concisely	10 (91)	7 (70)	4.45
Stated relevance of goals to learners	10 (91)	5 (50)	4.27
Prioritized goals	9 (82)	4 (44)	4.10
Repeated goals periodically	7 (64)	2 (29)	4.13
Learning climate			
Encouraged learners to participate actively in the discussion	11 (100)	5 (46)	4.42
Expressed respect for learners	11 (100)	9 (82)	4.75
Listened attentively to learners	11 (100)	8 (73)	4.67
Encouraged learners to bring up problems	10 (91)	4 (40)	4.45
Control of session			
Called attention to time	11 (100)	7 (64)	4.67
Discouraged external interruptions	11 (100)	4 (36)	4.25
Avoided digressions	11 (100)	5 (46)	4.50
Understanding and retention			
Presented well-organized material	11 (100)	6 (55)	4.50
Explained relationships in material	10 (91)	3 (30)	4.36
Utilized unique/novel teaching tools	8 (73)	3 (38)	3.89
Evaluation			
Evaluated learner's medical skills as they apply to specific patients	10 (91)	6 (60)	4.64
Evaluated learner's ability to apply medical knowledge to specific patients	10 (91)	7 (70)	4.73
Evaluated learner's knowledge of factual medical information	9 (82)	3 (33)	4.30
Evaluated learner's ability to analyze or synthesize knowledge	10 (91)	6 (60)	4.45
Feedback			
Gave learners negative (corrective) feedback	10 (91)	6 (60)	4.64
Gave feedback frequently	11 (100)	7 (64)	4.67
Offered learners suggestions for improvement	10 (91)	6 (60)	4.64
Explained why learner was correct or incorrect	11 (100)	8 (73)	4.67
Self-directed learning			
Encouraged learners to do outside reading	9 (82)	2 (22)	3.90
Motivated learners to learn on their own	9 (82)	2 (22)	4.10
Explicitly encouraged further learning	9 (82)	4 (44)	4.20
Supplementary items			
Met face-to-face with all learners	7 (64)	6 (86)	4.63
Provided verbal feedback with action items	4 (36)	4 (100)	4.80
Offered to assist learner in areas of improvement	4 (36)	4 (100)	4.80
Provided helpful formal feedback on New Innovations evaluation to inform CCC	4 (36)	4 (100)	5.00
Allowed learners to express their goals	9 (82)	3 (33)	3.60
Modeled traits of a caring physician	11 (100)	11 (100)	5.00
Made their own clinical reasoning clear	11 (100)	7 (64)	4.58
Appropriate learner oversight	9 (82)	9 (100)	5.00
Teaching prioritized during team rounds	11 (100)	9 (82)	4.83
Provided evidence and encouraged evidence-based care	11 (100)	6 (55)	4.33

TABLE 1
Total Responses and Exemplary Responses for Stanford Faculty Development Program Tool and Supplementary Items (continued)

Tool Items	Total Responses, No. (%)	Responded 5 (Exemplary), No. (%)[a]	Mean Value
Elicited differential diagnosis from learners	11 (100)	8 (73)	4.67
Discussion of alternative management option encouraged	9 (82)	6 (67)	4.70
Asked learners to demonstrate physical examination findings on rounds	11 (100)	1 (9)	3.42
Encouraged appropriate procedures and use of point-of-care ultrasound	9 (82)	2 (22)	3.50
Utilized bedside rounds effectively	10 (91)	5 (50)	4.55

Abbreviation: CCC, clinical competency committee.
[a] A rating of 5 corresponds to a behavioral anchor considered to be exemplary.

Confidence Self-Assessment

Attending physicians were asked to complete a presurvey at the beginning of the study based on perceived confidence levels in each teaching domain of the SFDP framework (eg, What is your confidence level in explaining clinical reasoning to learners?). An identical postsurvey was deployed approximately 1 month after the last day of observation. The self-confidence survey contained 14 items scored on a 5-point scale (1, not confident, to 5, extremely confident).

Focus Group

In addition to the feedback sessions, faculty were invited to participate in a focus group. Discussion questions included (1) What was the most significant thing you observed or the most significant feedback you received? (2) As you were giving feedback, what felt comfortable or easy and what felt uncomfortable or difficult? and (3) How have you acted on the feedback you received? The focus group was recorded and transcribed by a professional service. An outside consultant facilitated the focus group and completed a qualitative content analysis to categorize participants' experiences during the faculty development activity.[28]

This study was approved by the University of Nebraska Medical Center Institutional Review Board.

Results

Participant Description

Of the 22 eligible faculty assigned to a teaching service, 14 (64%) agreed to participate by committing to 6 to 8 hours of peer observation and documentation using the SFDP tool, 2 one-hour feedback sessions, and 90 minutes to provide program feedback during a focus group. Due to scheduling conflicts, only 12 of the 14 faculty were observed during a 2-week block. Nine peer coaches each completed 4 observations, and 3 coaches observed the attending physician during rounds 3 times. Participants included 6 early-career and 8 experienced faculty. Eleven observation/feedback sessions were completed, 7 pairs of pre-post confidence surveys were submitted electronically, and 11 participants attended the 90-minute focus group session. A content analysis of the transcripts from the focus group revealed 3 categories describing participants' perceptions of the peer-coaching process: (1) observed attending awareness of unrecognized habits; (2) personalized teaching tips for the observed attending to improve teaching quality based on individual style/preferences; and (3) exposure to new teaching techniques for the observer. Descriptive results expressed in direct participant quotations are organized based on the BEME educational outcomes model.[29]

Reaction (Level 1)

Participants expressed positive reactions to the faculty development program during the focus group. The peer coaches reported direct benefits to observing their peers during rounds, such as learning new methods they themselves could employ during a future teaching block. One observer said, "I picked up a lot of techniques I wasn't even thinking about. I thought they didn't suit my personality, but when I saw them, I felt more comfortable trying them." Another participant referred to time management: "When I was observing, the thing I took away most was the amount of time that he used for feedback." Similarly, some peer coaches commented on what they saw and how they planned on internalizing the behavior displayed by the observed attending. "I observed something completely opposite to my technique. It was more efficient and . . . [a] good balance." Another mentioned a few examples of aspirational behaviors, such as "specifically rounding at the bedside, the way she interacts with the patient and the team."

TABLE 2
Pre-Post Confidence Level Mean Scores Regarding Teaching Responsibilities

Confidence Level Item (n = 7)	Mean Score[a]	
	Pre	Post
Communicating goals to learners clearly and consistently	3.86	3.86
Creating a learning climate where learners can actively participate in the discussion and bring up problems	4.00	4.71
Controlling the rounding session, timing, and minimizing interruptions	3.57	4.14
Presenting organized material using teaching tools and explaining concepts in context to the patient's clinical problems	3.14	3.71
Evaluate the learner's knowledge, medical skills, and clinical reasoning	3.14	3.43
Provide corrective feedback and suggestion for improvement	**3.57**	**4.43**
Encourage and motivate learners to learn on their own and do outside reading	3.14	3.86
Providing end-of-rotation verbal and written feedback (including New Innovations evaluations)	**4.00**	**4.71**
Appear as a good role model of a caring physician	4.43	4.71
Explain clinical reasoning to learners	3.57	3.86
Prioritizing teaching and focusing on patient care without delaying round to complete nonteaching activities	3.29	4.43
Giving autonomy to residents and giving justification before changing learner's plan	3.29	4.43
Encourage and practice evidence-based care	3.71	4.00
Encourage appropriate procedures and bedside point-of-care ultrasound	2.71	3.29

[a] Bolded values are statistically significant at $P < .05$.

In addition, participants expressed the notion that filling the peer-coaching role was more beneficial to them than receiving feedback from a colleague. Observing authentic interactions allowed faculty to learn alternative approaches that could be incorporated into their individual style. In addition, this faculty development activity contributed to creating an atmosphere of collegial trust and candor. Some members of the group discussed this concept by saying, "My colleagues are struggling with the same things I am," "I honestly feel like he truly cared about the education process . . . and he wants me to get better," and "My peers that I was giving and getting feedback on were [at] similar levels of training, and that made me more comfortable."

Learning (Level 2a–b)

A structured tool was employed to provide an objective evaluation of each observed attending physician and to guide the feedback session (TABLE 1). Positive results were reported for several of the SFDP items (total responses of $5 \geq 70\%$). Peer coaches reported exemplary teaching in the areas of respect for learners, clear goals, attentive listening, applying medical knowledge to specific patients, and providing an explanation regarding a learner's correct or incorrect assessment. Improvement areas among the participants (total responses of $1\text{–}4 < 30\%$) reflected the areas of repeating goals and encouraging self-directed learning. Further, participants reported positive changes in confidence (1, not confident, to 5, extremely confident) regarding specific teaching responsibilities (TABLE 2). Two items were significantly different from presurvey to postsurvey: "providing corrective feedback and suggestions for improvement'' (presurvey mean = 3.57; postsurvey mean = 4.43; $P = .034$) and "providing end-of-rotation verbal/written feedback" presurvey mean = 4.00; postsurvey mean = 4.71; $P = .025$). A number of the observed attending physicians received personalized teaching tips from the peer coach. "The feedback that I received was to do a better job incorporating some of the other responsibilities that I have outside of my clinical work," stated one participant. Another mentioned simply boosting the morale of the team as a tip that was given during the feedback session: "Providing confidence boosters to the supervising resident [and] creating that comradery." Other tips were more in-line with stylistic expectations about the way the observed attending and the learners would interact, such as "trying to identify up front what their goals are for the month."

Behavior (Level 3)

The focus group results revealed participants' willingness to apply new knowledge and skills. Unrecognized habits were a reflection of what the observed attending identified with the help of the peer coach. Usually these were behaviors and practices that were well intended but had unintended consequences. One

participant noted, "I tried to be efficient and use an iPad. I didn't realize how much I can get focused on the iPad. I'm not giving good eye contact with the students or paying attention to other things." Even something as simple as the way the team stands in the room can be difficult for the attending physician to notice. "Some of my learners were not as engaged because of my team's positioning in the room." Another participant commented on a simple modification during rounds to enhance the education of the learner while breaking a bad habit: "Instead of saying, 'Yeah that makes sense,' explaining why it makes sense more often." Maximizing efficiency and opportunities for the learners was a theme for one participant: "[I want to] make sure that I plan each aspect of rounds a little bit better to get the most out of it."

Discussion

This professional development program was designed to meet the needs of a growing hospitalist division within our academic medical center. Participants expressed positive reactions to the activity, modest increases in confidence levels regarding teaching responsibilities, and a willingness to apply new knowledge and skills. Although participants reported multiple individual benefits, they felt serving in the coaching role was the most valuable activity.

Considering the recent focus and shift in formal measurement of graduate medical education to competency-based medical education, a peer-coaching faculty development program may be beneficial in improving individual teaching effectiveness among conventionally trained physicians. Similar to other coaching programs,[30–32] participants reported increased self-awareness and felt the overall experience was valuable. Although obstacles may prohibit consideration, this approach has been identified by Simpson and colleagues[17] as an effective strategy for developing medical educators in 2025. Further, a formal coaching program embedded in the real-time workplace fulfills the ACGME annual faculty development requirement[17] and may address common barriers to participation, including lack of time due to competing clinical and administrative priorities.

This study was conducted with a small group of internal medicine faculty at one medical center, limiting generalizability, and selection bias may have contributed to the positive results. The faculty at our institution were willing to commit extra time outside their scheduled clinical responsibilities to participate; however, faculty at other academic medical centers may not find this type of program feasible or acceptable. Additionally, participants in this study expressed positive gains in the knowledge of new teaching strategies that may not translate into changes in behavior.

Although the longstanding impact of this intervention is unknown, it is clear that participants found value in being observed by a peer and receiving feedback within an atmosphere of collegial trust and candor. Based on the positive feedback from participants, senior leadership is considering offering this activity annually for new and existing faculty. Further studies will need to evaluate alternative models and the long-term sustainability of this learning opportunity.

Conclusions

A peer-coaching program designed to meet the needs of our faculty was acceptable and feasible for enhancing teaching strategies for inpatient rounds. Participants reported benefits when receiving feedback as an attending physician and serving as a peer coach.

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Kristy Carlson, PhD, is an Instructor, Department of Internal Medicine, Division of General Internal Medicine, Section of Hospital Medicine, University of Nebraska Medical Center; **Allison Ashford, MD,** is Assistant Professor, Department of Internal Medicine, Division of General Internal Medicine, Section of Hospital Medicine, University of Nebraska Medical Center; at the time of writing, **Marwa Hegagi, MD,** was Assistant Professor, Department of Internal Medicine, Division of General Internal Medicine, Section of Hospital Medicine, University of Nebraska Medical Center, and is now Clinical Assistant Professor of Medicine, Penn Hospital Medicine, University of Pennsylvania; and **Chad Vokoun, MD,** is Associate Professor, Department of Internal Medicine, Division of General Internal Medicine, Section of Hospital Medicine, University of Nebraska Medical Center.

Funding: The authors report no external funding source for this study.

Conflict of interest: The authors declare they have no competing interests.

Corresponding author: Kristy Carlson, PhD, University of Nebraska Medical Center, Division of General Internal Medicine, 986430 Nebraska Medical Center, Omaha, NE 68198-6430, 402.552.9529, fax 402.559.5588, kristy.carlson@unmc.edu

Received April 10, 2019; revisions received September 10, 2019, and December 13, 2019; accepted December 30, 2019.