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Comparing Resident-Patient Encounters and Case Presentations in a Family Medicine Clinic

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Abstract

Purpose: Oral case presentations following resident-patient interactions provide the primary mechanism for faculty supervisors to assess resident competence. However, the extent to which these presentations capture the content and quality of patient-resident communication during their encounter remains unknown. We aimed to determine if 1) the resident-patient encounter content matched information conveyed in case presentation, 2) the quality of resident-patient communication is accurately conveyed, and 3) supervisors addressed effective/ineffective communication processes.

Methods: 22 pairs of patient encounters and Family Medicine resident case presentations were video-recorded, transcribed, and compared for content. Resident-patient communication was assessed using adapted versions of the Calgary-Cambridge Guide to the Medical Interview and Explanation and Planning Scale.

Results: Interviews and presentations contained largely congruent content, but social history and patient perspective were consistently excluded from case presentations. While 6/19 specific communication skills were used in over 80% of resident encounters, effective use of communication skills was widely variable. In most presentations, resident-patient communication quality was not explicitly conveyed to the supervisor. Although resident presentations provided “cues” about communication issues, supervisors rarely responded.

Conclusions: This study lends support to direct observation in workplace based learning of communication skills. When content areas like patient perspective and education are excluded, supervisors cannot address them. Also, presentations provided minimal insight about the quality of resident-patient encounters, limited the ability to address communication skills. These skills could be enhanced by attending to communication cues during case presentations, increased use of direct observation/feedback, and faculty development to promote addressing these missed teaching opportunities.

Introduction

The purpose of graduate medical education is to assure that residents will deliver competent patient care. The Accreditation Council for Graduate Medical Education (ACGME) has listed six core competencies: 1) practice-based learning and improvement, 2) patient care and procedural skills, 3) systems-based practice, 4) medical knowledge, 5) interpersonal and communication skills, and 6) professionalism.(1)The bulk of residency education occurs in the realm of what is often referred to as workplace based learning, where residents learn from experience of working in a clinical practice environment. Research on workplace learning focuses on opportunities and factors that influence workplace learning including the importance of interaction or “shared moments” between residents and supervisors. (2–4) Billett and others identify that learning in the workplace can be significantly enhanced through guided learning opportunities such as asking questions, problem solving and role modeling.(2, 5) Oral case presentations following resident-patient interactions are often the main educational interaction between residents and supervising physicians in the workplaceand provide the primary mechanism for individual faculty supervisors to assess and address resident competence in patient care.

The benefits of this oral case presentation have been detailed for many years as providing information to attending physicians to guide resident physician patient care.(6–8) However, little is known about the extent to which oral case presentations accurately convey the content and quality of patient-resident communication during learner encounters with patients.

Some studies have identified what misinformation is included or pertinent information that is excluded in learner case presentations.(9, 10) For example, these studies found that most commonly, psychosocial data, including such things as the patient’s occupation, living arrangement, and illicit drug use, were consistently left out of oral presentations. While these studies describe the content of resident case presentations, they do not compare the information. Observational studies have examined types of information typically not collected by resident physicians during interviews with patients.(10–12) These studies report that residents consistently failed to collect information related to emotional/psychosocial factors and patient perspectives on the impact of health problems on daily life, and they rarely identified and outlined an agenda for the visit.

A number of observational studies have identified weaknesses in communication skills among residents during the patient interview.(9, 10, 13–15) Because supervising physicians rarely observe residents during patient encounters, the main insight a clinical teacher has

into a resident's communication skills is limited to content and quality of the oral case presentation following the patient interview.(16) We were unable to find previous studies examining the accuracy of case presentations when compared with patient encounters.

This purpose of this study was to determine if the case presentation gives a realistic picture of the patient encounter for the supervisor to be able to guide the workplace based learning process of the resident and to ensure good patient care. This study sought to compare the content and process of resident-patient interactions with subsequent oral case presentations. More specifically, the study aimed to determine: 1) if the type of information exchanged in resident-patient encounters matches information conveyed in case presentation of the clinical encounter; 2) if the quality of resident-patient communication is accurately conveyed in the case presentations; and 3) if supervisors address both effective and ineffective resident-patient communication processes identified in resident case presentations.

Method

This observational study compared videotaped resident-patient interactions with audiotaped case-presentations in a family medicine residency (also known as a post graduate training program) clinic on campus in a tertiary academic medical center. The residents see their own patients and the majority of teaching is based on case presentations to their supervisors. There is no specific goal for these teaching encounters beyond a standard approach for supervised guidance of patient care. In regard to learning communication skills, while there is no formal communication curriculum, some communication skills are addressed intermittently in interactive resident conference sessions. Family medicine resident-patient encounters were video recorded, and then immediately following the patient encounter, the subsequent case presentation of the patient information from the resident to the supervising physician was audio recorded. This is done in a conference room typically lasting 10–15 minutes. Video recording was chosen for patient encounters and audio recording for the case presentations due to the location and availability of the recording equipment. All supervisors and 14 residents working in an ambulatory family medicine clinic were invited to participate in the study between June and August 2015, see Table 1. An email was sent to all supervisors and residents explaining the process. It was also discussed in faculty and resident meetings by the principal investigator with the opportunity for questions. Residents were told they could refuse. Patients seeing clinic residents were invited to consent to video recording as a standard part of educational practice in the residency. Patients were not informed of consented for this specific study. For the study, after video recording consent was obtained, resident physicians were informed that the patients had agreed to be video recorded and that the investigator would be audio recording the subsequent resident case presentation to a supervisor. The study was determined to be Exempt from Need for Human Subjects Approval by the UI Institutional Review Board.

Content Analysis

The video and audio recordings were transcribed verbatim by a medical student doing a summer research fellowship. The authors developed a rubric based on the standard content of the medical interview which identifies main categories of information (i.e., chief

complaint, history of present illness, family history, social history, etc). Using this rubric, three reviewers (KS, MR, GP) independently compared the content of the resident interview and case presentation transcripts. This content analysis allowed the investigators to identify congruent information between interviews and case presentations, interview content missing from the presentation, and/or extra information not collected during the interview but included in the case presentation. The three reviewers then compared their analyses of each case to reach consensus on presence or absence of information collected in the interview and the information conveyed during the case presentation. If analyses were incongruent between reviewers the transcripts were closely re-reviewed to reach consensus.

Communication Skills Analysis

Video transcripts and recordings were analyzed independently by two raters (KS, MR) using an adapted Calgary-Cambridge Guide to the Medical Interview and Explanation and Planning Scale Tool (CCG-EPSCALE) to assess resident communication skills (FIGURE 1) developed by the authors. While we used all items from Epscale, we added relevant items from CCG in order to capture relevant information gathering and relationship building skills. (16–18) The raters then compared scores to reach consensus for each scale item. When analyzing the results, if the resident did not demonstrate the specific skill or only used it in a cursory fashion it was scored as “omitted or ineffectively used”. For example, if the resident used a closed opening question with little room for response, then it was scored as ineffectively using the appropriate opening question. Conversely, if the resident demonstrated the specific skill during the encounter then it was scored as “effectively used”.

Results

The study included 14 residents, 22 faculty supervisors, and 22 patients who agreed to participate. One or two patients per half clinic day per resident were recruited between June and August 2015. Visit type included resident-patient encounters that varied in focus ranging from new patient to follow-up care for acute and chronic problems. Prevention only physical exams were excluded.

Congruency of Content

In the 22 cases analyzed, presentations and corresponding patient interviews revealed several categories of content were present in over 50% of the cases, including chief complaint, history of present illness, medications and allergies, past medical and surgical history, family history, and relevant review of systems (Table 2).

Several content areas elicited during the interview were shared with faculty supervisors in fewer than half of the case presentations including additional patient complaints (41%), patient perspective (41%), and planning and patient education (18%) (Table 2). While residents only explicitly and effectively sought the patient’s perspective (information about patient ideas, concerns, or expectations) in 9% of encounters, they did at times receive the patient perspective inadvertently through the patient narrative.

However, even when either explicitly or inadvertently elicited during the resident-patient encounter, patient perspective often omitted from the case presentation. Also, little to no

details regarding the content of discharge planning and patient education from the patient interview were shared with supervisors during the case presentation. For example, planning details communicated during a clinical encounter for a patient recovering from a *Clostridium difficile* infection included eating probiotic yogurt and making sure to stay well-hydrated, but none of this was conveyed during the case presentation.

In most of the cases in which patient education information was missing from the case presentation, the content communicated to the patient was factually accurate; however, there were two instances where the patient education information given in the clinical encounter was erroneous. Because the information was not discussed in the case presentation, the attending physician was unaware of misinformation given. These instances are described here:

- Case 1:
 - Information: “We don’t normally do a full 2-week course of metronidazole to treat *C. diff.* infections, but for you, we’ll make an exception”
 - Error: The duration for mild to moderate disease is routinely 10–14 days.
- Case 2:
 - Information: “Trazadone is not a long-term solution for the treatment of insomnia”
 - Error: Trazodone is often used in long-term insomnia.

Communication Skills

Communication skills used effectively and skills omitted or ineffectively used during resident encounters with patients were identified (Table 3). Specific communication skills used effectively in over 80% of patient encounters included using a warm greeting/introduction, respecting the patient, listening attentively to the whole story, utilizing clear language without jargon in history and information sharing, and organized explanations. However, we found variability in the quality of resident communication and effective use of specific communication skills with patients. Communication skills such as establishing rapport, agenda setting, explicitly eliciting the patient perspective, exploring management options, and checking patient understandings were omitted or ineffectively used in more than 50% of total encounters.

Resident Cues and Supervisor Responses

In most case presentations, the quality of communication between residents and patients (either effective or ineffective) was not explicitly conveyed to the supervisor. For example, the video analysis of one case revealed a relatively chaotic and closed-ended resident-patient encounter, but the subsequent case presentation was well organized and appeared to be thorough. Similarly, very effective resident communication in the patient encounter was not explicitly revealed during case presentations. Instead, residents often provided indirect

“cues” about communication issues in 16 of 22 (73%) of the case presentations, but of those, supervisors only responded to four of the cues with only two responses related to communication. Examples of these cues and responses can be found in Table 4.

Discussion

This study examined the resident-patient encounter and subsequent oral presentation allowing the content (what was communicated between the resident and the patient) and process (communication skills during the encounter) to be compared with information conveyed during the case presentation. In addition, this study identified cues to resident-patient communication issues conveyed by residents during their case presentations, and if and how supervising faculty responded to these cues.

Oral case presentations allow faculty supervisors to help both ensure good patient care and educate the resident.(9–11, 13–15) This is the first study to comparatively examine the content of resident-patient encounters and subsequent case presentations, and it revealed similar findings to studies that have only examined these two areas separately. Our results demonstrate that although supervisors can gain a clear picture of the medical history through the information conveyed in case presentations, as most medical content was congruent, some types of content were consistently omitted. In our study, omission of patient perspective was due to either the failure to elicit this information from patients in the first place or by residents choosing not to convey this content collected during case presentations. Cali and Estrada posit that one possible explanation for why patient perspective and psychosocial information may not be collected is that the content and focus of clinical interviews often directly mirrors what is found in oral case presentations.(19) It is known that eliciting the patient’s perspective (ideas, concerns, expectations, effect on life) during both history taking and management discussions has been demonstrated to lead to more accurate and satisfying patient encounters as well as better patient understanding and adherence to treatment regimens. This implies that residents may conduct their encounters with patients by focusing solely on the information they believe that they will be expected to present to the attending physician rather than adjusting to the unique context of the physician-patient interaction. Additionally, our study identifies that patient education provided by the resident is not shared during the case presentation. When these content areas are omitted from case presentations, supervisors lack the opportunity to address important history taking and patient education issues with residents that can ultimately affect patient outcomes.

Our analysis identified several communication skills being used effectively during resident patient encounters. However, we also noted a consistent lack of effective use of communication skills recommended in the clinical communication literature (e.g., agenda building, nonmedical rapport, exploring management options, negotiating treatment plans, checking patient understanding and patient perspective).(9, 10, 13–15) These findings echo other observational studies of resident communication.(9–11, 13–15, 20) Our findings demonstrate that the case presentation does not accurately reflect exactly what happened in the exam room. Therefore faculty supervisors are unaware of what resident communication

issues would be helpful to address, either by reinforcing effective behaviors or provide more effective guidance for enhancing these skill areas.

An important finding in our analysis was that residents at times provided case presentation cues to communication issues that may have affected the resident-patient encounter without conveying them directly. However, supervisors rarely took the opportunity to address these cues. This finding is similar to the study by Carrese et al that demonstrated that faculty supervisors rarely explicitly addressed cues in resident presentations relating to ethical and professionalism issues.¹⁹ These authors posit several explanations for supervisors failure to respond to everyday ethics cues, including competition with other precepting tasks with limited time available, not perceiving these issues as priorities in patient management, and lack of recognition of these issues when they arise and—even if recognized—feeling ill-prepared to teach about them. Rosenbaum identifies similar reasons that communication cues from learners may not be addressed.(21) First, with so many issues to address in response to case presentations, communication issues may be perceived as lower in priority. However, if faculty supervisors recognize that addressing these skills does need to be included in every teaching encounter then they may be able to choose when they are appropriate to address rather than omitting them altogether. Second, clinical teachers may lack effective communication skills themselves, struggle to articulate what they are and/or lacking confidence in their ability to teach about them effectively.(21) Institutional support for additional faculty development for clinical teachers to learn about effective communication skills and how to effectively teach them in the workplace setting could help to address both issues.

Evidence suggests that communication skills and empathy decline during clinical training and during residency(22–29) as residents integrate into the workplace. Existing research as well as the current study suggest that case presentations may be a key opportunity to address these issues.(21) In addition to picking up and responding to presentation cues, a communication issues could be generated by directly asking residents questions about their communication with patients, including what they learned about the patient's agenda, perspective, and understanding of their condition; what patient education was provided and how; if they felt the patient comprehended the education; and also any particular communication challenges they encountered.(22–29) This study adds to the existing research focusing on the complexities of workplace based learning in resident education. While we found that the oral case presentation provides an important interaction between resident and supervisor and potential opportunity for guiding communication skills learning in the workplace, we also pointed to the limitations of relying on case presentations alone for addressing communication skills. This study also lends support to the importance of direct observation in workplace based learning of communication skills.(3, 4, 30) In addition, through use of observation via video and audio recordings, this study addresses what Dornan identified as a significant methodological gap in research on workplace based learning which has mainly relied on learner and teacher self-report through interviews. (31)

Our comparative findings point to the limitations of relying solely on case presentations to assess and address resident communication skills. Particularly striking in our analysis was the incongruity between what was observed in the patient room with the subsequent case

presentation and how little insight overall the case presentation provided as to the quality of the patient-resident encounter. Ultimately, this study points to the importance of direct observation of resident-patient encounters by supervising faculty followed by feedback as a necessary strategy for accurately assessing and addressing resident communication skills in a meaningful way.(32) Feedback based on direct observation (either in person or through video recording) can reinforce effective communication skills, elicit/convey appropriate content and education, and provide further guidance when opportunities for improvement are present. Again, faculty development may be necessary to enhance supervisor confidence and ability to use observation and feedback effectively and efficiently.

This study has several limitations. It was conducted in a single academic family medicine residency program with a limited number of both resident and faculty supervisor participants and therefore may not be generalizable to other types of residency programs. We observed a limited number of resident-patient encounters that varied in focus, which may have affected the content of the encounters, communication skills used by residents, the issues raised in case presentations, and subsequent supervisor responses. While at least one interview based study has examined student perspectives on the extent to which case presentations convey the quality of the learner-patient interaction(21), future research could ask both residents and teachers about their perspectives on these issues.

Conclusion

We demonstrated the limitations of relying on case presentations alone. Assessing and addressing both content and communication skills could be enhanced by attending to communication cues during case presentations, greater use of direct observation/feedback, and faculty development to support clinical teachers in addressing these missed teaching opportunities.

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EPSCALE	0	1	2	3
Building the relationship				
Respects patient	Shows no interest or concern OR is overtly offensive	Little interest and concern for patient's well being	Some interest and concern for patient	Clear interest and concern for patient as a person
Empathy	Ignores patient's feelings and predicament	Minimal (only non-verbal) response to patient's feelings and predicament	Some verbal response to patient's feelings and predicament	Sensitive verbal and non-verbal response to patient's feelings and predicament
Uses appropriate non-verbal behavior	No eye contact OR inappropriate non-verbal behavior	Little eye contact OR some inappropriate non-verbal behavior	Good eye contact, generally appropriate non-verbal behavior	Good eye contact, substantial and appropriate non-verbal behavior
Providing the correct amount/type of information for the individual patient				
Chunks and checks, using patient's response to guide next steps	Gives long, uninterrupted speech	Occasional pauses but does not elicit patient's response	Pauses, with some effort to gauge patient's response before proceeding	Repeatedly chunks and checks, using patient's response to guide next steps
Assesses the patient's starting point	No attempt to gauge patient's starting point	Attempts to find out starting point but still gives info as prepared	Discovers starting point, some adjustment to info-giving	Discovers starting point and patient's preference for amount of information, carefully tailors explanation
Discovers what other information would help patient	No effort to discover what extra information would help	Little effort to discover or respond to patient's info needs	Makes some effort to discover and address patient's info needs	Carefully and repeatedly seeks and addresses patient's needs
Aiding accurate recall and understanding				
Organizes explanation	No organization of explanation	Minimal organization of explanation	Organizes explanation, but no overt signposting/summarizing	Organizes explanation, with overt signposting/summarizing
Checks patient's understanding	Does not check patient understanding	Minimal checking that patient has understood	Carefully checks that patient has understood	Asks patient to restate information given
Uses clear language	Frequent use of unexplained jargon and confusing language	Some unexplained jargon and confusing language	Majority of language used clear (unexplained jargon words only)	Clear language used throughout
Achieving a shared understanding: incorporating the patient's perspective				
Relates explanations to patient's illness framework	No reference at all to patient's ideas, concerns, expectations	Little attempt to relate explanation to patient's ideas, etc.	Makes reasonable attempt to relate explanation to patient's ideas, etc.	Sensitively relates explanation to ideas, etc.
Encourages patient to contribute reactions, feelings and own ideas	No opportunities for patient to contribute	Limited opportunities for patient to contribute but no response	Several opportunities for patient to contribute with some response	Actively encourages patient to contribute and responds well
Picks up & responds to patient's non-verbal & covert verbal cues	No response to patient's non-verbal and covert verbal cues	Minimal response to patient's non-verbal and covert verbal cues	Some response to patient's non-verbal and covert verbal cues	Sensitively responds to patient's non-verbal and covert verbal cues
Planning: shared decision making				
Explores management options with patient	No exploration of available options, only directives given	Offers options in cursory fashion	Carefully explores options with patient	Fully explores options and dilemmas, signposting position of equipoise or own preferences
Involves patient in decision making	No involvement or resists involvement of patient in decision making, directives given	Makes suggestions rather than directives but limits patient involvement in decision making	Actively encourages patient involvement in decision making	Establishes level of involvement patient wishes in decision making; if appropriate, fully encourages patient to make choices & decisions
Appropriately negotiates mutually acceptable action plan	Presents plan without checking with patient	Presents plan with cursory check for patient's approval	Reasonable and appropriate negotiation of plan with patient	Full and appropriate negotiation of plan with patient; final agreement checked

Figure 1.
CCG-EPSCALE Tool

Table 1.

Demographic Characteristics of Resident and Supervisor Participants

Demographic	Frequency (%)
Resident Training	
Year ^I	
R1	4 (28.5%)
R2	6 (42.9%)
R3	4 (28.5%)
Resident Sex	
Male	5 (35.7%)
Female	9 (64.3%)
Supervisor Sex	
Male	12 (54.5%)
Female	10 (45.5%)
Supervisor Years in Current Job	
1–5 Years	8 (36.3%)
6–10 Years	3 (13.6%)
11–15 Years	5 (22.7.0%)
16–20 Years	2 (9.1%)
21–25 Years	2 (9.1%)
Over 25 Years	2 (9.1%)

^I R1 = 11–12 months into training, R2 = 23–24 months into training, and R3 = 35–36 months into training.

Table 2.

Content Congruence between Resident/Patient Encounter and Corresponding Case Presentation

Encounter Content	Percent of Cases in which Content was Presented (N = 22)
History of Present Illness	100%
Chief Complaint	95%
Physical Exam Findings and Lab/Test Results	95%
Medications, Allergies	68%
Past Medical/Surgical and Family History	63%
Differential and Assessment	55%
Review of Systems	55%
Social History	50%
Additional Patient Complaints	41%
Patient Perspective (Ideas, Concerns, Expectations, and Effect)	41%
Planning	22%
Patient Education	18%

Table 3.

Resident Communication Skills Epscale Data

Communication Skill	Frequency (%) of Encounters ¹	
	Skill Used Effectively	Skill Omitted or Ineffectively Used
Building Relationship		
Warm greeting introduction	20 (93%)+	2 (8%)
Initial rapport/nonmedical	9 (41%)	13 (59%) X
Respects patient	21 (95%)+	1 (5%)
Empathy	15 (69%)	7 (31%)
Appropriate non-verbal	17 (77%)	5 (23%)
Gathering Information		
Opening question	13 (60%)	9 (40%)
Agenda building	1 (2%)	21 (98%) X
Listens attentively to the whole story	18 (80%)+	4 (20%)
Open questions	13 (59%)	9 (41%)
Clear language/no jargon	20 (91%)+	2 (9%)
Patient perspective	2 (9%)	20 (91%) X
Giving Information		
Assess patient starting point	13 (60%)	9 (40%)
Organize explanation	20 (90%)+	2 (10%)
Chunks and checks ²	14 (63%)	8 (38%)
Clear language/no jargon	19 (88%)+	3 (12%)
Explores management options	7 (33%)	15 (67%) X
Involves patient in decision	13 (61%)	9 (39%)
Negotiates plan	10 (47%)	12 (53%) X
Check patient understanding	8 (37%)	14 (63%) X

¹ Percentages are calculated out of the total number of encounters in which each skill was applicable.

² Provides information in manageable parts, and uses patient's responses to guide next steps.

³ "+" indicates the skill was used in 80% or more of total encounters. "X" indicates that the skill was omitted or ineffectively used in greater than 50% of total encounters.

Table 4.**Examples of Resident Communication Cues in Case Presentations and Supervisor Reactions**

Cues to which Supervisors Responded	Supervisor Response
“Yep he hated Carnation instant breakfast. I told him to put like, just make a milkshake and stuff but he couldn’t. He didn’t like it. So he’s having pizza, hot dogs...”	Supervisor elicited: “So are you having him do extra food?”
“Mom has one concern, do we think his circumcision is done properly?... and I offered to have someone else take a look. And so that’s what Mom wanted”	“We’ll go ahead and see him.”
“We talked about mammograms not being an awesome test.”	“She’ll probably benefit from some written instructions at the next time.”
“Patient did not know if she had tetanus”	Supervisor suggests how to get the information.
Cues to which Supervisors did not Respond	Potential Supervisor Response
“No and he doesn’t seem very concerned. I mean he’s more concerned about the big picture”	Supervisor could provide skills where resident could get the patient to share ideas, concerns, expectations
“I kind of had trouble getting him to open up about his diet”	Supervisor could discuss open ended questions and ways to get more of the patient story
“I might try and give her some home videos and exercise...”	Opportunity to discuss educating the patient with chunks and checks and teach back
“And I told him he needs to talk to the urologist and oncologist. He’s just worried...”	Supervisor could address the patient worry and help the resident see how this affects the plan

• Bold lettering delineates the potential communication issues/skills that could be addressed in response to the cues given in the resident statement