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ORIGINAL RESEARCH

Towards Patient Safety: Promoting Clinical Empathy Through an Experiential Curriculum in Care Transitions Among the Underserved

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Abstract Improving outcomes for patients undergoing transitions of care has become an international priority. A key ingredient of effective care transitions is compassionate care provided by healthcare providers with a good understanding of patients' post-discharge needs. Enhancing empathy in future physicians is a critical task of medical education best promoted by experiential methods of training that allow for student interaction with patients across care settings. Our curriculum aimed at promoting understanding of the risks associated with care transitions, clinical empathy, and positive attitudes towards patient safety in transitions. The curriculum was delivered to 140 fourth year medical students during their required 4-week inpatient medicine clerkship, using a multimodal approach that combined didactic, experiential, and web-based study. This paper describes a qualitative evaluation of students' responses to their experiences while monitoring the transition of their patients across care settings. Findings reflect development of empathetic insight among students, as well as increased ability to identify and address post-discharge needs of at-risk patients. Of the 140 students who participated in the curriculum, 64 students identified three potential areas of lapses during the transition of their patients from the inpatient to the outpatient setting within the following categories: (1) system-related issues, (2) provider-related issues, (3) patient-related issues. Curricular methods that provide direct patient exposure along with reflection will be helpful in promoting empathy and positive attitudes towards best practices in care transitions.

Keywords Care transitions · Curriculum · Poor and underserved · Clinical empathy

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Introduction

Improving outcomes for patients undergoing transitions of care has become a national priority as identified by several national organizations including the Centers for Medicare and Medicaid Services and The Joint Commission [1]. The Institute of Medicine reports that 60% of gaps in care and harmful medication errors occur at the time of care transitions [2].

As a result of data like these, the Joint Commission, American Geriatrics Society, Accreditation Council on Graduate Medical Education (ACGME), and Liaison Committee on Medical Education (LCME) have all recognized care transitions as a critical component of health professional education [3–5].

Effective care transitions require focused effort and attention to detail by healthcare providers as they navigate through the convoluted transitional care system.

In addition, healthcare providers must have a good understanding of patient experiences, concerns, and perspectives to meet post-discharge needs. Experiential learning can promote clinical empathy which can motivate the commitment and focused effort required for care coordination and communication. Enhancing empathy in future physicians is therefore a critical task of medical education. Self-reflection by trainees accompanying experiential learning can reinforce lessons learned from experiences gathered while transforming attitudes and possibly behaviors of learners. Self-reflection has been described by educators as having the "potential to be

transformative to expand the minds of learners and emancipate them from presuppositions" [6–8].

Published care transitions curricula targeted towards third year medical students [9–12] did demonstrate benefit to learners. In fourth year medical students, there is a paucity of published care transitions curricula [13]. As these students transition roles to take up more responsibility in patient care, effective preparation for this transition requires training that incorporates content and experience that promote acquisition of the core competencies of professionalism and compassionate patient care.

This study describes a care transitions curriculum with a significant experiential component for fourth year medical students at the Emory University School of Medicine.

The curriculum uses a multimodal approach that combines didactic, experiential, and self-reflection methods enhanced by peer-based interaction on issues associated with transitions across care settings. The objective is to promote understanding and empathetic attitudes towards patients through interactions during a period of care transition. Our hypothesis is that the experiential interactions, along with narrative reflection, will promote better understanding of the issues and result in positive attitudes towards best practices of transitions of care.

This study describes a qualitative evaluation of students' responses to their experiences while monitoring the transitions of their patients from the inpatient to outpatient setting.

Methods

Setting

One hundred forty fourth year medical students at the Emory University School of Medicine received the Emory Care Transitions Curriculum (ECTC) during their required 4-week inpatient internal medicine clerkship. The students participated in the rotation at Grady Memorial Hospital (GMH), a 953-bed safety net hospital in Atlanta.

Program Description

The ECTC as described earlier by Eskildsen used a multimodal approach that combined face-to-face teaching with online didactic instruction and peer-to-peer interaction, as well as direct patient care [13].

Face-to-Face Teaching

In brief, the face-to-face teaching occurred at the beginning and end of the clerkship comprising of didactics and interactive group discussions that focused on the explanation of the reasons for the complexity of care transitions in high-risk patient populations. This section started on day 2 of the clerkship, with a face-to-face lecture titled "Transitions of Care: Why They Are Important, and How to Improve Them." It included the following components: definition of the different posthospital discharge options, explanation of the reasons for the complexity of care transitions in high-risk patient populations, and an enumeration of methods to improve the safety of care transitions. The second face-to-face session was held during the last week of the clerkship. During this session, an interactive group discussion was held focusing on student experiences during the transitions of their patients across care settings and best practice measures aimed at improving patients' transitions of care.

Web-Based Study

For all online activities, students used the Blackboard platform software.

This component consisted of a review of three online training modules followed by completion of accompanying assignments. The training modules consisted of (1) elements of care transitions, (2) discharge summary module, and (3) post-discharge call module.

(1) Elements of care transitions with training materials focused on published relevant care transitions literature [14], along with a care transitions case presentation. Students reviewed the case and reported on the strong points and problems with the patient's management.
(2) Discharge summary module focused on how to prepare a complete and informative discharge summary. Following a review of the discharge summary module, each student selected one of the patients they cared for during their rotation and wrote a discharge summary. They then reviewed a classmate's discharge summary.
(3) Post-discharge call module focused on patient safety at discharge and in the immediate post-discharge period using a safe discharge checklist adapted from "Ideal Discharge for an Elderly Patient: A Hospitalist Checklist," issued by the Society of Hospital Medicine [15].

All course materials are available on the Portal of Online Geriatrics Education (https://www.POGOe.org) [16].

Experiential Learning

The students obtained real-time care transitions experience by following a patient from admission, through discharge. They participated in discharge planning, provision of pre-discharge education, completion of a discharge summary, and performance of a post-discharge phone call. The call was usually placed within a week of discharge. Using a safe discharge checklist as described above, students determined the

presence of any problems experienced by the patient since discharge. Students assisted patients in resolving issues identified with the assistance of their team and through referral to appropriate resources. They then completed a narrative report (<400 words), discussing the strong points and shortcomings of their patient's discharge, thereby identifying care transitions-related issues experienced by the patient. Their reports were posted on Blackboard discussion board. They then commented on at least one of their classmates' reports. Faculty (M.A.E. and U.O) also participated in the discussion board, commenting at least once on all students' reports.

Program Evaluation

A previous evaluation of this curriculum used pre- and post-test surveys to assess changes in skills, knowledge, and attitudes, as well as satisfaction with the course as earlier described [13]. Findings showed improved confidence in their ability to perform discharge tasks and knowledge scores. For this study, we used qualitative methods to explore in-depth students' perception, understanding, and attitudes towards care transitions issues based on their experience with their patient's transition to the next care setting.

The Emory University Institutional Review Board approved the proposal to implement and evaluate this educational intervention.

Qualitative Analysis

We analyzed textual data from 300 internet blogs posted by all 140 students who participated using thematic analysis [17] and line-by-line text coding. Internet blogs ranged from 5 to 25 lines of text, with an average of 10. These blogs were posted on the discussion board of the module within the Blackboard platform software of Emory University. Two authors (U.O and M.E) created the module on Blackboard including sample blogs which the students and course instructors had access to. The blogs were posted weekly while completing the required assignments for the module as earlier described. Two authors (U.O and J.M.F) independently coded each blog post. Emergent themes were compared and all disagreements were reviewed by the research team until consensus was reached. Themes were then organized and refined based on common experiences and perceptions identified across students, resulting in three major themes and eight subthemes (Table 1).

Results

Of the 140 students who participated in the curriculum, 64 students identified three potential areas of lapses during the transition of their patients from the inpatient to the

Table 1 Student-identified areas of lapses during transitions of care

Category	Subthemes	Identified issues
System-related issues	Fragmented care	• Lack of communication and continuity of care between discharging teams and primary care physicians • Difficulty in obtaining follow-up appointments
	Administrative barriers	• Administrative barriers related to paperwork and procedural requirements with patient difficulty navigating the system without assistance • Difficulty obtaining medications
Provider-related issues	Medication discrepancy	• Medication errors • Inadequate/inappropriate treatment
	Inadequacies in patient education	• Confusion about medications • Medication compliance issues
	Provider-patient communication	• Patient not informed of their diagnoses • No care plan formulated for patient's new diagnosis
Patient-related care transitions issues	Lack of patient adherence	• Missed clinic appointments • Poor medication compliance • Frequent hospitalizations and emergency room use
	Lack of caregiver support	• Difficulty with medication management • Difficult living situation • Difficulty keeping appointments
	Various social problems related to poverty	• Inability to afford medications with poor medication compliance. • Transportation difficulties with missed • Unstable housing • Poor provider patient communication post discharge because of no contact phone number

outpatient setting that are consistent with the literature: (1) system-related issues, (2) provider-related issues, (3) patient-related issues. The eight subthemes that fall under each of these three key areas are described in Table 1. One student who completed the curriculum expressed the viewpoint of many:

> I think it's amazing how many of the above call reports have some element of 'I'm glad I called because the patient would not have known what to do with (medications, inability to schedule appointments, etc.)' It definitely underscores that we should be doing this with all our patients to prevent bounce-backs and bad outcomes. I think it's especially important in a [indigent-care] population that is generally disenfranchised and in a system that is as hard to navigate as the [indigent care] health system is. Also, many of our patients don't have PCPs (Primary Care Physicians) when they enter the system, and so there is a lag time between discharge and first PCP appointment when the only contact they have with the medical system is their hospital providers. It's helpful to see everyone's [blogs] all together because it makes you realize that it's not just incidental that most of our patients have outstanding needs within a week after discharge.

System-Related Care Transitions Issues

Students identified challenges, particularly at the system level, that sometimes limit their ability to intervene.

Interrelated system-related transitions factors that had the potential to result in unsafe transitions were subsumed under two subcategories: *fragmented care and administrative barriers*.

Fragmented Care

More than one student expressed frustration over inability to effectively schedule post-discharge follow-up:

> It was a disheartening conversation, as I realized that her prednisone for her gout had run out and that she was starting to have symptoms of CHF (congestive heart failure) again. Her SOB was also slightly below baseline, although still much better than it was during her hospital stay. My answer to both [problems] was, 'You need to go to your PCP, and soon'. She goes to a private PCP in [her community] and her next appointment was not until June [8 weeks post-discharge] because that was the earliest we could get for her. Also I did not feel comfortable asking my resident to write a prescription for prednisone or allopurinol over the phone for a patient who was already seeing another PCP. In terms of her CHF symptoms this may be her new baseline, but one would need to see her to make that decision.

Another student reflected:

> My biggest concern for this patient is that we have been unable to get in contact with the clinic to schedule her for a follow-up appointment regarding her gastroparesis. Given that her nausea and vomiting improved with medications, I think this needs to be consistently managed otherwise she will end up in the hospital again with the same problems.

Administrative Barriers

Some students encountered administrative barriers related to paperwork and procedural requirements among some of their patients. One student described the situation of one of her patients:

> I reminded [the patient] about [his] appointment, but he said he was worried about the co-pay. He said he did not have his hospital card (co-pay is based on sliding fee scale based on income), and I realized this issue had been overlooked since we had not made any major adjustments to his medications during his stay. I explained that he could come and apply for a card, but he would first have to obtain proof of income and that process could take several days. If we had thought of it sooner, we may have been able to help get the process started while he was admitted . . . . I find this is a big issue not just for our geriatric patients but the [indigent hospital] population as a whole.

Provider-Related Care Transitions Issues

Identified subthemes in this category include *medication discrepancy*, *inadequacies in patient education*, and *provider-patient communication*.

Medication Discrepancy

One student expressed relief that she was able to intervene and address a potentially serious medication error:

> My patient is a 39year old female with productive cough whose admission X-ray showed cavitary pulmonary nodules. She was discharged home on clindamycin 450mg PO q6h. When I called her two days after discharge, she said that she was glad I had called because

she had been having a problem taking her medicine. She had received 300mg capsules and had been told to take 1.5 capsules at a time, but she was having trouble splitting them in half. Therefore, she was only taking 300mg PO q6h. I called in the correct prescription to her pharmacy. The situation was scary because she had been receiving inadequate treatment and may have continued to if not for the call.

Patient Education

Another student discovered that lack of patient education contributed to an unsuccessful care transition.

A 52year-old female admitted for hypercalcemia. I called her 2 days post- discharge. She could not remember what she had been told about her new medications. We had gone over the new medications verbally and had given written information at discharge but the written materials did not contain enough detail to answer her questions. I was also concerned about her taking her medications properly since she referred to them as the "pink pills" and the "white pills" and asked if she was correct in taking the pink pill twice a day and the white once a day. This problem emphasizes the fact that our discharge papers and education given before she left the hospital were not sufficient.

Another student describes her first-hand experience, thus:

I think [the patient's] hospital stay could have gone smoother if more communication had existed about his medications. I found that he was more willing to take his medications after I explained the reason for each of them.

Provider-Patient Communication

This student, like several others, encountered problems related to poor provider-patient communication. The example included here also has serious ethical implications.

It is terrible for this patient that she was not informed earlier of her HIV status, and while I don't know how this happened, obviously the communication with the patient and follow-up during and after her last admission was inadequate. Someone needed to check the test and let her know, or get her a follow up outpatient provider (if she did not have one) to do so.

Patient-Related Care Transitions Issues

Interrelated patient-related care transitions issues included *lack of patient adherence*, *lack of caregiver support*, *and various social problems related to poverty*, *such as unstable housing and lack of transportation.*

Lack of Patient Adherence

Students voiced a range of perspectives regarding compliance issues: One expressed:

The problems I see for her will be [my patient's] compliance and follow-up. Unfortunately, (as is the case with a lot of my geriatric patients) people begin to focus less on preventive care and proper primary care follow-up. This shifts the responsibility to the hospitalists and ER doctors, who have to take care of problems that could have been prevented. Also, with a lot of my elderly patients, they think change is too hard too late.

In contrast, a fellow classmate stated:

Through my clinical experiences, I have found that the most significant problems with compliance come with the conflict with a patient's established routine.... The only way I have found to overcome this is through making [medication] administration times coincide with the person's routine.

Similarly, another classmate described a strategy she used to promote compliance:

I do worry about this patient following up with his cardiology appointment. He has a history of leaving the state for periods of time because of family obligations, and may have suboptimal management if this happens in the near future. I think one thing I can do to ensure continuity of care is call and check in on him again prior to his next appointment.

Lack of Caregiver Support

Lack of caregiver support was a common problem and also adversely affected patient compliance.

One student described a typical scenario:

My greatest concern for this patient is that his current living situation with help from his fiancé will not last long term. His dementia and resultant personality change, has caused significant issues in their relationship. It has been a rocky situation over

> the past several months and his fiancé initially did not want to take him after discharge. We do not believe Mr. W (the patient) is capable of managing his medications without help and other family members are not willing to take him in.

Social Problems Related to Poverty

Various social problems related to poverty also placed patients at risk of non-compliance and unsuccessful care transitions. One student describes how a combination of factors, including inadequate caregiver support, may put patients at risk:

> I called the patient's home one week after discharge to follow up on him using the safe discharge checklist. I spoke with Mr. DC and his fiancée who provides him with financial support as he is unable to work due to limited mobility. During our discussion, the biggest issue seemed to be with their ability to afford the medications we prescribed. Mr. DC does not currently have a Hospital Card because his identification card has expired, and he has not yet found transportation to the Georgia DMV in order to obtain another one. His fiancée works on all the days that the DMV is open, and Mr. DC has severely limited mobility due to his heart failure and knee osteoarthritis, such that he feels unable to take [public transportation]. Without a Hospital Card, Mr. DC's fiancée paid more than $200 for two weeks' worth of his medications. This type of expense is not sustainable for the couple.

Another student describes problems related to homelessness:

> I tried calling Mr. F over a week after he had been discharged from the hospital, but his phone had been disconnected. By this time, he had already missed his appointment with the Asthma and Allergy Clinic. Mr. F was homeless at the time of his hospitalization, and was able to care for himself without any assistance at baseline. He understood how and when to take his medications, but his medication bag was stolen at the shelter, and this was the major factor that contributed to his asthma exacerbation to begin with. He was discharged with 30-day supply of his medications. Overall, his social issues with his homelessness and poor follow-up are his greatest risk factors for failure on his discharge.

Findings therefore reflected development of empathetic insight among students, as well as increased ability to identify post-discharge needs.

Discussion

Consistent with the aims of the ECTC, findings presented reflect development of empathetic insight among students, as well as increased ability to address post-discharge needs and thus improve care transitions in at-risk patients. Excerpts of students' posts along with comments during the group session also appeared to show a positive impact of the curriculum on their attitudes towards implementing best practices in patient care, with recommendations of interventions to improve care transitions practices. This finding adds to that of other care transitions curricula which have shown improvement in the perception and attitudes of students towards care transitions [9–12].

The effect of this curriculum on students' understanding of care transitions was enhanced by the experiential approach of following the patient through the inpatient stay with discharge planning, along with follow-up during the post-discharge period. The act of reflection by narrative blogging also enhanced the experience as it offered participants an opportunity of not only reflecting on one's patient's experiences but also, in addition, peer patient experiences, thereby providing a broad exposure to a wide spectrum of patient experiences during the process of transition. Peer interaction afforded by the blogging also provided the opportunity of reviewing peers' reflections on patient experiences along with their perceptions of care transitions issues.

Narrative blogging has not been used by previously described care transitions curricula. Lai et al. incorporated a self-reflection piece on the effect of the curriculum on participating students; however, this reflection piece was written to the patient's primary care physician [11]. Narrative writing across the health sciences is increasing and has been used by educators to assess student attitudes and responses to clinical experiences [18–20]. Student narratives have also been used to foster student self-reflection [21–26]. Blogs, which are personal online journals that serve to capture thoughts and comments, are an increasingly accepted instructional technology tool. Blogs can be used for reflection and offer students and faculty an opportunity for interaction with peers, with peer-to-peer knowledge sharing and acquisition. Students often learn as much from each other as from instructors or textbooks in the forum provided by blogging. Incorporation of this instructional modality into the educational experience of the student is therefore a helpful method that fosters self-reflection on clinical experiences while enhancing learning through peer-to-peer knowledge sharing.

The experiential components incorporated into this curriculum along with group interactive sessions following patient exposure offered an additional advantage to share and discuss patient experiences and their perceptions of these issues. In addition, during the final session, students often made recommendations on provider-, system-, and patient-related

interventions that could be implemented to improve the care transitions process. The curricula described by Lai and Bray-Hall also incorporated an experiential component along with small group sessions that afforded the opportunity for students to share their experiences [10, 11].

Strengths of our curricular approach include the multimodal approach which uses a variety of methods that can enhance learning among students with different learning styles. The strong peer interactive component which was both web based and face-to-face was also a major strength, allowing for a wider exposure to care transitions issues, perceptions, and best practice recommendations. Additionally, the time of implementation of the curriculum was also an added strength as the learners who were graduating medical students were completing an inpatient rotation during which they had experiential exposure to the patient and their hospital course, understood what their discharge needs were, and also followed the patient through the transition period fraught with potential risks.

As for limitations of this curricular approach, the online discussion was described by some students as being different from the purely experiential and hands-on approach of the sub-internship clinical rotation in which students were participating, along with the care transitions curriculum, and reminded them of a coexistent classroom experience. Part of the perceived difficulty may have resulted from the fact that there are no other courses in the Emory medical curriculum that utilize discussion boards or distance learning methods as teaching tools. On the other hand, the curriculum was designed to provide a learning forum for graduating medical students to acquire concrete skills in care transitions while minimizing the time they had to spend away from a busy internal medicine sub-internship.

Conclusion

This curriculum, which employed a multimodal approach that combined didactic, experiential, and web-based training along with both in-person and web-based active group interaction, appeared to improve students' perception of issues contributing to poor patient transitions across care settings. This study contributes to the small, but growing, literature on care transitions education. Using a nontraditional delivery approach, it reached its objectives and appeared to be effective in increasing awareness of care transitions-related issues, while also limiting the demands on faculty and students' face time during busy clinical rotations. With the increasing national emphasis on safety in patient transitions, medical schools will likely be required to offer courses that teach students skills to execute better care transitions. As shown in this study, curricular methods that provide direct patient exposure along with reflection in the process of transition will be helpful in promoting empathy and positive attitudes towards best practices in care transitions.

Compliance with Ethical Standards

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