RESEARCH ARTICLE

TRACER: an 'eye-opener' to the patient experience across the transition of care in an internal medicine resident program

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Background: A safe patient transition requires a complex set of physician skills within the interprofessional practice.

Objective: To evaluate a rotation which applies self-reflection and workplace learning in a TRAnsition of CarE Rotation (TRACER) for internal medicine (IM) residents. TRACER is a 2-week required IM resident rotation where trainees join a ward team as a quality officer and follow patients into postacute care.

Methods: In 2010, residents participated in semistructured, one-on-one interviews as part of ongoing program evaluation. They were asked what they had learned on TRACER, the year prior, and how they used those skills in their practice. Using transcripts, the authors reviewed and coded each transcript to develop themes.

Results: Five themes emerged from a qualitative, grounded theory analysis: seeing things from the other side, the 'ah ha' moment of fragmented care, team collaboration including understanding nursing scope of practice in different settings, patient understanding, and passing the learning on. TRACER gives residents a moment to breathe and open their eyes to the interprofessional practice setting and the patient's experience of care in transition.

Conclusions: Residents learn about transitions of care through self-reflection. This learning is sustained over time and is valued enough to teach to their junior colleagues.

Keywords: *transition of care*; *interprofessional practice*; *education*; *reflection*; *grounded theory*; *professional identity*

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The importance of the transition between hospital and postacute care (PAC) is a newly recognized area of health care complexity and an area ripe for graduate medical education innovation. Studies have consistently shown that patients and their caregivers are unprepared for this transition (1–4). Coordination of care programs have been shown to improve patient satisfaction and readmissions (5–7). Success in the transitions of care for interprofessional practice requires a focus on process, information gathering and communication, and on outcomes (8, 9).

More has been learned in the last few years about how to prepare physicians for these complex skills. In a survey of medicine program directors, in 2009, only 16% had formal discharge summary curriculum (10). Recent innovative curriculum for transition of care include a structured workshop (11), web-based curriculum (12),

strategies to improve discharge summaries (13, 14), and an experiential rotation (15).

In 2006, a moderate sized internal medicine (IM) academic training program initiated a TRAnsition of CarE Rotation (TRACER), utilizing self-reflection (16). TRACER residents in their postgraduate second year (PGY2) follow the patient from hospital to home. We report the primary learning points of the PGY3 looking back at their PGY2, TRACER experience.

Methods

Program

TRACER is a 2-week PGY2 block where the resident rounds with the inpatient teaching ward team as the quality officer and follows two to four patients after hospital discharge. The resident occasionally follows non-teaching

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patients, based on availability. The TRACER meets the patient on rounds and later returns to discuss the patient's experience and readiness for discharge. At the time of discharge, the resident observes the role of the nurse and case manager at discharge. The resident then meets the patient and nurse within the hour of arrival at the facility or the following day in the home. Using standardized tools, the resident assesses the transition and reflects on process (Appendices A and B) (17, 18). Current gaps in resident knowledge are targeted including medication reconciliation, handover of hospital course, and anticipatory advice.

The TRACER reports their findings to the inpatient team and the PAC-Performance Improvement (PI) team. Reporting back to the team has improved the awareness for those not on the rotation, including attendings. Reports to the PAC-PI team have led to changes including condensing the discharge report; clarifying medications started, stopped, and changed during admission; and improving access to discharge documents for all visiting nurses. The TRACER rotation requires a physician rotation director who orients the resident, leads the PAC-PI team in weekly interprofessional meetings, and assesses the performance of the TRACER resident.

Program evaluation
We use semistructured interviews at the end of each year to assess our Baystate Learner-Manager-Teacher program redesign. In spring 2010, PGY3s, who had completed TRACER the previous year, were asked to comment about what they had learned being a TRACER. The same individual (RK) conducted all of the audiotaped, transcribed interviews. End of training Teachers/PGY3s were asked the following questions about TRACER: 'When you were a Manager/PGY2, what did you learn about being a TRACER resident?' And 'Did you do anything different in your third year as the result of TRACER?' These interviews explore the resident experience of TRACER 1 year after completing the rotation. The intent is to learn about the TRACER program's sustained effect on learning and practice.

Participants
Sixteen IM residents completed training in 2010: nine male and seven female; seven US medical graduates and nine international medical graduates. Fourteen residents completed the required TRACER rotation. Two trainees had unanticipated schedule changes.

Analysis
Using transcripts, the authors, all of whom are also coordinators of the rotation, reviewed and coded each, using a grounded theory approach to develop themes. The authors performed initial coding and several rounds of transcript review and recoding for the following report.

Results
Five themes emerged from review and coding of 14 interviews: seeing things from the other side, the 'ah ha' moment of fragmented care, team collaboration, patient understanding, and passing the learning on. Overall, TRACER residents describe the transition of care from the patient perspective rather than the traditional physician perspective (Table 1).

Seeing things from the other side
Residents become aware of how the transition looks from the other side, both the facility and the home. For a facility transfer, the TRACER resident appreciates that the nurse has poor access to the hospital team and is gathering information from the written documents only. TRACER residents identify with this admission process; they see the similarity to the hospital admission process. They learn that the medication list on transfer is used immediately to call in admission orders to the on-call physician and, thus, needs to be accurate. They realize the importance of the discharge summary to the receiving team as opposed to its equal relevance to the hospital team for future care. Residents experience directly the impact of the transition on 'the other side' (the accepting nurse side) of a facility transfer.

The TRACER resident comes to have a new appreciation for the transition to home. The residents learn that patients have little understanding of the basic elements of the hospitalization such as the primary hospital diagnosis, the changes in medications, and the follow-up plan. Patients are also unprepared for the recovery period challenges as they are still recovering from illness; how and when to get their new medications, tracking medication changes, and mobility issues. Residents have new awareness of the challenges in the transition to home as they see the experience from 'the other side' (the patient's side) of the handoff.

The 'ah ha' moment of fragmented care
Residents describe an epiphany, the moment when they realize that the transition is fragmented for patients and their families. TRACER allows the resident to slow down and become an observer of the process of care and reflect. They identify patient education, handoff communication (written and verbal), and team collaboration as keys to a successful discharge. They have time to identify changes for their own future practice. Improving communication both written and verbal, for both patients and the health care team, is a hallmark lesson learned in this 'ah ha' moment. The TRACER learns through such self-reflection moments (Table 1).

Team collaboration
Residents learn the importance of team collaboration. They come to see the unique roles and responsibilities of the hospital nurse at discharge, the nurse in the accepting

Table 1. Five themes of the TRAnsition of CarE Rotation (TRACER)

Themes	Quotes
Overall	*(TRACER) gets into the framework of your thought process, it's just built in there because you see it as a multi-sensory kind of experience … you just know that there are things that you should make sure of before you send patients home.*
	It makes you see what life is in the real world when you're transferring (a patient), because we don't always see the patients (after they transfer).
Seeing things from the other side	*Trying to read the discharge note (in PAC). It was disorganized. It didn't state anything. It didn't even say the physical condition of the patient after they left the hospital, you know, right before they left the hospital. It was pretty rough and then I imagined myself trying to receive that (patient).*
	… most of the patients you discharge don't know what happened in the hospital or the changes of medications. Sometimes we think that just because things are in the discharge summary that the patient will know what to do.
The 'ah ha' moment of fragmented care	*When you go there and see the receiver end it's like 'wow' … I just learned a lot. I have to work on … the discharge summary, communication with the rehab or nursing staff. I think that (the rotation) encouraged me more to do that.*
	So that was an eye-opener … it was focused time when I was able to see these transitions and I reflected a lot of my performance when I was seeing some of the mistakes that were happening and miscommunication type of mistakes most of the time.
	I have my interns calling the nursing homes if we have a patient coming from the nursing home, to call the nursing home to figure out exactly why the patient is coming back to the hospital … I think it gives clues why the patient bounced back.
Team collaboration	*It helped me get insight into who follows things up when you say something on a discharge summary.*
	… to go to different settings; to the patient's house with the VNA or a nursing home to see how (the) accepting care (team) interpret our discharge summaries. I think that was probably the single most important thing.
	… I realized how I can communicate with caregivers in certain situations so I can make the transition less rough or less turbulent because they are turbulent very turbulent moves but we don't think about them that way.
Patient understanding	*… we need to cut on the medical terminology and all those fancy words that we use to describe to patients what they have and what they need to have and in their language. In their native language and in a vocabulary that they understand.*
Passing the learning on	*Something to emphasize now that I'm a senior with my interns is every time at the bedside, 'let's go over the plan' … Before the patient is discharged to make them aware … That's one of the things I do, try to make sure the patient understands what happened and what the changes were.*

facility, and the nurse in the home. The hospital nurse is responsible for educating the patient on the primary discharge diagnosis and medication changes as well as preparing the patient for the next level of care. The facility nurse relays orders to the accepting physician and assesses the patients' appropriateness for this level of care. And finally, the home nurse possesses skills for advocacy, education, and coordination of care. Overall, the TRACER resident learns the various scopes of practice of the nurse in different settings and describes being more prepared to collaborate in the future. Residents also realize that different PAC settings (home vs. facility) require different transition strategies. For the transition to home, a patient is required to manage independently, including their activities of daily living, medication, and follow-up plans. Patients transferring to a facility have these needs taken care of for them. Thus, the home discharge is a handoff to the patient with a home nurse as an advocate, whereas the facility transfer is a handoff to the health care team with patient involvement. This difference is subtle but TRACER residents begin to discriminate between them. The TRACER residents gain a deeper understanding of their role in collaborating around discharge as they have more knowledge of the nursing scope of practice and different needs of the patient in the two settings (Table 1).

Patient understanding

Residents identify the importance of using patient appropriate language and checking for understanding. The patients do not understand basic elements of the bedside conversation, for example, their diagnosis, medication changes, and what to expect. The residents see three

parts to the problem: too much medical terminology, the hospital physician not appropriately checking or understanding or using teach-back, and an overwhelmed, sick patient. Trainees see that communicating at the level of the patient and checking for understanding are key elements of the transition (Table 1).

Passing the learning on

The PGY3 carry the lessons learned from TRACER into their physician practice as PGY3 teachers on the wards. The PGY1/medical students bring out the importance of the TRACER learning experience as the PGY3 reinforces the value of a good transition of care. As teachers, they internalize the value of the TRACER experience and see the importance of teaching this knowledge to their colleagues (Table 1).

Discussion

TRACER residents are transformed by workplace learning as they can take a step back to observe and reflect on the transition. Physician workplace learning is traditionally embedded only in the clinical wards or the ambulatory setting (19). This, however, omits learning about handoffs, performance improvement, and PAC teams. The TRACER resident follows the patient experience through the continuum of care with systems improvement as the focus of workplace learning. Active learning on TRACER occurs in self-reflection. For example, the TRACER resident may describe an error in medication reconciliation and report emphatically, 'Medication reconciliation needs to be 100% accurate. One small error can lead to significant harm.' Through the short reflections from each visit and the long reflective essay added to the curriculum in 2012, we are able to triangulate the data. Although the message of accurate medication reconciliation is taught in other venues including orientation, didactics, chart stimulated recall, and direct observation; it is the TRACER experience that seems to have the greatest impact on transition of care learning. Self-reflection leads to transformational learning.

TRACER residents have the time and intellectual space to step back and reflect in the workplace, focusing on competencies in Systems Based Practice (SBP), Practice Based Learning (PBLI), Professionalism (PROF), and Interpersonal and Communication Skills (ICS), specifically subcompetencies SBP 1–4, PBLI 1 and 2, PROF 1 and 3, and ICS1–3. Although we have considered moving TRACER into the PGY1 curriculum, the PGY1 learner puts greater value into learning competencies in medical knowledge and patient care. However, our program has made several curriculum changes as a result of TRACER. We have added case-based learning to our didactics and we have implemented a PGY1 transition of care curriculum for orientation, direct observation, and chart stimulated

recall. For TRACER, residents focus on competencies not easily assessed in traditional rotations.

The TRACER rotation focuses on physician-only training. Our next steps are to explore the TRACER model for other professions and for interprofessional education (IPE). The Care Transitions Education Project, a Robert Wood Johnson funded demonstration project of the Massachusetts Senior Care Foundation, has applied the TRACER curriculum to nursing students and found similar themes (20). How do we train physician, nurse, and pharmacist together for the transition? We have not yet explored the opportunities for applying the TRACER curriculum for IPE. Other next steps for investigation include assessing the clinical outcomes of a TRACER experience during and after the rotation.

Conclusions

Residents describe the TRACER experience as an epiphany, an 'ah ha' moment, with a sustained effect 1 year after they have completed the rotation. They identify with the patient's experience and the health care team in the continuum of care. Accurate written and verbal communication is a hallmark lesson learned in this 'ah ha' moment of acknowledging the ramifications of fragmented care. They note the importance of open bidirectional communication with the health care team and the importance of owning the handover to insure patient safety. They see the physician accountability in potentially preventable readmissions. They are able to differentiate the needs of the patient who can go home versus those who require skilled nursing. TRACER, in the middle of the training years, gives residents a moment to breathe and open their eyes to the patient's experience of care in transition and develop physician competencies not easily assessed in traditional rotation.

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Appendix A. TRACER home visit assessment and self-reflection checklist

Home assessment*
1. Diagnosis: Patient was able to describe all or most of the final diagnosis in lay terms or medical language.
2. Tests: Patient was able to describe key tests and results in lay terms or medical language.
3. Treatments: Patient was able to describe key treatments in lay terms or medical language.
4. Follow-up appointments: Patient knew about all follow-up appointments.
5. Follow-up tests: Patient knew about all follow-up tests.
6. Lifestyle changes: Patient knew about lifestyle changes that were recommended.
7. Medications: Patient had an accurate list of all medications from discharge.
8. Medications: Patient was able to accurately articulate the content of this medication.
9. List Medications: The medication list upon discharge was not accurate and needed reconciliation after discharge.

Home reflection
1. Did you have to solve any postdischarge problems for the patient?
2. If yes, please describe what specific problems you had to solve (i.e. issues regarding medication, follow-up appointments, clarification of discharge instructions).
3. Self-Reflection: What, if anything, will you do differently the next time you discharge a patient? (Please write 6–8 sentences for self-reflection.)

Modified from Discharge Knowledge and Assessment Tool (17).

Appendix B. TRACER skilled nursing facility visit assessment and self-reflection checklist

Skilled nursing facility assessment^
1. Did anyone (RN or MD) call you to discuss the hospital stay and plan?
2. Did you need to call the hospital for clarification after patient discharge?
3. If so, with whom did you speak?
4. Was the code status clear and accurate?
5. Was the reason for hospitalization clear and accurate?
6. Was the cause for chief complaint clear and accurate?
7. Was there precipitory advice given if condition changes (i.e. if CHF and gains 2 lbs, then increase lasix dose)?
8. Were the problems and diagnoses clear and accurate?
9. Were the significant lab, study or diagnostic results clear and accurate?
10. Was the medication list clear and accurate?
11. Was the plan for tapering and/or titrating medications clear and accurate?
12. Was the plan for non-medication therapies, such as wound care, clear and accurate?
13. Were the lifestyle modifications (i.e. smoking cessation) clear and accurate?
14. Was the patient education clear and accurate?
15. Were the pending medical issues, lab results and studies clear and accurate?
16. Were the new lab or studies to be ordered clear and accurate?
17. Was the patient's level of function clear and accurate?
18. Was the patient's diet tolerance and/or instruction for special feeding clear and accurate?

Skilled nursing facility reflection
1. Did you have to solve any postdischarge problems for the patient?
2. If yes, please list the specific problems and what you did to solve them (i.e. issues regarding medication, follow-up appointments, clarification of discharge instructions).
3. Self-Reflection: What, if anything, will you do differently the next time you discharge a patient? (Please write 6–8 sentences for self-reflection.)

Modified from Society of Hospital Medicine Transition of Care Checklist (18).