



# “Learning by Doing”—Resident Perspectives on Developing Competency in High-Quality Discharge Care

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**BACKGROUND:** Reducing readmissions and post-discharge adverse events by improving the quality of discharge care has become a national priority, yet we have limited understanding about how physicians learn to provide high-quality discharge care.

**METHODS:** We conducted in-depth, in-person interviews with housestaff physicians with qualitative analysis by a multi-disciplinary team using the constant comparative method to explore learning about high-quality discharge care as a systems-based practice and to identify opportunities to improve training around these concepts.

**RESULTS:** We analyzed interview transcripts from 29 internal medicine residents: 17 (59 %) were interns (PGY-2 or PGY-3), 12 (41 %) seniors, and 17 (59 %) were female. We identified a recurrent theme of lack of formal training about the discharge process, substantial peer-to-peer instruction, and “learning by doing” on the wards. Within this theme, we identified five specific concepts related to systems-based practice and high-quality discharge care which residents learned during residency: (1) teamwork and the interdisciplinary nature of discharge planning; (2) advanced planning strategies to anticipate challenges in the discharge process; (3) patient safety and the concept of a “safe discharge;” (4) patient continuity of care and learning from post-discharge outcomes and; (5) documentation of discharge plans as a valuable skill.

**CONCLUSIONS:** Discharge care is an overlooked opportunity to teach concepts of systems-based practice explicitly as learning about discharge care is unstructured and individual experiences may vary considerably. Educational interventions to standardize learning about discharge care may improve the development of systems-based practice during residency and help improve the overall quality of discharge care at teaching hospitals.

**KEY WORDS:** discharge care; quality of care; core competencies; residency education.

J Gen Intern Med 27(9):1188–94

DOI: 10.1007/s11606-012-2094-5

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## BACKGROUND

Transitions in care from inpatient to outpatient settings are often complicated by adverse events,<sup>1,2</sup> and unplanned hospital readmissions.<sup>3</sup> Improving the quality of discharge care as a key component of these transitions has thus become the focus of national patient safety policies,<sup>4</sup> practice initiatives,<sup>5,6</sup> and hospital-based interventions.<sup>7,8</sup> Many of these interventions focus on changing physician behavior to provide high-quality discharge care; however, there is limited data about how physicians establish practice patterns for discharge care in the first place as part of a broader set of systems-based practices.

The Accrediting Council for Graduate Medical Education (ACGME) includes systems-based practice (SBP) as one of the core competencies<sup>9</sup> for physicians to attain during residency training, but teaching and measuring specific skills to meet this competency is challenging for medical educators.<sup>10</sup> Recent duty hour regulations<sup>11,12</sup> have also heightened these challenges and drawn increased attention to transitions of care at teaching hospitals.<sup>13</sup> Although studies of inpatient transitions, such as emergency department-to-floor<sup>14</sup> or dayshift-to-nightshift handoff practices for inpatient units,<sup>15,16</sup> have already informed curricular changes at residency programs,<sup>17</sup> we have very limited data about resident practices at the point of discharge. Recently, we described quality-limiting factors in discharge care at teaching hospitals; however, information is still lacking about how residents learn to provide high-quality discharge care.<sup>18</sup> These data are needed to guide changes in discharge-focused elements of residency curricula.

Therefore, we analyzed qualitative data obtained from in-depth interviews with residents to understand their experiences of learning about discharge care as they progressed

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**Electronic supplementary material** The online version of this article (doi:10.1007/s11606-012-2094-5) contains supplementary material, which is available to authorized users.

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Received December 16, 2011

Revised April 6, 2012

Accepted April 13, 2012

Published online May 8, 2012

through residency. We focused our inquiry on this topic to explore variations in residents’ perspectives regarding the discharge process and how these perspectives changed as they progressed from interns to seniors. These perspectives can inform educational interventions to standardize learning about discharge care and improve the development of systems-based practice during residency.

**METHODS**

**Study Design and Sample**

We conducted a qualitative study of internal medicine residents at two large residency programs (each with more than 100 residents) and a combined total of seven different hospital settings to ensure breadth of experience and perspectives. We selected a qualitative approach because learning is a complex social process, the nuances of which are difficult to capture with quantitative data. Our conceptual approach to specific components of the discharge process was guided by a recent consensus statement by six specialty societies on standards for transitions in care.<sup>19</sup> Our conceptual approach to learning about discharge care as a systems-based practice (SBP) was guided by the ACGME definition of competency in SBP: the ability of physicians to “coordinate patient care within the health care system” by working as part of “inter-professional teams to enhance patient safety and improve patient care quality.”<sup>8</sup> Although formal training on discharge care was not included as part of SBP at either residency, both sites have specific training on “handoffs” through noon conference lectures, and a formal sign-out tool is used at one site to guide these handoffs.<sup>17</sup>

To ensure adequate representation by post-graduate year, gender, and experience in diverse training settings, we invited participation from residents at both sites who had completed an inpatient ward rotation at any site in their program within the preceding 6 months. Invitations were sent by program directors via email to all trainees in both programs and we received replies from 31 residents total. Two residents agreed to participate but were unable to meet at the appointed time due to clinical obligations. We conducted interviews using a discussion guide (see online Appendix) that explores experiences and perspectives towards quality and safety in the discharge process and was informed by recent qualitative studies of residents’ perspectives on other quality and safety practices.<sup>13,14,20</sup> Interviews were conducted in June 2010 and January 2011 to sample resident perspectives at two different points in time. Participants were entered into a lottery for one of three \$100 gift cards at each site as an incentive to participate. All participants gave informed consent and all research procedures were approved by the Institutional Review Boards of record for both residency programs.

**Data Collection**

We conducted interviews with interns (PGY-1) and with senior residents (PGY-2 and PGY-3) until we reached theoretical saturation<sup>21,22</sup> for both groups. We employed standard techniques of qualitative analysis including a focused scope of inquiry and regular team meetings to assess the adequacy and comprehensiveness of all analytic results.<sup>23</sup> All interviews were digitally recorded and transcribed by a professional transcription service and all transcripts were reviewed for accuracy. A brief demographic survey was administered after each interview (Table 1).

**Data Analysis**

We employed the constant comparative method of qualitative data analysis.<sup>24,25</sup> We developed a code structure iteratively to identify conceptual segments of the data and revised this structure throughout the analytic process to modify the scope and content of codes as needed.<sup>26</sup> The final code structure contained 22 codes, from which a single recurrent theme on “learning by doing” emerged. We further analyzed representative quotes from this theme to explore concepts specifically related to SBP. To enable comparisons by level of participant experience, we then stratified the data by post-graduate year (PGY-1 vs. PGY-2 and 3 combined) and selected specific quotations for presentation that best exemplified each strata.

Data analyses were performed by the entire research team: SRG, DS coded all of the transcripts and other team members (LIH, LC, and EHB) double and triple coded portions of the data. Disagreements in coding were resolved through negotiated consensus. To enhance the reliability of our findings, we also created an audit trail<sup>27</sup> and refined our interpretation of concepts described here based on feedback from the population we studied.<sup>28</sup> We also shared summary findings with all participants via email and sought participant confirmation through in-person conversations and responses to findings via email. We used Atlas.ti version 5.2 to organize and retrieve data.

**Table 1. Participant Characteristics**

Characteristic	Total N=29
Age	Mean: 29.6 years Range: 26–34 years
Gender	
Female	19 (66 %)
Male	10 (34 %)
Residency Program	
A	12 (41 %)
B	17 (59 %)
Year in Training	
PGY-1	17 (59 %)
PGY-2	7 (24 %)
PGY-3	5 (17 %)

## RESULTS

A total of 29 internal medicine residents were interviewed (see Table 1). We identified a recurrent theme describing a lack of formal training about the discharge process and “learning by doing” on the wards. Within this theme, we identified five concepts in which residents learned SBP concepts to provide high-quality discharge care: (1) teamwork and the interdisciplinary nature of discharge planning; (2) advanced planning strategies to anticipate challenges in the discharge process; (3) patient safety and the concept of a “safe discharge;” (4) patient continuity of care and learning from post-discharge outcomes and; (5) discharge documentation as a valuable skill.

### Recurrent Theme: “Learning by Doing”

When asked explicitly how they learned to perform high-quality discharge care, both interns and residents indicated there was no formal training or structure for learning about the discharge process, only peer-to-peer instruction and “learning by doing” on the wards. Many residents were still able to recall their first discharge experience vividly and could describe it in detail.

“It’s a learning-by-doing process and I don’t feel I had formal instruction or formal training. A lot is learned by doing obviously your first discharge. My first discharge in the system, my residents stood next to me and said, “Click next, check this box...etc.” Then she had to run off to clinic. [Laughter] I remember that very vividly. If you encounter a problem, you ask the intern sitting next to you or another resident.”

#### Program B-PGY2

Beyond informal instruction from peers, residents also commented on the role of attendings in learning the discharge process, specifically with respect to discharge documentation:

“While attendings have instructed me how to write a progress note and things like that, I don’t think I ever had any formal teaching about discharge documentation.” **Program A-PGY3**

Cumulatively, residents indicated that although they felt the discharge process was important to provide high-quality care to patients, there was very little structured training to help them develop competency in this task. Overall comments by residents also demonstrated notable variation in specific SBP-related concepts of teamwork, anticipatory planning, patient safety, continuity of care, and documentation; however, a general progression of these attitudes by level of experience was also noted when comparing intern and senior comments.

### Concept 1: Teamwork and the Interdisciplinary Nature of Discharge Planning

Regarding teamwork, interns typically focused on communicating with other physicians (e.g. their resident or attending), while seniors more often recognized the interdisciplinary nature of discharge planning and engaged nurses, social workers, and case managers as part of the discharge team. Some interns described the discharge process, and communication with other team members as difficult to understand:

“I will admit, sometimes the discharge process is a little nebulous...like a black hole... I have my paperwork done, I’ll talk to the patient but...in the end, it is the nurse who physically discharges the patient from the hospital. I don’t actually know what the nurse does or what she gives the patient.”

#### Program A-PGY1

In contrast, senior residents often described how their perceptions of teamwork and the roles of other team members developed with experience. As these perceptions evolved, they increasingly embraced an interdisciplinary approach to providing high-quality discharge care.

“When I was an intern, I didn’t really have a great appreciation for how the system worked...I didn’t realize how important the nurses and care coordinators are to implementing all the things that you want to do. Certainly as I went through intern year, I realized the nurses are your allies. You’re working together to help [take care] of these patients and so it was really learning how to serve effectively with the different people and attain an understanding what the roles that different people play.” **Program B-PGY3**

In general, both interns and seniors described an interdisciplinary approach to teamwork in the discharge process as important to improving efficiency in discharge planning. On the other hand, they were often uncertain about which specific tasks were to be done individually or by others (for example, whose job it is to ensure patients understand their discharge plans). There was also notable variation in attitudes among both groups in relating teamwork to the anticipation of problems for the actual day of discharge.

### Concept 2: Advanced Planning Strategies to Anticipate Challenges in the Discharge

While all participants described challenges with the inherent uncertainty of discharge timing, seniors typically differed from interns in their use of advanced planning strategies to anticipate challenges. Interns often did not view discharge

planning as a priority for patients until their clinical course suggested discharge could occur imminently.

“I’ve had residents who start thinking about discharge as soon as the patient walks in the door, and I’m like, ‘well, that’s kind of intense since we’ve just gotten to know this person’...talking about a discharge plan in the beginning just seems kind of silly to me.” **Program B-PGY1**

Senior residents more commonly described strategies for anticipatory planning that emphasized attention to details of care such as appointment scheduling that could be done in advance and thus facilitate a successful discharge on the day that the patient is deemed ready to leave.

“...the best way to do it is to try to prepare the discharge stuff the day before...if you know which medications they need, to get those to the pharmacy in advance so that they can physically have the prescriptions ready to go the next day.” **Program A-PGY2**

Overall, seniors characterized their approach to anticipatory planning as essential to managing clinical uncertainty and ensuring patient safety at discharge. In some instances, seniors described planning for more complex decisions that began as soon as the patient was first evaluated for admission in the emergency room; however this approach was not universally described even among experienced residents.

### Concept 3: Patient Safety and the Concept of a “Safe Discharge”

Concerning patient safety, interns tended to take a more focused view of avoiding errors whereas seniors took a more comprehensive view of a ‘safe discharge’ to include patients’ home environment and social support system. Many interns focused on medication issues specifically:

“By ‘safe discharge’ I mean, I’m thinking about the medications in particular. That you’re not giving the patient medications that are going to interact with each other; or that if they are on a new medication that they are going to have proper follow-up.” **Program B-PGY1**

Senior residents tended to describe the concept of a ‘safe discharge’ in terms of the patient’s overall health and also recognized the need to be holistic and consider ways to provide additional support for recovery. One resident explained that they viewed post-discharge patient safety as the continuation of a “trajectory of healing:”

“For me, a safe discharge means ensuring the patient has everything they need to continue on a trajectory

of healing and not end up coming back into the hospital...that the patient knows all the medications they’re supposed to take...their follow up appointments...and then also whatever ancillary services need to be set up for the patient get done as well.”

### Program B-PGY3

While seniors usually described a broader awareness of discharge safety issues based on their experience, both interns and seniors noted that there was no formal mechanism to learn about outcomes of discharge care. Often, patient safety issues with discharge care were only realized if a patient was readmitted or if the resident saw the patient for follow up care in an outpatient setting.

### Concept 4: Patient Continuity of Care and Learning from Post-Discharge Outcomes

Once patients were discharged, both interns and seniors described some difficulty with continuity and learning post-discharge outcomes. Interns were particularly focused on events occurring within the hospital and often described follow up care as beyond the scope of their routine care:

“I think it would be nice to know what happens afterward—we put a lot of time into getting all this follow-up. You just never find out what happens unless they come back to your service.” **Program A-PGY1**

While seniors agreed that continuity was difficult to maintain with a large number of patients seen on any given inpatient rotation, they also developed their own methods to follow up with patients they felt were particularly at-risk for poor outcomes after discharge.

“Sometimes, if I’m really worried about a patient, especially these patients who really have no connection with the healthcare system and that first inpatient hospitalization is really their introduction to healthcare, I’ll give them a call, just to see how they’re feeling and if they made it to their outpatient appointment.” **Program B-PGY3**

Although seniors often demonstrated greater awareness of system issues that could affect post-discharge follow up care, they did not describe documentation or communication of these informal efforts with outpatient providers.

### Concept 5: Discharge Documentation as a Valuable Skill

Discharge documentation was often singled out by senior residents as a specific skill that was particularly challenging



to master and especially important for ensuring high-quality discharge care. Interns commonly described completion of discharge documentation tasks “just to get it done,” and explained that often the only available guidance was handed down from other residents.

“There’s just so much pointing and clicking that at some point you don’t even think and you just start clicking boxes just to get the document done.... We’re never really given a real education on what all that stuff actually means and the weight of your recommendations ...At the VA now, somebody made a handwritten sign saying what documents you need depending on where the patient is going. It’s all just kind of word of mouth.” **Program B-PGY1**

Seniors also noted that although the learning process was often trial by fire, their experiences in using discharge summaries in outpatient settings enabled them to see that their own discharge documentation practices could vary. They also came to appreciate the importance of a “good discharge summary” that was specific and facilitated transfer of care:

“It was kind of thrown into the fire kind of a thing... when you’re in clinic and you get a patient, even if you’re the one who discharged them, there are so many details you forget. So you appreciate your own good discharge summary and other people’s good discharge summaries that are very specific.” **Program A-PGY3**

Although interns and seniors alike felt they could differentiate between good and bad discharge documentation, neither group could describe what content should be standardized or how the approach to documentation could be taught. Good documentation, much like a good discharge, was thus described as a phenomenon akin to “you know it when you see it.”

## DISCUSSION

Residents in our study described a lack of formal training on how to perform high-quality discharge care. In the absence of a formal curriculum or other training on discharge care, residents described a process of “learning by doing” which relies on un-standardized, experiential learning and may leave many training gaps that inhibit high-quality practices. Comprehensive approaches to teaching discharge care as part of a more formal curriculum have been previously described, but these efforts have focused on medical students.<sup>29,30</sup> Although medical school may be an ideal time to introduce the topic of high-quality discharge

care, such training should be continued and further developed during residency.

We propose several concrete approaches to improve residency training in this area as a key component of systems-based practice. First, educational goals and activities should be developed as part of the formal curriculum in residency training. Traditionally, many programs have included limited guidance on discharge care in housestaff handbooks, but additional content could be delivered through venues such as intern report and noon conference. Some examples of core content for such a curriculum could be derived from evidence-based approaches to discharge care such as Project BOOST,<sup>6</sup> Project RED,<sup>7</sup> the Care Transitions Intervention,<sup>8</sup> and the Transitions of Care Consensus guidelines endorsed by internal medicine, emergency medicine, and geriatric medicine societies.<sup>19</sup> Beyond these traditional approaches, some programs have already introduced innovative approaches to teach specific discharge components such as documentation in discharge instructions and summaries.<sup>31,32</sup> Second, underlying concepts of teamwork, advanced planning, patient safety, and patient communication that are embedded in high-quality discharge care should be integrated into broader themes of training for competency in systems-based practice. These efforts, in turn, should be tied to specific outcomes such as adverse events or readmissions. Examples of innovative approaches to such integration include readmission case review for interns<sup>33</sup> and a readmission morning report.<sup>34</sup> Furthermore, if residents are oriented to core concepts and practices of high-quality transition care early in their training, they may take more active roles as adult learners and develop competency in these areas through more self-directed learning.<sup>35</sup> Third, formal education on specific concepts and skills should be coupled with innovative approaches to evaluation. Toward this end, several authors have described promising approaches to evaluating high-quality discharge practices through the use of standardized patients and observed-structured clinical encounters.<sup>36,37</sup>

Finally, these efforts must also be part of cultural changes in practice on the wards. A more consistent role for attending physicians in discharge care is needed, including positive role modeling, delivery of useful expectations, beside teaching, and summative feedback. Specifically, we suggest that attending physicians routinely observe residents performing discrete discharge tasks (such as patient communication) and provide direct feedback on their performance of these tasks as well as their global competency with discharge care.<sup>38</sup> Furthermore, the critically important roles played by other healthcare professionals such as nurses, social workers, and case managers are likely poorly understood and underappreciated by residents. Accordingly, we suggest that these professionals be more actively engaged in teaching to residents and providing focused feedback and evaluation on their performance in key areas such as communication with

the discharge team and with patients. Early and continued input from these professionals on the content and delivery of formal educational activities may also enhance the quality of robust residency curricula on providing high-quality discharge care.

Our results should be interpreted in light of several limitations. First, we focused our interviews to residents in internal medicine. While this enhances the specificity of our findings to medicine training programs, it does not permit us to generalize to other specialty training programs in graduate medical education. Second, we focused our interviews to residents at two large internal medicine training programs; experiences of residents in other training programs may differ from those in our study. Third, although our interview guide included specific probes about outcomes from discharge care, we do not have data to correlate their experiences with patient outcomes. Finally, we did not interview other healthcare providers such as nurses, social workers, or case managers about their experiences and perspectives with the discharge process. Future research should explore the experiences and perspectives of other discharge team members (e.g. nurses and social workers), describe curricular efforts to address the gaps in teaching high-quality discharge care identified here, and assess the relationships of these efforts with changes in patient outcomes.

In conclusion, residents in our study described a lack of formal curriculum or organized teaching about how to provide a high-quality discharge care, leaving residents to develop competency in this practice through a default process of “learning by doing.” While we noted progression of attitudes toward high-quality discharge care from interns to seniors, there was substantial overall variation in experiences and attitudes. Our study presents resident insights into current challenges of learning about discharge care and suggests opportunities to standardize learning about this process as part of developing competency in systems-based practice. Educational interventions to standardize learning about discharge care may improve the development of SBP during residency and help improve the overall quality of discharge care at teaching hospitals.

**Acknowledgements:** *The authors would like to thank the Robert Wood Johnson Foundation (RWJF) Clinical Scholars program and US Department of Veterans Affairs (VA) for funding support. Dr. Horwitz is supported by the National Institute on Aging (K08 AG038336) and by the American Federation for Aging Research through the Paul B. Beeson Career Development Award Program. Dr. Horwitz is also a Pepper Scholar with support from the Claude D. Pepper Older Americans Independence Center at Yale University School of Medicine (#P30AG021342 NIH/NIA).*

*No funding source had any role in the study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the article for publication. The content is solely the responsibility of the authors and does not necessarily represent the official views of RWJF, VA, the National Institute on Aging, the National Institutes of Health, or the American Federation for Aging Research.*

*Material from this manuscript was presented as a poster at the 2011 Annual Meeting of the Society for General Internal Medicine.*

**Conflict of Interest:** *The authors declare that they do not have a conflict of interest.*

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