

Original Publication

OPEN ACCESS

# Transitions of Care: Improving the Quality of Discharge Summaries Completed By Internal Medicine Residents

Meghan Black, MD\*, Cristin M. Colford, MD

\*Corresponding author: [meghan\\_black@med.unc.edu](mailto:meghan_black@med.unc.edu)

**Citation:** Black M, Colford CM. Transitions of care: improving the quality of discharge summaries completed by internal medicine residents. *MedEdPORTAL*. 2017;13:10613. [https://doi.org/10.15766/mep\\_2374-8265.10613](https://doi.org/10.15766/mep_2374-8265.10613)

**Copyright:** © 2017 Black and Colford. This is an open-access publication distributed under the terms of the Creative Commons Attribution-NonCommercial-Share Alike license.

## Abstract

**Introduction:** Discharge summaries are now the accepted means of communication in transition from inpatient to ambulatory care. However, there is often no formal residency education on this critical document, leading to discordance in discharge summaries written by internal medicine residents. There is little in the literature focusing on teaching how to effectively create a discharge summary using an electronic health record (EHR). **Methods:** A 1-hour workshop was designed to teach components of the discharge summary and how to utilize this document to safely transition patients from the inpatient to the ambulatory setting. One or two faculty facilitators led the workshop with approximately 20 resident learners. A 50-point rubric was created to assess effectiveness of discharge summaries pre- and postworkshop. **Results:** The workshop was well received by residents and median scores on the rubric improved from 39 to 45 ( $p < .001$ ) postworkshop. **Discussion:** We found that by teaching the concepts using examples of discharge summaries written by our residents, and then creating a standardized EHR template, residents wrote more effective discharge summaries with increased focus on the transition to the ambulatory provider. These materials can be applied to other programs and levels of learners to improve discharge summary quality. This serves to provide a resource to those at other institutions looking to create a more formalized didactic session on discharge summaries with a particular focus on transitioning care to the ambulatory provider.

## Keywords

Internal Medicine, Family Medicine, Transitions of Care, Discharge Summary, SBP 4 Milestone, ICS 3 Milestone, Discharge Summary Rubric, Discharge Curriculum

## Appendices

- A. Components of Discharge Summary.docx
- B. Discharge Summary Rubric .docx
- C. Example of Low-Scoring Summary.docx
- D. Example of High-Scoring Summary.docx
- E. Example of Moderate-Scoring Summary.docx
- F. EHR Note Template.docx
- G. Preworkshop Survey.docx
- H. Postworkshop Survey.docx

*All appendices are peer reviewed as integral parts of the Original Publication.*

## Educational Objectives

At the end of this activity, the learner will be able to:

1. Demonstrate knowledge of the components and structure of a thorough, organized discharge summary.
2. Use a standardized rubric to evaluate their discharge summaries to assess the effectiveness of the document.
3. Recognize components of a discharge summary that effectively facilitates safe transition of care to the ambulatory setting, meeting the Systems-Based Practice 4 Milestone (transitions patients effectively within and across health delivery systems).
4. Utilize the electronic health record to improve and standardize discharge summaries, meeting the Interpersonal and Communications Skills 3 Milestone (appropriate utilization and completion of health records).

## Introduction

As medicine moves away from the practice of primary care physicians following their patients during hospitalization, discharge summaries are now the accepted means of communication in transition from inpatient to outpatient care. For ambulatory providers, it is essential that this document reflect a well-thought-out transition of care to allow for ongoing assessment of patients' medical problems. The Joint Commission on Accreditation of Healthcare Organizations has dictated the standards for a discharge summary,<sup>1</sup> but these are vague and left open to interpretation. Electronic Health Records (EHR) allow for

templated components of the discharge summary, but there remains a large discordance among physician discharge summaries.<sup>2</sup> Studies have found variability in availability of discharge summaries and content including test results, hospital course, discharge medications, and pending results leading to adverse patient outcomes.<sup>3,4</sup> Additionally, with the ACGME Milestone Systems-Based Practice 4 (transitions patients effectively within and across health delivery systems), there has been a larger focus on the discharge summary as a tool for transition of care.

At our institution, there were neither formal didactic sessions on discharge summaries, nor means of evaluation for this vital documentation. A nonformalized survey of our residents found that they were often learning to write discharge summaries in the midst of a busy ward service with little guidance or direction. There was little communication on what discharge summaries should contain and a lack of standardization despite utilization of the EHR. We sought to develop a workshop to increase the quality and effectiveness of discharge summaries in transitions of care and improve standardization using the EHR.

Several institutions have created formalized didactics around discharge summaries<sup>5,6</sup>; however, there remain few published resources available for implementation. A search of MedEdPORTAL found a resource created to help internal medicine residents improve their chart documentation.<sup>7</sup> The workshop was focused on international medical graduates and did not utilize an EHR. Based upon previous successful models of improving write-ups,<sup>8</sup> we created an interactive session to teach residents about effective discharge summaries. The target audience for the intervention is internal medicine or family medicine residents responsible for preparing discharge summaries. It could easily be adapted for clinical medical students. This workshop does not require prerequisite knowledge or skills.

The advancement of the EHR is currently shaping our medical practice and education. Records can now be accessed across multiple systems, making “discharge summary” an antiquated term. There now exists a great need for a “transitions summary.” This workshop also focuses on shift of the discharge summary from summarization to anticipation of patient needs as they transition to the ambulatory providers.

## Methods

We created a 50-point scoring rubric (Appendix B) using the categories informed by the ACGME Physician Documentation Quality Instrument-9,<sup>9</sup> work defining quality discharge summaries,<sup>10</sup> and faculty experience, to assess the basic components of a discharge summary. These components included hospital course (summary statement, format, discussion), discharge planning (outpatient provider communication, patient instructions, medication list), and overall assessment.

The intervention is a 1-hour workshop for internal medicine residents who are responsible for creating discharge summaries when patients leave our hospital. At our institution, we targeted our first-year internal medicine residents in their third month so they would have some exposure to the EHR and with patient care. This session could be applied to other residents and clinical medical students.

Prior to the workshop, facilitators should meet to review the sample discharge summaries (Appendix C-E) and score them using the rubric, discuss variations to reach a consensus, and identify key teaching points. These sample discharge summaries were randomly obtained from our preintervention sample, deidentified, and selected as examples based on a high, medium and low score. Facilitators may choose to use these samples or select samples from their own residents to reflect a variety of scores and teaching points. During the workshop, the faculty leader facilitates a discussion on the components of a discharge summary (Appendix A) and the importance of communication in transition of care from inpatient to outpatient setting. This can be done as a discussion or as a PowerPoint presentation depending on the preference of the facilitator and room mechanics. During the active portion of the workshop, residents work in small groups of two to three and use the rubric to score sample discharge summaries. The scoring informs an interactive discussion of strengths and weaknesses of the samples in terms of both summarizing the hospital course as well as facilitating transition of care to the ambulatory team. At the

completion of the workshop, a standardized EHR discharge summary note template is reviewed and distributed (Appendix F). This can be modified for most EHR systems.

Prior to the workshop, learners were asked to complete a precourse survey (Appendix G). We also collected postcourse survey (Appendix H) results to assess the learner's attitude and opinion of the workshop.

Permission to conduct this study was sought from the University of North Carolina Institutional Review Board, who declared the study exempt from review.

## Results

This workshop has been conducted for 2 consecutive years at our institution. Overall the results have been favorable among the residents with 100% of residents reporting that they found the session useful and learned methods to improve their discharge summary. Measured on a 5-point Likert scale, residents also reported, on average, improvement in their comfort level with writing a hospital course (pre = 3.7, post = 4.2,  $p = .08$ ) and writing patient instructions (pre = 3.7, post = 4.3,  $p = .14$ ); however, neither reached statistical significance.

Residents noted the following comments about the workshop:

- "I think talking through it was the best learning."
- "Really good workshop!"
- "Makes sense to focus on what the outpatient provider needs to know."
- "The rubric was a great tool to use."
- "I wish we'd done this workshop earlier in the year, very helpful information."

Discharge summaries were randomly collected and evaluated by the course instructors prior to, and 30 days after, the workshop using the 50-point rubric ( $ICC = .958$ ; 95%  $CI = .88 - .98$ ). For the 2015 data, 104 preintervention summaries were graded with a median score of 39 ( $SD = 6$ ) and 114 postintervention summaries had a median score of 45 ( $SD = 4$ ). Using a Mann-Whitney analysis there was overall improvement of 15% ( $p < .001$ ) in the discharge summary score after the 1-hour workshop session and implementation of a standard EHR template. The 2016 data reflects similar results for the preintervention with a median score of 37.5 ( $SD = 5$ ) and 30-day postintervention median score of 44 ( $SD = 4$ ), which was maintained at 90 days ( $p < .001$ ). The average score of the residents who attended the workshop was 2.6 points greater than those who did not attend the workshop ( $p = .05$ ).

By showing an improvement in the scores, the workshop achieved the objective of participants demonstrating the knowledge and components of an effective discharge summary. The residents identified the rubric as an effective tool for improving their discharge summaries. The authors also audited the discharge summaries to make sure that workshop participants were able to use the EHR template. Those using the template had higher scores through use of the rubric.

## Discussion

The curriculum serves to standardize teaching of discharge summary write-ups with an emphasized focus on the transition of care. In designing this curriculum, we underwent several iterations to accomplish this focus in an efficient manner that would be well received by residents. An interactive workshop utilizing real examples from peers led to greater investment and active participation. The workshop itself was easy to implement and did not require a large time investment for faculty leaders. Residents subjectively felt that the workshop improved their ability to utilize the discharge summary to transition patients. The improvement in scores demonstrated the achievement of learning objectives. The provided materials can be implemented at other institutions and the note template can be modified for most EHR systems.

Evaluation of the curriculum was two-fold. A subjective component gauging resident satisfaction and

learning was necessary to evaluate how the workshop and curriculum were perceived and to make changes for the future. An objective component in the form of standardized rubric evaluation ensured that desired changes in discharge summaries were achieved.

As facilitators we found this curriculum easy to implement and valuable for residents, but recognize there may be limitations. Interpretation of the rubric could vary based on the grader; however, we were able to reach high interrater reliability by discussing the rubric and reaching consensus on definitions. Simply asking residents to subscribe to a new note template was not effective, as residents had already adopted and become accustomed to a prior template. We needed to distribute this desired note template to the residents and send messages through multiple modalities to encourage uptake of the template. Additionally, some improvement in scores may be a result of increased experience; however, there was a statistically significant improvement for those residents who attended the workshop.

During development of the rubric and curriculum, we learned that residents were not consistently addressing ambulatory follow-up needs in the hospital course. Adding a dedicated section in the template for outpatient providers ensured that important items were communicated across the transition and led to greater focus on anticipation of ambulatory care needs. We also learned that upper-level residents and attending physicians can assist the first-year residents in writing the discharge summary by focusing on these important transition issues on rounds before the summary is written.

For expansion of the curriculum, we are currently utilizing rubric scores to provide individualized feedback to residents who may not have scored at the desired mean score. We will also be expanding the curriculum to include medical students as we learned they are contributing to the discharge summary at our institution.

There are not many published resources available to teach discharge summary write-ups using the EHR. We believe this curriculum can serve as a useful resource to those looking to standardize write-ups, while also focusing on the importance of the document in the transition of care.

---

**Meghan Black, MD:** Clinical Instructor, Department of Medicine, University of North Carolina at Chapel Hill School of Medicine

**Cristin M. Colford, MD:** Associate Professor, Department of Medicine, University of North Carolina at Chapel Hill School of Medicine

---

#### Disclosures

None to report.

#### Funding/Support

None to report.

#### Ethical Approval

Reported as not applicable.

---

#### References

1. Kind AJH, Smith MA. Documentation of mandated discharge summary components in transitions from acute to subacute care. In: Henriksen K, Battles JB, Keyes MA, Grady ML, eds. *Advances in Patient Safety: New Directions and Alternative Approaches Volume 2: Culture and Redesign*. Rockville, MD: Agency for Healthcare Research and Quality; 2008.
2. O'Leary KJ, Liebovitz DM, Feinglass J, et al. Creating a better discharge summary: improvement in quality and timeliness using an electronic discharge summary. *J Hosp Med*. 2009;4(4):219-225. <https://doi.org/10.1002/jhm.425>
3. Kripalani S, LeFevre F, Phillips CO, Williams MV, Basaviah P, Baker DW. Deficits in communication and information transfer between hospital-based and primary care physicians: implications for patient safety and continuity of care. *JAMA*. 2007;297(8):831-841. <https://doi.org/10.1001/jama.297.8.831>
4. Rao P, Andrei A, Fried A, Gonzalez D, Shine D. Assessing quality and efficiency of discharge summaries. *Am J Med Qual*. 2005;20(6):337-343. <https://doi.org/10.1177/1062860605281078>

5. Talwalkar JS, Ouellette JR, Alston S, et al. A structured workshop to improve the quality of resident discharge summaries. *J Grad Med Educ.* 2012;4(1):87-91. <https://doi.org/10.4300/JGME-D-10-00249.1>
  6. Axon RN, Penney FT, Kyle TR, et al. A hospital discharge summary quality improvement program featuring individual and team-based feedback and academic detailing. *Am J Med Sci.* 2014;347(6):472-477. <https://doi.org/10.1097/MAJ.0000000000000171>
  7. Talwalkar J, Ouellette J. A structured workshop to improve chart documentation among housestaff. *MedEdPORTAL Publications.* 2009;5:5095. [http://doi.org/10.15766/mep\\_2374-8265.5095](http://doi.org/10.15766/mep_2374-8265.5095)
  8. Bynum D, Colford C, Royal K. Teaching medical students the art of the “write-up.” *Clin Teach.* 2015;12(4):246-249. <https://doi.org/10.1111/tct.12304>
  9. Stetson PD, Bakken S, Wrenn JO, Siegler EL. Assessing electronic note quality using the physician documentation quality instrument (PDQI-9). *Appl Clin Inform.* 2012;3(2):164-174. <https://doi.org/10.4338/ACI-2011-11-RA-0070>
  10. Wimsett J, Harper A, Jones P. Review article: Components of a good quality discharge summary: a systematic review. *Emerg Med Australas.* 2014;26(5):430-438. <https://doi.org/10.1111/1742-6723.12285>
- 

**Received:** March 23, 2017 | **Accepted:** July 12, 2017 | **Published:** August 7, 2017