

Documentation of Mandated Discharge Summary Components in Transitions from Acute to Subacute Care

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Abstract

Objectives: The Joint Commission mandates that six components be present in all U.S. hospital discharge summaries. Despite the critical importance of discharge summaries in care transitions and patient safety, no studies have examined how well discharge summaries adhere to Joint Commission standards. **Methods:** Joint Commission-mandated discharge summary components were specifically defined and abstracted from discharge summaries for all hip fracture, stroke, and cancer patients discharged directly to subacute care facilities from a large Midwestern academic hospital between 2003 and 2005 (N = 599). **Results:** Preliminary results show that most (88-100 percent) discharge summaries included five of the six Joint Commission components. The remaining component, “patient’s discharge condition,” was included the least often (79-90 percent). **Conclusions:** Overall, discharge summaries adhere well to Joint Commission discharge summary component standards. However, given the discharge summary’s pivotal communication role in care transitions, even a small frequency of omitted patient discharge condition information is a concern and may affect patient safety.

Introduction

Hospital discharge summaries serve as the primary documents communicating a patient’s care plan to the post-hospital care team.^{1, 2} Often, the discharge summary is the only form of communication that accompanies the patient to the next setting of care.¹ High-quality discharge summaries are generally thought to be essential for promoting patient safety during transitions between care settings, particularly during the initial post-hospital period.^{1, 3, 4, 5}

The Joint Commission has established standards (Standard IM.6.10, EP 7) outlining the components that each hospital discharge summary should contain.⁶ These components are:

1. Reason for hospitalization.
2. Significant findings.
3. Procedures and treatment provided.
4. Patient’s discharge condition.
5. Patient and family instructions (as appropriate).
6. Attending physician’s signature.

However, no clear and specific definition exists in the published literature for these components. Additionally, it is not clear to what extent these standards are met in hospital discharge summaries.

We are conducting a study designed to examine the completeness of discharge summary documentation in a large Midwestern academic hospital for patients discharged to subacute care facilities. In this paper, we provide an overview of the study methods, including definitions for the Joint Commission-mandated discharge summary components, and preliminary results regarding the prevalence of the Joint Commission-mandated components within study discharge summaries.

Methods

Study Sample

We identified all patients older than 18 years of age who were discharged from a single large Midwestern academic hospital (N = 612) to subacute care facilities (i.e., nursing homes or rehabilitation centers) with primary diagnoses of lung/colorectal/breast/prostate cancer, stroke, or pelvis/hip/femur fracture during the years 2003, 2004, and 2005. We focused on the subacute care patient population because they represent a vulnerable group of patients who are often unable to advocate for themselves and who are at high risk for adverse outcomes.⁷

Major cancers, stroke, and hip fracture were chosen because they represent some of the most common and complex diagnoses for geriatric patients in subacute care.^{7, 8} Eligible subjects with discharges to subacute care facilities during 2003, 2004, and 2005 were identified by use of administrative data compiled on a mandatory basis by hospital case managers for all patients in the study hospital prior to discharge. Internal testing of this system by the study hospital found approximately 99 percent reliability of this field.

Primary diagnoses were established using the International Classification of Diseases, 9th edition (ICD-9) diagnosis code in the first position on the acute hospitalization discharge diagnosis list in the study hospital billing records. ICD-9 diagnosis codes of 153, 153.0-153.9, 154, 154.1 (colon and rectal), 162, 162.0-162.9 (lung), 174, 174.0-174.9 (breast), 185, 185.0-185.9 (prostate) were used to identify cancer diagnoses;^{9, 10} 431, 432, 434, 436 codes were used to identify stroke;^{10, 11, 12} and 805.6, 805.7, 806.6, 806.7, 808, 820 codes were used to identify hip fracture.^{13, 14, 15}

A small number of subjects experienced more than one hospitalization meeting eligibility criteria during the 2003 to 2005 timeframe. Each of these hospitalizations was treated as a separate event (17 subjects contributed 2 discharge summaries to the study). During the abstraction process, patients were excluded if they did not have a discharge summary (N = 5) or if the abstractor deemed that it was clear from the discharge summary that the patient did not go to a subacute care facility (N = 5); did not have primary diagnoses of cancer, stroke, or hip fracture (N = 2); or if the patient had been discharged on hospice (N = 1). One cancer patient, eight stroke patients, and four hip fracture patients were excluded.

Discharge summaries were obtained from the study hospital's electronic medical record system and formatted so that they were identical in line/page length to the discharge summaries sent to patients' care providers after acute hospitalization. The Institutional Review Board at the University of Wisconsin approved this study.

This paper presents the preliminary results after 44 percent (266/599) of the total sample of eligible discharge summaries had been reviewed, abstracted and analyzed.

Variables

The Joint Commission-mandated discharge summary components do not have specific, operationalized definitions published for abstraction purposes. Therefore, to increase abstraction reliability for this project, specific definitions for each component were arrived at via consensus among two physicians and one geriatric nurse practitioner. Each component definition was then included within an abstraction instruction manual, which abstractors had available to them during the abstraction process and from which they were trained. The presence or absence of all Joint Commission-mandated components was abstracted from each discharge summary. The total page number was also counted for each summary.

Abstraction Process

To optimize abstraction reliability, a standardized protocol was used to train medical record abstractors and to abstract clinical data from medical records.¹⁶ Discharge summaries were abstracted onto paper abstraction forms by two medical abstractors (one geriatric nurse practitioner and one geriatric physician). An abstraction manual was created and included sample eligibility criteria and specific definitions for each discharge summary component to be abstracted (as defined via the process described above). Additionally, detailed instructions for each item in the abstraction form were included in the manual.

Prior to the initiation of formal abstraction, two half-day training sessions were conducted, during which each abstractor received a study overview, reviewed the manual, and abstracted 20 nonstudy ("training") discharge summaries onto the study abstraction form. The abstraction results for each training discharge summary were compared. For items with discrepancies, the abstractors discussed the reasons for their particular answers until a consensus was reached, and a uniform approach for abstraction was adopted. For each of these items, the manual was updated to reflect the consensus uniform approach.

During the formal study, after every 100 study discharge summaries had been completed, 10 percent of each abstractor's discharge summaries were re-abstracted by a second abstractor to measure reliability. The abstractors convened at least monthly to discuss difficult abstraction items and those items with low reliability (i.e., low percentage agreement and kappa <0.8) so that a consensus approach could be reached. After each of these discussions, the manual was updated to reflect the adopted approach.

After each update, new copies of the manual were given to the abstractors for their reference. As the abstraction forms were completed, data were transferred by trained data entry technicians

from the paper forms into a standardized Microsoft Excel[®] 2002 template and were then cleaned. Possible errors flagged during data cleaning were returned to the abstractors for correction or notation as to why the original information was correct.

Analysis

Analyses were performed using SAS[®] version 9.1 and Stata[®] version 9.0. All confidence intervals (CI) and significance tests were significant at $P < 0.05$. The kappa statistic and percent agreements were calculated to measure abstraction reliability.^{17, 18}

Results

Discharge Summary Characteristics and Joint Commission Component Definitions

A total of 599 eligible subjects were identified; 44 percent of discharge summaries were abstracted by the time of this report, with 20 cancer, 112 stroke, and 121 hip fracture patient discharge summaries included in this analysis. Discharge summaries averaged 3.6 pages (SD = 1.0) in length. Stroke patients had the longest [3.6 (1.2)] and cancer patients had the shortest [3.2 (0.5)] discharge summary lengths (Table 1).

Table 1. Discharge summary sample characteristics (N = 253)

Characteristics	Stroke	Hip Fracture	Cancer
Number of discharge summaries	112	121	20
Page length [mean (SD)]	3.6 (1.2)	3.6 (0.8)	3.2 (0.5)
Page number range	2 - 9	2 - 6	2 - 4

All Joint Commission-mandated discharge summary components were defined using the consensus process noted in the methods section. Definitions were created using common terms found in medical documentation (Table 2):

1. “Reason for hospitalization” was defined as chief complaint and/or history of present illness.
2. “Significant findings” was defined as primary diagnoses.
3. “Procedures and treatment provided” was defined as hospital course and/or hospital consults and/or hospital procedures.
4. “Patient’s discharge condition” was defined as any documentation that gives a sense for how the patient is doing at discharge or the patient’s health status on discharge.
5. “Patient and family instructions (as appropriate)” was defined as discharge medications and/or activity orders and/or therapy orders and/or dietary instructions and/or plans for medical followup.
6. “Attending physician’s signature” was defined as an electronic or physical signature of the attending physician on the discharge summary.

Table 2. Joint Commission-mandated component definitions

Joint Commission-mandated components	Consensus definition
Reason for hospitalization	<p>Chief complaint (any description of the patient’s primary presenting condition); AND/OR</p> <p>History of present illness (a description of a patient’s initial presentation to the hospital admission including a description of the initial diagnostic evaluation)</p>
Significant findings	<p>Primary diagnoses (admission/discharge diagnoses noted in the discharge summary)</p>
Procedures and treatment provided	<p>Hospital course (a description of the events occurring to a patient during his/her hospital stay); AND/OR</p> <p>Hospital consults (a description of surgical, medical, other specialty or allied health consults a patient experienced as an inpatient or a specific statement that “no consults” occurred); AND/OR</p> <p>Hospital procedures (a description of surgical, invasive, non-invasive, diagnostic or technical procedures a patient experienced as an inpatient or a specific statement that “no procedures” occurred)</p>
Patient’s discharge condition	<p>Any documentation that gives a sense for how the patient is doing at discharge or the patient’s health status on discharge</p>
Patient/family Instructions (as appropriate)	<p>Discharge medications (a listing of all discharge medications OR a statement noting that admission medications are unchanged AND a listing of admission medications OR a statement noting that admission medications are unchanged except for a specific number of medications AND a listing of the altered medications AND a listing of admission medications); AND/OR</p> <p>Activity orders (orders for a patient’s activity level upon hospital discharge); AND/OR</p> <p>Therapy orders (orders for physical or occupational therapy are present within the discharge summary or a reason is documented as to why such orders are not present); AND/OR</p> <p>Dietary instructions (a listing of a patient’s recommended dietary intake); AND/OR</p> <p>Plans for medical followup (designation of a specific professional, professional type, or clinic for medical followup AND/OR a specific listing of appointment dates and times for medical followup AND/OR a specific timeframe for medical followup)</p>
Attending physician’s signature	<p>An electronic or physical signature of the attending physician on the discharge summary</p>

Prevalence of Joint Commission-Mandated Discharge Summary Components

In general, Joint Commission-mandated components were commonly included in study discharge summaries (Table 3). Four of the six Joint Commission-mandated components were included in virtually all discharge summaries (99 to 100 percent). These included “reason for hospitalization,” “significant findings,” “procedures and treatment provided,” and “patient/family instructions (as appropriate).” The “attending physician’s signature” component was included in 88 to 95 percent of discharge summaries, with hip fracture discharge summaries exhibiting the lowest and cancer discharge summaries exhibiting the highest inclusion rates. The remaining component, “patient’s discharge condition,” was included in 79 to 90 percent of discharge summaries, depending on disease type. “Patient’s discharge condition” was the component included the least often in stroke, hip fracture, and cancer patient discharge summaries.

Table 3. Prevalence of Joint Commission-mandated components in study discharge summaries (N = 253)

Joint Commission-mandated components	Frequency of inclusion (%)		
	Stroke (N = 112)	Hip fracture (N = 121)	Cancer (N = 20)
1. Reason for hospitalization	99	99	100
2. Significant findings	99	99	100
3. Procedures and treatment provided	100	100	100
4. Patient's discharge condition	79	83	90
5. Patient/family instructions (as appropriate)	99	100	100
6. Attending physician's signature	91	88	95

Discussion

Despite the critical role that discharge summaries play in care transitions^{1,4} and the existence of Joint Commission standards mandating certain discharge summary components,⁶ ours is the first study to specifically define and document the prevalence of Joint Commission components in U.S. discharge summaries. Overall, preliminary results demonstrate that the discharge summaries within our sample adhere well to most of the Joint Commission standards. However, given the discharge summary’s pivotal communication role in care transitions, even a small frequency of omitted patient discharge condition information is a concern and may influence patient safety.

In this study, we offer reliable, specific, consensus-based definitions of each Joint Commission component. Remarkably, we are the first study group to do so. These definitions can be utilized to reliably and specifically abstract discharge summaries to document compliance with Joint

Commission standards. Reliable and specific definitions such as these will be helpful in ensuring adequate, reproducible assessments of discharge summary completeness in the future.

The high rate of adherence to five of the six Joint Commission component standards for discharge summaries within our sample is likely due to two major factors. First, the Joint Commission-mandated components are extremely broad/general. With minimal documentation, it is simple for a practitioner to meet the Joint Commission component standards. A recent systematic review noted that studies that have examined recommended discharge summary components more specific than those mandated by the Joint Commission have found relatively high rates of omission.^{1, 2, 19} However, the vast majority of studies referenced in this review were conducted within British and Canadian health care systems. Additional research is needed to verify if similar omission patterns exist in U.S. discharge summaries. Secondly, the Joint Commission standards themselves affect practice patterns substantially. It is likely that discharge summary creation may be carried out in a manner specifically designed to meet the Joint Commission criteria. This theory would suggest that a modification of the Joint Commission discharge summary component standards might be instrumental in changing U.S. discharge summary documentation practices.

The relatively high omission rate of the “patient’s discharge condition” Joint Commission standard we observed could have important implications for subacute care patients’ care plans and health outcomes. Ideally, such information allows the subacute care team to understand the patient’s health and functional status at the time of hospital discharge, enabling the team to better identify worrisome early changes in a vulnerable patient they otherwise do not know well. Within the subacute care population, such information is especially important because these patients are often unable to advocate for or provide medical information about themselves. They are an extremely medically complicated and vulnerable population, highly reliant upon the health care system to transmit information regarding their condition and care plan. Multiple experts have recommended that detailed information concerning the patient’s discharge condition be included in all hospital discharge summaries.^{1, 5, 20} Nevertheless, no evidence has been published to document the actual impact an omission of this nature has on patient health and safety outcomes.

From our data, it is clear that adherence to the discharge condition standard varies considerably across primary disease types, with cancer and stroke patients having the highest and lowest adherence rates, respectively. Cancer, hip fracture, and stroke patients are often cared for by physicians of different specialty types (i.e., internists, orthopedists, and neurologists). As physicians author the majority of discharge summaries—even though they usually receive little or no training in the creation of discharge summaries during medical school—it is possible that differences in formal or informal discharge summary training during residency account for the variation observed here. Alternatively, differences in the resources provided to a particular type of provider during discharge summary creation, such as dedicated time, medical record availability, and multidisciplinary team support, may also play a role. Additional research in this area would be helpful to guide the design of a targeted intervention to improve discharge summary communication.

The lower rate of adherence to the “patient’s discharge condition” Joint Commission standard noted in this study does not seem to have been reflected as a common deficiency in the Joint Commission accreditation process. Although the Joint Commission has a renewed focus on within-institution (i.e., intra-institutional) transitions and documents the quality of these transitions using the patient tracer methodology, less attention has been paid to between-institution (i.e., inter-institutional) transitions.²¹ Therefore, enforcement of the Joint Commission standards likely echoes this pattern of focus and may affect the enforcement of discharge summary standards.

Given the general nature of the Joint Commission discharge summary component standards, it remains unclear whether such standards are sufficient to maximize patient safety during care transitions. Many experts advocate for inclusion of more specific components in discharge summaries.^{1, 2, 3, 5, 19, 20, 22, 23} Omission of information regarding pending tests and plan of care at discharge, in particular, has been shown to have an impact on post-hospital patient care plans and physician practice behavior but has not been linked directly to post-hospital patient safety and health outcomes.^{24, 25} Future research needs to address the impact specific discharge summary components—such as discharge medications, plan of care, pending tests, and medical followup—have on post-hospital patient safety and health outcomes.

The primary limitations of this study relate to its preliminary nature and overall generalizability. Given that these results are based on a subset of our total sample, including only a very small number of primary cancer patients, our results regarding the discharge summary component frequencies may change slightly as the full sample abstraction is completed. However, thus far in our abstraction process, the inclusion rates of Joint Commission components have been largely stable. Since this work was completed using discharge summaries at a single large Midwestern academic institution, it is unclear whether these results are representative of other academic or community health care facilities in the United States. Additional research to examine the discharge summaries generated at other U.S. health care institutions is necessary to know whether the results presented here can be replicated. Our component definitions were based on input from a consensus panel of physicians and one geriatric nurse practitioner. Inclusion of additional multidisciplinary viewpoints may result in some alteration of the definitions reached.

Conclusion

In conclusion, it is possible to reliably and specifically abstract Joint Commission-mandated components from discharge summaries. Most discharge summaries in our sample adequately meet most of the Joint Commission standards. The Joint Commission-mandated component of “patient’s discharge condition” is most often omitted, and the impact such omissions have on patient safety during transitions of care is unclear. Additionally, whether the Joint Commission standards are sufficient to maximize patient safety during the highly vulnerable period of a care transition remains unknown.

Acknowledgments

We thank Bruce Grau, RNP for assistance in data collection and form development, Inna Larsen for research program coordination, Jinn-ing Liou for data analysis, Tim Kamps for administrative data acquisition, and Ali Turney, James Lehman, Ashley Setala and Geoff Wodtke for data entry.

Dr. Kind is an Institute for Clinical and Translational Research (ICTR) Scholar, with support from the NCCR/NIH Institutional Clinical and Translational Science Award (UW-Madison) (KL2) [1KL2RR025012-01].

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References

1. Kripalani S, LeFevre F, Phillips CO, et al. Deficits in communication and information transfer between hospital-based and primary care physicians: Implications for patient safety and continuity of care. *JAMA* 2007; 297: 831-841.
2. Van Walraven C, Weinberg AL. Quality assessment of a discharge summary system. *CMAJ* 1995; 152: 1437-1442.
3. Van Walraven C, Rokosh E. What is necessary for high-quality discharge summaries? *Am J Med Qual* 1999; 14: 160-169.
4. Van Walraven C, Seth R, Austin PC, et al. Effect of discharge summary availability during post-discharge visits on hospital readmission. *J Gen Intern Med* 2002; 17: 186-192.
5. Coleman EA. Falling through the cracks: Challenges and opportunities for improving transitional care for persons with continuous complex care needs. *J Am Geriatr Soc* 2003; 51: 549-555.
6. Joint Commission on the Accreditation of Healthcare Organizations. Standard IM.6.10, EP 7 Website. Available at: http://www.jointcommission.org/NR/rdonlyres/A9E4F954-F6B5-4B2D-9ECF-C1E792BF390A/0/D_CurrenttoRevised_DC_HAP.pdf. Accessed March 31, 2008.
7. Sahyoun NR, Pratt LA, Lentzner H, et al. The changing profile of nursing home residents: 1985-1997. *Aging Trends* 2001; 4: 1-8.
8. Tomiak M, Berthelot JM, Guimond E, et al. Factors associated with nursing-home entry for elders in Manitoba, Canada. *J Gerontol A Biol Sci Med Sci* 2000; 55: M279-M287.
9. Virnig BA, Marshall McBean A, Kind S, et al. Hospice use before death: Variability across cancer diagnoses. *Med Care* 2002; 40: 73-78.
10. Nichol KL, Nordin J, Mullooly J, et al. Influenza vaccination and reduction in hospitalizations for cardiac disease and stroke among the elderly. *N Engl J Med* 2003; 348: 1322-1332.

11. Witt BJ, Brown RD Jr, Jacobsen SJ, et al. A community-based study of stroke incidence after myocardial infarction. *Ann Intern Med* 2005; 143: 785-792.
12. Reker DM, Rosen AK, Hoenig H, et al. The hazards of stroke case selection using administrative data. *Med Care* 2002; 40: 96-104.
13. Baxter NN, Habermann EB, Tepper JE, et al. Risk of pelvic fractures in older women following pelvic irradiation. *JAMA* 2005; 294: 2587-2593.
14. Kern LM, Powe NR, Levine MA, et al. Association between screening for osteoporosis and the incidence of hip fracture. *Ann Intern Med* 2005; 142: 173-181.
15. Fisher ES, Wennberg JE, Stukel TA, et al. Hospital readmission rates for cohorts of Medicare beneficiaries in Boston and New Haven. *N Engl J Med* 1994; 331: 989-995.
16. Reisch LM, Fosse JS, Beverly K, et al. Training, quality assurance, and assessment of medical record abstraction in a multisite study. *Am J Epidemiol* 2003; 157: 546-551.
17. Landis JR, Koch GG. An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics* 1977; 33: 363-374.
18. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics* 1977; 33: 159-174.
19. Tulloch AJ, Fowler GH, McMullan JJ, et al. Hospital discharge reports: Content and design. *Br Med J* 1975; 4: 443-446.
20. Sackley CM, Pound K. Stroke patients entering nursing home care: A content analysis of discharge letters. *Clin Rehabil* 2002; 16: 736-740.
21. Joint Commission on Accreditation of Healthcare Organizations. 2008 National Patient Safety Goals Hospital Program. Available at: www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals/08_hap_npsgs.htm. Accessed March 31, 2008.
22. Bado W, Williams CJ. Usefulness of letters from hospitals to general practitioners. *Br Med J (Clin Res Ed)* 1984; 288: 1813-1814.
23. Solomon JK, Maxwell RBH, Hopkins AP. Content of a discharge summary from a medical ward. Views of general practitioners and hospital doctors. *J Roy Col Phys Lond* 1995; 29: 307-310.
24. Roy CL, Poon EG, Karson AS, et al. Patient safety concerns arising from test results that return after hospital discharge. *Ann Intern Med* 2005; 143: 121-128.
25. Moore C, McGinn T, Halm E. Tying up loose ends: Discharging patients with unresolved medical issues. *Arch Intern Med* 2007; 167: 1305-1311.