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Timeliness and quality of surgical discharge summaries after the implementation of an electronic format

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Electronic discharge summary;
Electronic medical record;
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Surgical education

Abstract

BACKGROUND: As electronic discharge summaries (EDS) become more prevalent and health care systems increase their focus on transitions of care, analysis of EDS quality is important. The objective of this study was to assess the timeliness and quality of EDS compared with dictated summaries for surgical patients, which has not previously been evaluated.

METHODS: A retrospective study was conducted of a sample of discharge summaries from surgical patients at an urban university teaching hospital before and after the implementation of an EDS program. Summaries were evaluated on several dimensions, including time to summary completion, summary length, and summary quality, which was measured on a 13-item scoring tool.

RESULTS: After the exclusion of 5 patients who died, 195 discharge summaries were evaluated. Discharge summaries before and after EDS implementation were similar in admission types and discharge destinations of the patients. Compared with dictated summaries, EDS had equivalent overall quality ($P = .11$), with higher or equivalent scores on all specific quality aspects except readability. There was a highly significant statistical and clinical improvement in timeliness for electronic summaries ($P < .01$). Obvious use of copying and pasting was identified in 8% of discharge summaries and was associated with decreased readability ($P = .02$).

CONCLUSIONS: The implementation of EDS can improve the timeliness of summary completion without sacrificing quality for surgical patients. Excessive copying and pasting can reduce the readability of discharge summaries, and strategies to discourage this practice without the use of appropriate editing should be used.

Discharge from the hospital is a critical transition for patients. Accurate and timely communication is necessary for a safe transition, and surgical patients may rely primarily on discharge summaries for accurate communication of inpatient care when following up with their primary care

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physicians or when presenting for urgent or emergent evaluation. Deficits in communication and information transfer at hospital discharge have been described[1] and are associated with medication errors,[2,3] loss of information related to pending test results,[4] and other problems related to a lack of primary care provider awareness of the hospitalization.[5] Although the discharge summary is an important tool to summarize and transfer information about a patient's hospital care to his or her outpatient providers, concerns about the timeliness,[6,7] completeness,[8] and accuracy[2] of discharge summaries have been previously described and pose a threat to patient safety.

As the use of health information technology continues to grow, electronic programs for discharge summaries are likely to be widely adopted. Electronic summaries have many advantages, including the ability to standardize format, use existing information in the health information record, and immediately finalize the summary at the time of discharge. They also present the ability to copy and paste information from other parts of patients' electronic medical records (EMRs), which may have unintended negative consequences. Prior studies have demonstrated that electronic discharge summaries improve the timeliness of summary completion, and most result in similar or improved quality compared with traditional dictated discharge summaries for medicine patients,[2,9–12] but they have not yet been studied in surgical patient populations.

We sought to determine the timeliness of completion and quality of electronic discharge summaries compared with dictated summaries for surgical patients at an academic medical center. We also examined the relationship of the use of copying and pasting to discharge summary quality.

Methods

We conducted a retrospective pre-post study to assess the quality and timeliness of discharge summaries before and after the implementation of an electronic discharge summary program (EDSP).

Setting

This study was conducted at the Hospital of the University of Pennsylvania, a tertiary care teaching hospital in Philadelphia. The hospital had a preexisting computerized physician order entry system (Sunrise Clinical Manager; Allscripts, Chicago, IL). Although providers could create progress notes and handoff documents in the EMR, the system previously could not generate discharge summaries electronically.

Historically, discharge summaries were created by phone dictation. A pocket card containing dictation instructions and recommended format for discharge summaries was provided to residents during orientation (see Fig. 1). Dictations were sent for transcription, which typically took 5 to 7 days, and the final document was placed in our EMR archives. To comply with state regulations, dictated summaries were required to be signed <30 days after patient discharge, although providers were encouraged to complete dictation on the day of discharge or shortly thereafter.

Intervention: electronic discharge summaries

In July 2009, an EDSP was designed within our EMR. The program uses a template with prompts for discrete data or free-text entries, and all items in the template with the exception of hospital admission date, discharge date, and attending physician are optional. Admission date and discharge medications are the only aspects of the EDSP that are automatically imported from other areas of the EMR. Residents could choose to copy and paste information from an electronic handoff tool and electronic progress notes within our EMR into the EDSP, but this information does not autopopulate the electronic discharge summary. The EDSP could be edited and saved throughout the hospitalization. There was no associated change in the nursing practice at the time of discharge related to reviewing the summary before discharge. A portion of the electronic discharge summary template is shown in Fig. 2.

FORMAT FOR DISCHARGE SUMMARY

1. Patient Name – Spell Name
2. Patient Medical Record Number
3. Admission Date, Discharge Date
4. Principle Diagnosis
5. Secondary Diagnoses, Complications
6. Surgical Procedures, Date, Surgeon
7. Summary of Clinical Course
   a. Chief Complaint, HPI, PMH, Social History, Family History, PE.
   b. Significant Lab, Consultations, Radiologic Findings
   c. Hospital Course
   d. Discharge Instructions – Follow-up Meds, Diet, Physical Restrictions
   e. Condition on Discharge
8. State person who should receive copies [Spell names and give full addresses]

Figure 1 Discharge summary dictation guide. HPI = history of present illness; PE = physical examination; PMH = past medical history.