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Assessing written communication during interhospital transfers of emergency general surgery patients

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ABSTRACT

Background: Poor communication causes fragmented care. Studies of transitions of care within a hospital and on discharge suggest significant communication deficits. Communication during transfers between hospitals has not been well studied. We assessed the written communication provided during interhospital transfers of emergency general surgery patients. We hypothesized that patients are transferred with incomplete documentation from referring facilities.

Methods: We performed a retrospective review of written communication provided during interhospital transfers to our emergency department (ED) from referring EDs for emergency general surgical evaluation between January 1, 2014 and January 1, 2016. Elements of written communication were abstracted from referring facility documents scanned into the medical record using a standardized abstraction protocol. Descriptive statistics summarized the information communicated.

Results: A total of 129 patients met inclusion criteria. 87.6% ($n = 113$) of charts contained referring hospital documents. 42.5% ($n = 48$) were missing history and physicals. Diagnoses were missing in 9.7% ($n = 11$). Ninety-one computed tomography scans were performed; among 70 with reads, final reads were absent for 70.0% ($n = 49$). 45 ultrasounds and x-rays were performed; among 27 with reads, final reads were missing for 80.0% ($n = 36$). Reasons for transfer were missing in 18.6% ($n = 21$). Referring hospital physicians outside the ED were consulted in 32.7% ($n = 37$); consultants' notes were absent in 89.2% ($n = 33$). In 12.4% ($n = 14$), referring documents arrived after the patient's ED arrival and were not part of the original documentation provided.

Conclusions: This study documents that information important to patient care is often missing in the written communication provided during interhospital transfers. This gap affords a foundation for standardizing provider communication during interhospital transfers.

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Introduction

Communication among medical professionals is critical to providing high quality care. Poor communication leads to fragmentation of care and places patients at risk for adverse outcomes.[1] Fragmented communication can lead to delays in medical diagnosis and treatment.[2-4] Failures in communication are the number one cause of adverse hospital events and are largely preventable.[5,6] Up to 54% of process failures—"medical care (being) omitted, performed incorrectly, or incomplete"—in the clinical setting are due to communication failures and delays.[5] In one study, as many as 75% of patients experienced adverse clinical incidents related to communication failures in the perioperative setting, such as forgotten equipment checks, medication errors, or not receiving deep vein thrombosis prophylaxis.[6]

Communication is particularly important during transitions of care. Transitions are a vulnerable point at which information vital to patient care may be omitted or misunderstood.[7,8] Previous studies have documented that communication during transitions of care within a single institution as well as between acute care facilities and skilled nursing/rehabilitation facilities is generally poor.[3,4,9] Important information can be forgotten and/or reported inaccurately or incompletely.[6,10] Important information being "buried" within an abundance of extraneous information has also been identified as a reason for communication failure.[11] One study found that the volume of information on patients being transferred to a skilled nursing facility often exceeded 80 pages and was associated with significant delays in care and difficulty achieving safe, successful transitions.[4]

Few studies have assessed the communication that occurs during transfers between acute care facilities (interhospital transfers), which are likely at highest risk for communication failure due to changes in the medical setting as well providers.[12] The purpose of this study was to critically assess the written communication provided during interhospital transfers of emergency general surgery (EGS) patients. We defined written communication as the documents from the medical record that are compiled by the transferring facility and physically accompany the patient to the accepting hospital or are faxed to the accepting hospital after patient arrival. We hypothesized that the written communication is often incomplete regarding the workup performed, diagnosis reached, and treatment provided at the referring facility and that the documentation that is provided frequently contains duplicative or extraneous information.

Methods

Study population

We performed a retrospective review of the written communication provided by referring hospitals during interhospital transfers of EGS patients. The study population was comprised of adult patients transferred to the Emergency Department (ED) of our 505-bed regional referral, tertiary care center from outside EDs for evaluation by an emergency general surgeon between April 1, 2014, and March 1, 2016. Patients with one of six EGS diagnoses (appendicitis, cholecystitis, diverticulitis, bowel obstruction, perforated viscus, and mesenteric ischemia) according to accepting physician documentation were included. These diagnoses were selected because they commonly precede one of the seven operations recently identified to account for the majority of morbidity, mortality, and cost associated with EGS diagnoses.[13] This study was approved by the University of Wisconsin Institutional Review Board. A waiver of informed consent was obtained for all components of the study. Study data were collected and managed using Research Electronic Data Capture (REDCap) electronic data capture tools hosted at the University of Wisconsin.[14] REDCap is a secure, web-based application designed to support data capture for research studies.

Data abstraction

At the University of Wisconsin (UW) Hospitals and Clinics, referring facility documents are scanned and uploaded into the patient's electronic medical record (EMR). It is hospital protocol that this information is scanned on arrival into the UW ED. If the information is not scanned in the ED, it is scanned either when the patient reaches the health care unit that he or she is admitted to or by the medical record department on discharge.

Standardized abstraction criteria were developed specifically for this study with guidance from the literature and input from physicians with clinical and research efforts focused on transitions of care. The full list of elements abstracted can be found in the On-line Appendix. Elements examined in the final analysis included the presence of outside records, the total number of scanned pages, and the role (i.e., physician, nurse) of the author of the documentation. Documentation of the patient's medical care including the ED provider's history and physical (H&P), provider notes, the referring physician/physician extender's diagnosis, involvement of and documentation by consulting physicians, and the reason for transfer were abstracted. Provider notes were defined as notes related to the patient's medical course written by physicians, physician extenders, and nurses. The presence of H&Ps and provider notes was recorded separately because there were times when only an ED physician/physician extender's H&P was present and other times when the physician/physician extender's notes in the chart did not include the H&P. Laboratory results (complete blood count, lactate, basic metabolic panel, hepatic panel, prothrombin time, international normalized ratio, and urinalysis) were also recorded. Imaging performed at referring hospital was also examined including computed tomography (CT) scans (chest/abdomen/pelvis with and/or without intravenous and/or oral contrast), ultrasounds (US; complete, limited, or unspecified), and x-rays ($\geq$2 views, kidney-ureter-bladder or unspecified).

We assessed the inclusion of extraneous and duplicated information in the referring facility documents. Extraneous information was defined as information not related to the referring facility encounter that prompted the transfer. Duplicated information was content that was included in more than