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Editorial

Postdischarge Adverse Events

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Postdischarge adverse events that result from medical errors occur frequently as patients leave the hospital and return home. The first study to report on adverse events after discharge from the hospital was published a decade ago and identified a 19 percent adverse event rate in general internal medicine patients [1]. This rate is approximately five times higher than the rate of adverse events that occur during a hospitalization [2,3].What causes the higher rate of adverse events when patients transition from the hospital to home? Two major changes have occurred in the United States healthcare system which have affected the continuity of care. First, the length of hospital stays have progressively shortened with the emergence of managed care [4]. Second, managed care was a major factor in the advent of hospitalist physicians (hospital-based general physicians that assume the care of hospitalized patients in the place of a patients' primary care physician), which have introduced a new model of care in hospitals throughout the country [5].The result has been that many things that previously occurred in the hospital now occur afterwards, raising the concern that even more adverse events may be occurring after discharge.

Within the last two decades, we have seen a rise in hospitalist physicians who practice medicine in hospital settings and primary care physicians who practice medicine in outpatient settings. Although, hospitalist physicians perform phenomenally well in treating patients in the hospital and primary care physicians perform likewise outside the hospital, this phenomenon has reduced continuity of care in the healthcare system to an alarming degree. Predominantly because the same physician does often follow the same patient between transitions of care and in most cases by the time the primary care physician receives the discharge summary from the hospitalist physician it is often too late to avert an adverse event. Most patients follow up with their primary care physicians within the first two weeks after discharge from the hospital yet discharge summaries may take up to a month for delivery to the physician. Thus, primary care physicians usually must depend predominantly on their patient's understanding of changes that occurred in their care since the last hospitalization. Thus, discontinuities in care arise mainly from poor information transfer [6] and faulty communication [7].

Most change in care that occurs during a patient's transition from the hospital to home is associated with the medication regimen. Two-thirds of the postdischarge adverse events result from medications. Antibiotics, corticosteroids, and cardiovascular agents are the most common drug classes implicated in postdischarge adverse drug events. Other types of postdischarge adverse events include nonsurgical procedures, therapeutic errors, hospital acquired infections, diagnostic errors, pressure ulcers, and falls [1]. Most of the adverse events are either preventable or ameliorable [1]. Sixty-fourpercent of injuries are seen as symptoms, 30% are symptoms associated with a nonpermanent disability, and 3% result in a permanent disability [1].

Nine percent of patients require an additional physician visit after discharge from the hospital, 5%require laboratory monitoring in addition to physician care,11% have an emergency department visit, and 24% are readmitted to the hospital [1].A strong relationship may exist between the occurrence of an adverse event in patients after discharge from the hospital and unplanned rehospitalizations. For example, the rehospitalization rate of 20% reported in Medicare patients within 30 days after discharge from the hospital is close to the unplanned rehospitalization rate of 24% in medical patients (of whom most were elderly) suffering a postdischarge adverse event within approximately 30 days after hospital discharge to home [8]. Thus, unplanned healthcare utilization has become an important componentof the care elderly patients receive when they experience postdischarge adverse events.

Current efforts should focus on methods that will assist clinicians in the identification of postdischarge adverse events. These methods should be based on specific risk factors for urban and rural populations, and stratified by gender, age, race/ethnicity, and comorbidities. For example, rural patients are most vulnerable for adverse events because they may not receive timely follow-up care by a local provider after hospital discharge (no primary care provider or a primary care provider outside the hospital's system of care) and may have difficulty in communicating health information from a recent hospitalization (no electronic health records, incompatible records) to the rural primary care provider [9].Therefore, adverse events must be thoroughly studied based on specific populations to identify systemic deficiencies in the delivery of care that will enable hospitals to develop interventions to improve the hospital discharge process and patient safety during the postdischarge period. Such deficiencies include patient education regarding the medical condition or its treatment, communication between patient and physician, and communication between hospitalist and primary care physicians. Systemic interventions should focus on providing tools to a hospitalist physician to improve the evaluation of patients at the time of discharge, including1) a pharmacist to improve instructions to patients about drug therapies and side effects at the time of discharge and at 3-5 days postdischarge;2) a discharge nurse to follow-up with patients for pending laboratory test results; and 3) implementing an electronic system to produce structured database generated discharge summaries and/or allow primary care physicians the privilege to

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access the hospital's electronic health record system to follow the care of their patients during a hospitalization.

Finally, we need to advance the science of adverse event measurement. Despite prior work regarding inpatient adverse events and their predictors, there have been few initiatives to understand measures that may predict the occurrence of adverse events in the postdischarge period. These few initiatives have focused on patients in large urban academic centers with virtually minimal efforts for patients discharged from a community/rural hospital. Thus, a clear understanding of postdischarge adverse event predictors may help build the foundation for the development of a screening tool to identify postdischarge adverse events throughout the healthcare system and improve patient safety during this vulnerable transition of care from the hospital to home.

Keywords

Patient Safety; Adverse Events; Medical Errors

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