Emergency Department Visits Account for a Large Proportion of Postdischarge Acute Care Utilization

Vashi AA, Fox JP, Carr BG, et al. Use of hospital-based acute care among patients recently discharged from the hospital. JAMA 2013;309:364–71.

Study Overview

Objective. To determine the degree to which emergency department (ED) visits and hospital readmissions contribute to overall use of acute care services within 30 days of discharge from acute care hospitals; to describe clinical diagnoses leading to return ED visits; and to describe utilization patterns among Medicare beneficiaries and those not covered by Medicare.

Design. Population-based cohort of patients aged 18 years or older who were discharged from an acute care of hospital between 1 July 2008 and 31 September 2009 in California, Florida, and Nebraska.

Setting and participants. The Healthcare Cost and Utilization Project state inpatient and ED databases encompass all inpatient discharges from short-term, acute care nonfederal hospitals; the states of California, Florida, and Nebraska were selected because their databases contain unique patient identifiers that enable follow-up of patients over time and across the inpatient and ED settings. These data are made publicly available by the Agency for Healthcare Research and Quality. The ED databases include only treat-and-release encounters in which patients were seen at the ED but were not admitted to the hospital. A total of 6,735,565 adults were identified from the databases; after excluding those with unknown disposition, who were discharged against medical advice, died during index hospitalization, transferred to acute care facility, or missing patient identifier; and excluding discharges of the same patient if they occurred less than 31 days apart, a total of 4,028,555 patients with 5,032,254 discharges were included in the analysis. Mean age of the cohort was 53.4 years, with patients aged 65 and older comprising 29.2% of the sample; 53.5% were female and 48.0% were white.

Main outcome measures. Occurrence within 30 days of discharge of ED treat-and-release visits, all-cause hospital readmissions, and a combined measure of ED visits and hospital readmissions termed hospital-based acute care. A

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condition-specific ED index was constructed using ED visit rate as numerator and readmission rate as denominator. To describe the pattern of postdischarge ED visits and hospital readmissions, the primary unit of analysis was hospital discharge from the index hospitalization, classified by diagnosis-related group at the time of patient discharge. Information on reasons for postdischarge acute care was collected from diagnostic categories based on the Agency for Healthcare Research and Quality's clinical classification software, which grouped ICD-9 diagnoses into diagnostic categories.

Main results. The rate of at least 1 episode of hospital-based acute care at 30 days was 17.9% (95% confidence interva 17.9%–18.0%); 7.5% (95% CI 7.5%–7.6%) of discharges had at least 1 ED visit, and 12.3% (95% CI 12.3%–12.3%) had at least 1 hospital readmission. ED visits accounted for 39.8% of the 1,233,402 post-discharge acute care encounters. The rate of ED visit was 97.5 episodes per 1000 hospital discharges, whereas the rate of hospital readmission was 147.6 episodes per 1000 hospital discharges. About a third of hospital-based acute care occurred within 7 days of discharge, and more than half occurred during the first 14 days.

High-volume medical conditions that had a high ED visit rate included digestive disorders (140.7 episodes per 1000 discharges) and psychosis (219.4 episodes per 1000 discharges). Conditions that had a high rate of hospital-based acute care use were heart failure (373.5 episodes per 1000 discharges) and psychosis (470.8 episodes per 1000 discharges). High-volume surgical conditions that had a high ED visit rate included complicated laparoscopic cholecystectomy (84.5 episodes per 1000 discharges) and complicated cesarean delivery (84.6 episodes per 1000 discharges). Surgical onditions that had a high rate of hospital-based acute care use were percutaneous coronary interventions with drug-eluting stents and major cardiovascular diagnosis (233.6 episodes per 1000 discharges) and complicated hip and femur procedures (241.7 episodes per 1000 discharges). Rates of use of hospital based acute care were highly variable across the different index discharge conditions, and the calculated ED index indicating ratio of use of ED visits vs. hospital readmissions also varied.

Medicare beneficiaries had a higher rate of use of hospital-based acute care compared with those without Medicare coverage (288.9 episodes vs. 212.1 episodes per 1000 discharges). Among the most common medical and surgical conditions, Medicare beneficiaries had similar rates of ED visits but had a higher rate of hospital readmission when compared with those without Medicare.

Conclusions. ED visits after hospital discharge were common and accounted for a large portion of postdischarge hospital-based acute care, and certain diagnoses may be associated with a higher ED visit rate than hospital readmission rate.

Commentary

Vashi et al found that patients who were discharged from an acute hospital stay were at risk for hospital readmission but also at risk for ED treat-and-release visits. Although there is a large body of literature examining hospital readmission as a complication after hospital discharge [1,2], fewer studies have examined other acute care utilization, such as ED visits, during the immediate postdischarge period. Nonetheless, this is not a surprising finding, as hospital readmissions often arise from ED visits and only a proportion of patients presenting to ED are admitted; in addition, previous reports have suggested a high rate of ED use among patients recently discharged from the hospital [3]. What this study adds is an examination of actual rates in a population-based sample. In addition, this study also offered a detailed examination of how hospital readmission and ED visit rates differ for specific conditions.

In their discussion, the authors noted that planned policy changes using hospital readmission rates as a performance measure for hospitals may incentivize ED treat-and-release in order to reduce hospital readmission rates. They note further that in addition to readmission rates, ED visits may be a useful metric to track, as they may be an indicator for lapses in care as patients are discharged from hospital to home. It would be important for future studies to track readmission rates and ED visit rates as health care reform is implemented to see if there are unintended consequences. Current efforts to improve transitional care by implementing new reimbursement codes for transitional care services and enhancing primary care structure by introducing accountable care organizations may have an impact on hospital-based acute care utilization, which may include both hospital readmissions and ED visits.

Applications for Clinical Practice

ED visits and hospital readmissions often occur after hospital discharge, highlighting the importance of efforts to

improve transitions of care such as efforts in medication reconciliation, patient education, ensuring patient follow-up, and communication with outpatient physicians. The finding that ED visits make up a large portion of postdischarge care may lead policy makers to consider ED visits as a possible metric for quality of transitional care in addition to the current use of hospital readmissions.

—William Hung, MD, MPH

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