



Original Contributions



SHORT-TERM UNSCHEDULED RETURN VISITS OF ADULT PATIENTS TO THE EMERGENCY DEPARTMENT

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Abstract—Background: Emergency department (ED) crowding is a major international concern that affects patients and providers. **Study Objective:** We describe the characteristics of patients who had an unscheduled related return visit to the ED and investigate its relation to ED crowding. **Methods:** Retrospective medical record review of all unscheduled related ED return visits by patients older than 16 years of age over a 1-year period. The top quartile of ED occupancy rates was defined as ED crowding. **Results:** Eight hundred thirty-seven patients (1.9%) made an unscheduled related return visit. Length of stay (LOS) at the ED for the index visit and the LOS for the return visit (5 h, 54 min vs. 6 h, 51 min) were significantly different, as were the percent admitted (11.6% vs. 46.1%). Of these patients, 85.1% and 12.0% returned due to persistence or a wrong initial diagnosis, of their initial illness, respectively, and 2.9% returned due to an adverse event related to the treatment initially received. Patients presented the least frequently with an alcohol-related complaint during the index visit (480 patients), but they had the highest number of unscheduled return visits (45 patients; 9.4%). Unscheduled related return visits were not associated with ED crowding. **Conclusion:** Return visits impose additional pressure on the ED, because return patients have a significantly longer LOS at the ED. However, the rate of unscheduled return visits and ED crowding was not related. Because this parameter serves as an essential quality assurance tool, we can assume that the studied hospital scores well on this particular parameter. © 2014 Elsevier Inc.

Keywords—emergency department; return visit; incidence; patient characteristics; crowding

INTRODUCTION

Background

Emergency departments (EDs) provide an important public service 24 h a day, 365 days per year, without social or economic discrimination. One of the key expectations of EDs is the ability to provide immediate access and stabilization for patients who have an emergency medical condition (1). However, due to ED crowding, it is becoming increasingly more difficult to meet these expectations. One way of freeing up beds for incoming patients is a premature patient discharge despite an incomplete assessment or treatment (2). However, the increase in early discharges can lead to high levels of unscheduled return visits, which could possibly be seen as patients being discharged inappropriately (3). An unscheduled return visit is defined as a patient presentation for the same chief complaint within 72 h of discharge from the ED (4). Previous studies observed revisit rates between 0.4% and 15.8% (2,5–18).

Importance

Patients who return to the ED within 72 h not only contribute to ED crowding, but also have been described as a population at high risk for errors in diagnosis or physician judgment in their management (5,19). Therefore, unscheduled return visits to the ED are part of any busy ED and should be recognized as an

essential quality assurance tool (5–7). Unscheduled return rates above a certain level indicate dysfunction of the ED. However, there is no internationally accepted level of ED return rates against which to evaluate when an ED is not functioning optimally. Nevertheless, the review of early return visits to the ED has been encouraged both in the United States and abroad as a powerful tool for quality assurance and for improving patient care (2,5,6,10,18). In 2009, Vanbrabant and Knockaert performed a retrospective observational study of ED return visits in Belgium by patients who were managed through the general internal medicine service (11). These revisits occurred within 72 h and at the same study hospital. This study assessed the extent of the problem, identified relevant clinical predictor variables, and detected diagnostic errors (11). The study did not evaluate the entire adult ED population, and a possible connection with ED crowding was not considered.

Goals of the Present Investigation

The primary objective of this study was to analyze the characteristics of patients who made an unscheduled related return visit to a university ED. Secondly, we determined the unscheduled revisit rate in relation to ED crowding. We hypothesized that the number of unscheduled related return visits would be higher during times when the ED was crowded at the time of the *first* visit.

MATERIALS AND METHODS

Design and Setting

This observational, single-center study involved a retrospective medical record review of all patients who made a return visit to our ED between August 1, 2010 and July 31, 2011. The study was conducted at the ED of the Catholic University Leuven in Belgium. The ED of this 1800-bed academic teaching hospital has an annual census of approximately 55,000 patients and an average admission rate of 36%. The department consists of an admission and treatment area with 16 cubicles and an observational unit with 25 beds, including seven intensive care unit (ICU) beds. These ICU beds serve as a buffer for the ICU department in case no beds are available at the ICU. If the condition of an admitted patient is deteriorating, then these patients are brought back to the ED for an upgrade of care until they can be moved to the ICU. The ED is staffed by full-time board-certified emergency physicians, junior and senior residents in training for emergency medicine, as well as rotating residents from the departments of Internal Medicine, Pediatrics, Neurology, Surgery, and Psychiatry.

Selection of Participants

All patients who returned to the ED due to a related condition within 72 h after ED or hospital discharge were included. Patients who returned to the ED from a hospital ward for an upgrade of care were excluded from our study sample. Because patients younger than 16 years of age are almost exclusively treated by the pediatrician in a separate area of the ED, and with a different and independent admission policy, these patients were excluded from our study sample. Patients with multiple return visits that were more than 72 h from their index visit were considered as separate cases.

Measures and Definitions

Unscheduled return visit: We defined an unscheduled return visit as a return to the ED up to 72 h of discharge from the ED. The term “index visit” was defined as the first ED visit.

Unscheduled related return visit: We defined related returns based on the discharge diagnoses made during the index and return visits. The discharge diagnoses were categorized according to the Major Diagnostic Categories (MDC) classification system. In the early 1970s, the MDC classification system was formed by physician panels as the first step toward ensuring that the Diagnosis Related Groups—a patient classification scheme that provides a means of relating the type of patients a hospital treats to the costs incurred by the hospital—would be clinically coherent. In general, each MDC was constructed to correspond to a major organ system (Appendix).

After comparing the index and return visits, we categorized the patients into five groups and assigned them a code from 0 to 4. Code 0 was assigned to patients that had the same MDC for both their index and return visits. Code 1 was assigned to patients that returned to the ED for an unrelated reason. In essence, the major complaint of the patient was different and a clearly different major organ system was involved when comparing the index and return visit. Code 2 was assigned to patients that received a new MDC due to an erroneous diagnosis at their index visit. These patients returned with the same major complaint. However, after reassessment, another major organ system seemed to be involved. Code 3 was assigned to patients that received a new MDC due to adverse effects from treatment initiated at the index visit. Code 4 was assigned to patients with scheduled return visits. Patient’s assigned codes 0, 2, and 3 were designated as the unscheduled related return visit group. All results relate to this group of patients unless otherwise specified. Patient’s assigned codes 1 and 4 were excluded from further analysis.

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