



Data Analytics Summit II; Structuring the UNSTRUCTURED: The Missing Element of Analytics, 14-16 December 2015, Harrisburg, USA

Data Analytics Summit II

Examining the Utilization of Medical Scribes in a Hospital Emergency Department Environment

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Abstract

This paper reports results from an original research project studying the use of medical scribes in emergency departments (EDs) including analysis of more than one full year of archival data as well as observations and interviews in the ED that were conducted over a one and one-half year period. This paper also reports results from additional studies that have been completed since this research project. Ultimately, this research revealed there can be a significant impact of scribes on the overall number of patients seen, i.e. a 10.3% increase in the number of patients seen per hour. This appears to be in direct opposition to the use of non-medical scribes under the same conditions [1]. Since this original research was completed the use of medical scribes has rapidly grown. In 2014 over twelve medical scribe companies employed more than 15,000 staff in a greater than \$125 million annual market [2].

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Peer-review under responsibility of the Organizing Committee of the Data Analytics Summit II.

Keywords: Electronic Medical Records, Scribes, Information Technology

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1. Introduction

Emergency Departments (EDs) are an important part of any hospital because they are equipped to handle medical emergencies twenty-four hours a day, seven days a week. An ED is set up to provide high quality medical treatment by making critical resources available to patients in need of urgent care at any time [3]. The challenges of crowding and patient wait time have been steadily increasing in EDs throughout the United States [4][5]. Patient wait times (PWT) are measured by the amount of time a patient waits to be seen by a physician [5]. Patients with non-critical medical issues also rely on EDs for medical treatment who then experience a very long PWT. All this impacts the level of satisfaction relating to the ED.

Various attempts have been made to solve these challenges, especially the challenge of increasing PWT. For example, restructuring or reorganizing the ED, increasing the number of or changing the skill mix of personnel, and implementing various technologies. This research reports work done in analyzing one potential solution to this challenge, i.e. utilizing medical scribes. For the purpose of this research, a medical scribe (hereafter referred to only as a scribe) was defined as an individual inserted in the workflow/process of an ED with the express intention of increasing physician productivity.

In 2004 President George W. Bush signed an executive order calling for the implementation of electronic health records (EHRs), nationwide, by the year 2014. This executive order significantly increased the use of Health Information Systems (HIS) by hospitals and the medical sector. An HIS is an information system used to store patient information, schedule appointments, manage billing and track ED staff schedules [6]. Physicians are required to use an HIS; and, while they do they spend up to two hours managing patient records [7][8]. Thus, the insertion of an individual to intervene between the physician (who is not necessarily a technology expert) and the HIS could help physicians alleviate their electronic burden, treat more patients, provide better care and utilize their time more wisely.

In ancient times, scribes had to make the papyrus which they used to write on before they could begin to transcribe information. Over many centuries they modified writing symbols from ideographs to phonetic script in order to meet changing needs within the culture [9]. Their modern counterparts are tomorrow's information designers and their profession is developing within the medical field. Today's common definition of a medical scribe is "a technician who is responsible, mature, possesses a basic knowledge of medical terminology, and is able to transcribe oral medical data" [10].

Today with technology at the heart of the medical field, the productivity of physicians who do not have adequate assistance in this area will greatly suffer. To provide high quality medical care to patients, physicians need the appropriate technology and the appropriate assistance with that technology. For those reasons EDs are hiring scribes to assist physicians. In addition to the basic aspects of scribes' workflow, this research broadens the focus on scribes to include their overall effect on an ED, including physicians' productivity. Therefore, the primary research question to be answered is:

"What is the effect of medical scribes on an emergency department?"

1.1. The Research Setting

Data was acquired for this research in the Emergency Department (ED) at the George Washington University (GWU) Hospital, hereafter referred to only as the ED. The ED provides high quality medical services to over 65,000 patients annually. It is equipped to handle most medical situations and urgent healthcare needs for the District of Columbia. The ED is located on first floor of the GWU Hospital which is a research and teaching hospital. The ED has two entrances. One is via the ambulance bay; and, the other is used by walk-in patients. The ED consists of waiting room, registration desk, two triage rooms and 29 treatment rooms that hold 38 beds.

The ED is divided into two sides, the main side and the fast track or fast side. The main side operates 24/7 and consists of 31 beds and provides care for critically urgent patients. The fast track accounts for 20-25% of the total number of patients seen. The fast track operates from 9:00 am through 11:00 pm weekdays and from 12:00 pm through 9:00 pm on weekends. It consists of seven beds, an ENT bed, a GYN bed, and two suture beds. The fast track caters to non-life-threatening and minor injuries. There are seven computer workstations located in the middle of the fast

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