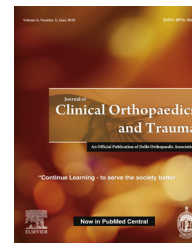


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Original article

The role of copy and paste function in orthopedic trauma progress notes

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ARTICLE INFO

Article history:

Received 8 March 2016

Accepted 11 April 2016

Available online xxx

Keywords:

Orthopedic surgery

Trauma

Copy

Paste

Electronic medical record

EMR

Copy–paste

ABSTRACT

Introduction: The electronic medical record (EMR) is standard in institutions. While there is not concern for legibility of notes and access to charts, there is an ease of copy and paste for daily notes. This may not lead to accurate portrayal of patient's status. Our purpose was to evaluate the use of copy and paste functions in daily notes of patients with injuries at high risk for complications.

Methods: IRB approval was obtained for a retrospective review. Inclusion criteria included patients aged 18 and older treated at our Level 1 Trauma Center after implementation of Epic Systems Corporation, Verona, WI, USA. Those who were surgically treated for bicondylar tibial plateau fracture, or open tibial shaft fracture type I or II were included. Manual comparison of daily progress to the previous day's note was carried out. Comparisons were made by evaluating the subjective, objective, and plan portions of the notes, coded nominally using 1 for a change 0 for remaining the same.

Results: 38 patients' charts were reviewed during a 10-month (July 2012–April 2013) period, and the average length of stay was 12 days (range: 2–35). A total of 418 notes were compared. The overall average of copied data was 85% daily. In the subjective portion, 85–97% of the data was copied on a daily basis and 71–92% of the data was copied within the objective portion of the notes. There were 15 medical complications necessitating intervention. Of these medical complications, the note the day after the complication reflected the event in 10 out of 15, or 70%, of the complications. Thus 5, or 30%, of the patients did not have notes reflecting the complication ($p < 0.05$). There were 7 complications related to the injuries: 4 cases of compartment syndrome, 1 case of foot drop, representing a change in neurologic status, an amputation, and a wound infection treated with antibiotics. Four of the 7 complications (57%) were not reflected in the notes the following day after the complication ($p < 0.05$). There were 54 planned returns to the operating room for procedures, yet 30 of the 54 (56%) notes regarding planned surgical procedures notes did not accurately report the plan for surgery ($p < 0.05$). There were 4 patients with unplanned trips to the operating room and 3 of the notes (75%) did not reflect this ($p < 0.05$). Twelve patients (32%) did not have notes accurately reflecting discharge plans and/or destination ($p < 0.05$).

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<http://dx.doi.org/10.1016/j.jcot.2016.04.002>

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Discussion/conclusion: Our results demonstrated widespread use of copy and paste function. We encourage evaluation of the charts by comparing notes to check and a plan to minimize this practice. There needs to be consistent note writing guidelines and appropriate templates used. This will decrease the inaccuracies in the chart and provide a clear picture of the patient, their injuries, and current status.

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1. Introduction

As of January 1, 2014, the federal government mandated that all healthcare providers must have adopted some form of an electronic medical record (EMR). There are many commercially available EMR systems, including Cerner (Kansas City, Missouri) and Epic Systems Corporation (Verona, Wisconsin). EMR systems are designed to make medical documentation and patient care easier, more accurate, and accessible. This is accomplished by allowing multiple disciplines to communicate in a central location and manage prescriptions and documentation in one place. These electronic health records have proclaimed to improve the accessibility, legibility, and completeness of medical documentation while reducing medical errors and mortality rates.¹⁻⁴ However, there has been a noticeable and unexpected decline in the quality of documentation. This has been attributed to over-inclusion of data, or note clutter, and the inappropriate use of copy and paste.⁵⁻¹⁰

The use of EMR for clinical notes carries with it the ease of the copy and paste function allowing providers to copy a note from the previous day in an effort to save time. The goal is to not re-write unchanged parts of the patient's record. The incorrect use of the copy and paste function may lead to errors and inaccuracies in day-to-day changes with patients. In this study, we sought to evaluate the prevalence of use of copy and paste functions and to assess its impact on the accuracy of documenting progress of patients in an orthopedic trauma service. We hypothesized that the daily progress notes by the orthopedic service would have less than 3 new points from the previous day and that the progress notes would not accurately portray a complication of a serious orthopedic injury.

The purpose of our study was to evaluate the use of copy and paste functions in daily progress notes of patients treated in a single institution, with injuries at a high risk for complications: bicondylar tibial plateau fractures and type I and II open tibial shaft fractures.

2. Methods

IRB approval was obtained from our institution to carry out a retrospective review of medical records. Inclusion criteria included patients aged 18 and older who were treated at Saint Louis University Hospital after the implementation of Epic Systems in July of 2012. Patients who were surgically treated for bicondylar tibial plateau fracture, or open tibial shaft fracture type I or type II were included. A search of ICD-9 codes was carried out to obtain a list of possibly eligible patients which were then either included or excluded using the above-mentioned

inclusion criteria based on demographic data and operative reports describing fracture type and grade. Manual comparison of daily progress to the previous day's note was then completed. Comparisons were made using a standardized spreadsheet for the evaluation of subjective, objective, and plan portions of the notes, coded nominally, using 1 for a change 0 for remaining the same. The subjective data included: comparing pain, adverse reactions, activity, and overnight problems. The objective data included: sensory exam, splint exam, motor exam, circulation exam, wound evaluations, and dressing evaluations. Data from the plan section of the note included: complications, planned return to the operating room, unplanned return to the operating room, discharge plans and discharge destination, and whether the note reflected that plan.

Statistical analysis was then carried out using IBM's SPSS 20.0 (Chicago, Illinois). Descriptive data included frequency of each dichotomous variable for each individual patient and the percentage of occurrence, as well the overall frequency of each variable for all patients combined and percentages of variables that agreed or disagreed. For the plan section of the comparison, the McNemar test was used to compare the actual plan to what the notes reported.

3. Results

3.1. Demographics

There were 38 patients whose charts were reviewed during a 10-month period. There were 29 males and 9 females with an average age of 51 years old. Twenty-eight had tibial plateau fractures and 10 had open tibia fractures. The average length of stay for patients was 12 days (range: 2-35).

3.2. Progress notes

There were a total of 418 notes compared. The overall average of copied data was 85% on a daily basis. Vital signs were auto-updated, so they are not included in the overall copied material. In the subjective portion of the notes, 85-97% of the data was copied on a daily basis and 71-92% of the data was copied within the objective portion of the notes on a daily basis (Figs. 1 and 2).

3.3. Complications

There were a total of 15 medical complications necessitating intervention including 8 cases of anemia requiring transfusion, 4 cases mental status changes and/or cardiac issues, 2 cases of urinary tract infections, and 1 case of a fall delaying

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