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HIGHLIGHTS FROM THE SPRING 2018 INFORMATICS SHOWCASE, PART 2

Written by Jen Scott. Posted in [Research Files](#) on August 27, 2018

Well, we're back after our brief (non-)commercial break! Are you ready to explore some more informatics projects with me? Then get ready as we dive back in with our bite-size summaries of the final three project presentations...and if you're a tad confused or joining us for the first time, check out [Part 1](#) to get caught up!

USING THE INFORMATICS TOOL EMERSE TO IDENTIFY CASES OF DEEP VEIN THROMBOSIS



In *Identifying deep vein thrombosis cases using EMERSE*, Carlton Moore, MD, MS, Professor in the Division of Hospital Medicine, discussed a hospital quality improvement (QI) project using Electronic MEDical Record Search Engine (EMERSE), an informatics tool used to search free-text clinical notes, to identify cases of deep vein thrombosis (DVT) and pulmonary embolism (PE). Collectively DVT and PE are known as venous thromboembolism, or VTE.

DVT and PE are primarily a problem of bed-bound patients, especially post-operative patients, and approximately 500,000 patients in the US are affected every year. It's also among the most common preventable causes of hospital death. The ultimate goal of this QI project was to reduce hospital-acquired cases of VTE at UNC Hospitals. Anticoagulant prophylaxis treatment for at-risk hospital patients can reduce VTE by 30-50% with a low incidence of major bleeding. Unfortunately, only about 60% of surgical inpatients receive appropriate prophylaxis.

Prior to EMERSE, there was no way for hospital quality improvement teams to identify acute VTEs in real-time because the diagnosis is buried in free-text clinical reports. QI teams had to rely on retrospective billing data to perform chart reviews and root-cause analyses. These were often not accurate and they certainly weren't timely since they couldn't be done until after patient discharge.

Using EMERSE it was possible for Moore's team to set-up an automated system that accurately identified cases of acute VTE in UNC Hospitals in near real-time by searching free-text clinical reports, including lower extremity ultrasounds, ventilation perfusion (V/Q) scans and chest CT scans. This allowed the team to discuss identified cases with the patients' providers and pursue more accurate root cause and risk analyses than were possible previously. This led to the development of three QI projects to address issues identified that will hopefully result in fewer cases of hospital-acquired VTE at UNC Hospitals in the future.

My takeaway from this presentation – EMERSE, sometimes called the Google for free-text clinical notes, is pretty darn awesome.

RESEARCH FILES

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