What's New in the Patient Safety World

April 2017

How Much Time Do We Actually Spend on the EMR?

Over the past 6 months there have been multiple studies documenting how much time various healthcare professionals actually spend on the EMR (electronic medical record) or associated healthcare technologies. Self-reported estimates of time spent on such activities have not always been accurate so studies using methodologies such as direct observation or computer time logs provide us with a better picture.

The amount of time we spend with healthcare IT is important for several reasons. While many of the HIT activities clearly improve patient safety, they also take time away from our face-to-face interactions with patients. Moreover, time spent on the computer has been linked to higher levels of burnout. In a large national study, physicians' satisfaction with their EHRs and CPOE was generally low and those who used EHRs and CPOE were less satisfied with the amount of time spent on clerical tasks and were at higher risk for professional burnout (Shanafelt 2016).

A study using observation of nurses (Higgins 2016) found that nurses spent an average of 33% of a shift interacting with technology including time in the EMR. In the Higgins study nurses overestimated the amount of time they spent charting in the EMR. Whereas they estimated they spent 26% of each shift charting, the actual observed percentage was only 11% per shift. However, "Overall time in the EHR (documenting, reviewing, and medication preparation) of about 3 hours per 12-hour shift was corroborated by observations and the automatically generated computer time stamps." Higgins and colleagues did note, however, that both nurses' and patients' perceptions of quality of care and satisfaction with technology use were high.

A time-motion study of physicians in ambulatory practices (Sinsky 2016) found that, during the office day, physicians spent 27.0% of their total time on direct clinical face time with patients and 49.2% of their time on EHR and desk work. While in the examination room with patients, physicians spent 52.9% of the time on direct clinical face time and 37.0% on EHR and desk work. In addition, outside of office hours, physicians spend another 1 to 2 hours of personal time each night doing additional computer and other clerical work. Thus, for every hour physicians provide direct clinical face time to patients, they spent nearly 2 additional hours on EHR and desk work within the clinic day. Of the time spent on EHR and desk work, 38.5% was spent on documentation and review tasks, 6.3% on test results, 2.4% on medication orders, and

2.0% on other orders. They spent 1.1% of their time on administrative tasks (0.6% involved insurance-related tasks and 0.5% involved scheduling).

Two studies looked at time allocation for residents. Wenger and colleagues (Wenger 2017) found that resident activities indirectly related to patients accounted for 52.4% of the time and activities directly related to patients accounted for 28.0%. On an average shift (11.6 hours on average) residents spent an average of 1.7 hours with patients, 5.2 hours using computers, and 13 minutes doing both. Time spent using a computer was scattered throughout the day, with the heaviest use after 6:00 p.m. The other study (Chen 2016), on first year residents/interns, found each intern spent on average 112 hours per month on 206 electronic patient record encounters. However, the amount of time spent on the computer decreased from July to January as they became more proficient.

Certain healthcare venues may be associated with even higher levels of health information technology (HIT) use. A recent ethnographic study of three academic ICUs found that the average HIT use on the two "high-use" ICUs was 49 percent (Leslie 2017). But there was considerable variation. On the "low-use" ICU it was 10 percent but ranged as high as 90% on others. The authors also found that clinicians in high-use ICU's experienced "silo" effects that had the potential to adversely impact communication, situational awareness, patient satisfaction, quality and patient safety.

So are there ways to reduce time spent interacting with technology and increase face-to-face time with patients? In the Sinsky study (Sinsky 2016) about half the physicians used some form of documentation support (dictation or a documentation assistant). Those physicians using documentation support spent more time on direct clinical face time with patients (31.4% for those using dictation and 43.9% for those with a documentation assistant) than those without documentation support (23.1%).

A recent article in Medical Economics (Shehata 2017) describes how use of scribes improved both office efficiency and patient satisfaction. The authors note that the average physician spends 30% to 50% of a patient encounter looking directly at the EHR. But with use of appropriately trained medical scribes, the physician is able to have more direct face-to-face interaction with the patient. After the encounter, the physician reviews the scribe's note to ensure the documentation is complete, attaches orders, and signs the note. This results in more patients who believe the physician is more attentive, compassionate, and courteous during their interactions and physicians who feel more efficient. One physician found his use of scribes allowed him to spend 93.7% of each patient encounter directly interacting with the patient. The article further describes a study in which video recordings of the gaze of both physicians and patients was recorded in a setting where medical scribes were used. Direct gaze between patient and physician occurred during 81.8% of the total visit length. And the physician and patient spent an additional 11.88% of the patient encounter screen sharing. The physician only spent an average of 6.31% of the total visit length gazing elsewhere.

And does all this time spent on EMR activities have a good "return on investment"? In our March 22, 2011 Patient Safety Tip of the Week "An EMR Feature Detrimental to Teamwork and Patient Safety" we noted a study that had very bothersome results. Hripcsak and colleagues (Hripcsak 2011) analyzed time spent authoring notes and time spent reading notes in the EMR. They found most users spent 90 minutes a day authoring notes, 30 minutes a day reading notes. But the bothersome feature was a striking disparity in the rates of notes read that were authored by various healthcare workers. They found 97% of attending notes were read by someone and 99% of resident notes were read by someone. But fewer than 20% of nurses' notes were read by attendings or residents! And only 38% of nurse's notes were read by other nurses. 16% of all notes were never read by anyone!

In that column we noted how this seems like a journey into the past! For the longest time, hospitals were divided in how they partitioned the paper medical chart. Some hospitals kept notes by physicians, consultants, nurses, therapists, dietitians, etc. segregated from each other whereas other hospitals intermingled all the notes in the "progress note" section. We can recall medical staff meetings where some disgruntled physicians indignantly ranted "I'm not interested in seeing the *#!&ing social work note". Generally, as the value of teamwork became increasingly appreciated and a culture of safety adopted, most organizations migrated toward the "intermingled" model. But with the advent of the EMR we have seen a trend back to the "partitioned" model. The statistics above mean that most physicians seldom read notes by anyone other than physicians. No wonder we have so many adverse events where communication breakdowns are identified as root causes or contributory factors.

Some of the problem may still be related to the "newness" of the EMR. Most EMR's do allow some degree of customization of what is displayed and how and where it is displayed. So a user might choose to keep all clinical notes together or to sort them by provider type. In some cases, the "default" setting is the partitioned one and the physician may not even realize he/she can choose the intermingled model.

See some of our other Patient Safety Tip of the Week columns dealing with unintended consequences of technology and other healthcare IT issues:

- June 19, 2007 "Unintended Consequences of Technological Solutions"
- May 20, 2008 "CPOE Unintended Consequences – Are Wrong Patient Errors More Common?"
- June 17, 2008 "Technology Workarounds Defeat Safety Intent"
- August 26, 2008 "Pattern Recognition and CPOE"
- September 9, 2008 "Less is More….and Do You Really Need that Decimal?"
- December 16, 2008 "Joint Commission Sentinel Event Alert on Hazards of Healthcare IT"
- February 2009 "Healthcare IT The Good and The Bad"
- March 3, 2009 "Overriding Alerts…Like Surfin' the Web"

- October 2009 "A Cautious View on CPOE"
- November 24, 2009 "Another Rough Month for Healthcare IT
- April 20, 2010 "HIT's Limited Impact on Quality To Date"
- March 22, 2011 "An EMR Feature Detrimental to Teamwork and Patient Safety"
- January 24, 2012 "Patient Safety in Ambulatory Care"
- June 26, 2012 "Using Patient Photos to Reduce CPOE Errors"
- June 2012 "Leapfrog CPOE Simulation: Improvement But Still Shortfalls"
- July 17, 2012 "More on Wrong-Patient CPOE"
- January 2013 "More IT Unintended Consequences"
- April 30, 2013 "Photographic Identification to Prevent Errors"
- October 8, 2013 "EMR Problems in the ED"
- March 11, 2014 "We Miss the Graphic Flowchart!"
- October 2014 "Ebola Exposes Fundamental Flaw"
- January 2015 "Beneficial Effect of EMR on Patient Safety"
- March 2015 "CPOE Fails to Catch Prescribing Errors"
- March 31, 2015 "Clinical Decision Support for Pneumonia"
- August 2015 "Newborn Name Confusion"
- December 2015 "Opioid Alert Fatigue"
- January 12, 2016 "New Resources on Improving Safety of Healthcare IT"
- January 19, 2016 "Patient Identification in the Spotlight"
- February 9, 2016 "It was just a matter of time…"
- April 5, 2016 "Workarounds Overriding Safety"
- May 2016 "Name Confusion in the Pharmacy"
- May 3, 2016 "Clinical Decision Support Malfunction"
- May 24, 2016 "Texting Orders – Is It Really Safe?"
- August 23, 2016 "ISMP Canada: Automation Bias and Automation Complacency"
- November 22, 2016 "Leapfrog, Picklists, and Healthcare IT Vulnerabilities"
- January 2017 "Joint Commission Thinks Twice About Texting Orders"
- February 28, 2017 "The Copy and Paste ETTO"
- March 2017 "Yes! Another Voice for Medication e-Discontinuation!"

References:

Shanafelt TD, Dyrbye LN, Sinsky C, et al. Relationship between Clerical Burden and Characteristics of the Electronic Environment with Physician Burnout and Professional Satisfaction. Mayo Clin Proc 2016; 91(7): 836-848
http://www.mayoclinicproceedings.org/article/S0025-6196(16)30215-4/abstract

Higgins LW, Shovel JA, Bilderback AL, et al. Hospital Nurses' Work Activity in a Technology-Rich Environment: A Triangulated Quality Improvement Assessment. Journal of Nursing Care Quality 2016; Published Ahead-of-Print November 10, 2016

http://journals.lww.com/jncqjournal/Abstract/publishahead/Hospital_Nurses__Work_Activity_in_a.99600.aspx

Sinsky C, Colligan L, Li L, et al. Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. Ann Intern Med 2016; September 6, 2016
http://annals.org/aim/article/2546704/allocation-physician-time-ambulatory-practice-time-motion-study-4-specialties

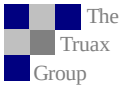
Wenger N, Méan M, Castion J, et al. Allocation of Internal Medicine Resident Time in a Swiss Hospital: A Time and Motion Study of Day and Evening Shifts. Ann Intern Med 2017; published online 31 January 2017
http://annals.org/aim/article/2599281/allocation-internal-medicine-resident-time-swiss-hospital-time-motion-study

Chen L, Guo U, Illipparambil LC, et al. Racing Against the Clock: Internal Medicine Residents' Time Spent On Electronic Health Records. Journal of Graduate Medical Education 2016; 8(1): 39-44
http://www.jgme.org/doi/abs/10.4300/JGME-D-15-00240.1?code=gmed-site

Leslie M, Paradis E, Gropper MA, et al. An Ethnographic Study of Health Information Technology Use in Three Intensive Care Units. Health Services Research 2017; 25 January 2017
http://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12466/full

Shehata H, Amparan A, Hizon G. How to use scribes to get off the computer and in front of patients. Medical Economics 2017; March 13, 2017
http://medicaleconomics.modernmedicine.com/medical-economics/news/how-use-scribes-get-computer-and-front-patients?GUID=B26D4067-1665-45D0-AFB2-A3778C28674C&rememberme=1&ts=13032017

Hripcsak G, Vawdrey DK, Fred MR, Bostwick SB. Use of electronic clinical documentation: time spent and team interactions. JAMIA 2011; 18: 112-117
https://academic.oup.com/jamia/article/18/2/112/2909113/Use-of-electronic-clinical-documentation-time



Healthcare Consulting
www.patientsafetysolutions.com

http://www.patientsafetysolutions.com/

Home

Tip of the Week Archive

What's New in the Patient Safety World Archive