

Going through the trouble of structuring EMR data.... are “point and clicks” worth it?



On May 29th 2014, The House Committee on Veterans Affairs held a two hour hearing: “Assessing Inadequacies in VA Data Usage for and Services Provided to Visually-Impaired Veterans” (video available on C-Span at <http://www.c-span.org/video/?319636-1/veterans-administration-visuallyimpaired-services>.) Among those testifying were blind veterans who commented on the importance of effective sharing of records in military trauma cases that frequently involve numerous transitions of care across multiple disciplines. It was suggested that the use of encoded aggregated medical record data combined with analytics could be a powerful tool for risk stratification and care coordination.

The rub is that for the most part the important clinical content in medical records currently remains captive to “free text” structures that can only be “processed” by manual review.

In fact the Health Story Project estimates that some 1.2 billion clinical documents are produced in the U.S. each year, and about 60 percent of these contain valuable patient care information “trapped” in an unstructured format. What makes this more onerous is that much of the data in these records are computer generated expressions driven by “standardized templates” used to improve data entry efficiency while meeting encounter documentation requirements driven by payment models.

As these volumes of electronic free text documents continue to mount and, for the most part are remain unread by clinicians (or machines) for care delivery, we can only agree with views such as Vanderbilt University biomedical informatics professor Chris Lehmann, MD: “the biggest waste in the healthcare system is not unnecessary treatment or duplicated test results; it is that we collect data and never use it again”.

Structured data is essential for precise data-mining needed to capture and organize the analytics needed to monitor the health of a patient population or an individual traversing the healthcare system. The lack of structured data is due, in large measure, to physician frustration associated with using EHRs, as much of the burden to capture structured clinical data has fallen to the physician at the point of care, immediately following a patient visit, or at the end of the day. While structured data is required to aggregate, report and transmit data at the point of care, it is often perceived by physicians to inhibit their ability to practice medicine and document in a fashion they feel is most effective. Physicians report that they spend too much time “clicking around” the EHR and not enough time interacting with their patients.

As a result, much of the patient information that providers need for decision-making, and much of the data that could be used for trend analysis and research for the betterment of the public’s health is difficult to get to, difficult to standardize, and difficult to share between disparate computer systems.

What is needed is a solid demonstration that the “clicking around” effort is “worth it”. As an example, from the point of view of veterans who sight has been impaired by war zone exposure, the value of vision is clear: at a recent conference hosted by the DoD Vision Center of Excellence at the Defense Health Headquarters (DHHQ) in Washington DC, a paper entitled “Managing Acute Eye Trauma” included some amazing facts about how vision is valued by patients:

Patients, with 20/30-20/50 visual acuity would be willing to pay 19% of their lifetime to get back normal visual acuity. Patients with 20/200-20/400 visual acuity would give up 48% of their lifetime, and blind people would give 60% of their lifetime to regain normal visual acuity.

We believe a demonstration that integrated electronic medical records combined with analytics can deliver the promise of improved care and avoid preventable morbidity in a high risk population such as trauma patients would make the value of structured EMR data “real” for clinicians and would foster enhanced data structuring efforts (including investment in technologies such as NLP, touch/voice data entry). The goal is the demonstrated use of technology that can leverage the hidden potential of integrated multidisciplinary electronic records to avoid duplication and error, target timely care to the riskiest patients, and deliver integrated multidisciplinary care plans.

To reach the desired state of one complete and accurate electronic chart per patient that can approach this vision, healthcare organizations need to change their approach to implementing EHRs and HIEs that includes identifying the “deal breakers” for structured data entry. For physicians resistant to structured data capture, a hybrid approach needs to be developed that blends patient risks, the ability to capture required structured data elements and provides physicians the flexibility to document in their own personal manner while meeting the needs of the patient. Healthcare organizations should take

proactive measures to educate/inform physicians on the benefits of capturing structured data elements and maintain flexibility within an EHR to allow for personalization of progress notes and individual physician styles.

A critical component of such a demonstration is the identification of the “whole technology solution” that delivers on this vision. This includes identifying the technology platforms necessary for seamless data integration from disparate clinical workflow care delivery/documentation activities to integrated follow-up care. Understanding the components of the technology architecture necessary to accommodate the capture, integration and utilization of structured data is often assumed to be a part of how EHRs exist today. However, the comparison between EHR software companies, HIE software companies, integration environments, clinical decision support and semantic integration and translation services for example, are dissimilar. A solution today will most likely be a combination of several technologies to solve critical issues.