National Health Information Technology Week: Celebrating an important patient safety innovation

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Health information technology (HIT) will someday be looked at as the most important patient safety innovation of our generation. While implementation of HIT can be difficult for clinicians accustomed to paper forms and frustrating in the time required to learn new systems and cope with non-intuitive design, these are short term issues. In the long run the ability to retain and connect every element of data from one patient to another and one encounter to the next will far repay the investment required to enable HIT.

HIT is the critical enabling technology of the National Anesthesia Clinical Outcomes Registry (NACOR). Designed for a digital future in which all anesthesia records are in electronic systems, NACOR is built on the efficient and comprehensive approach of absorbing existing electronic data directly from clinical and administrative databanks, rather than demanding hand and eyeball abstraction of medical records from one computer to another. This philosophy has enabled NACOR to grow from zero to 20 million cases in a little more than four years. Every anesthetic requires a digital record for payment purposes, and this is the starting point for NACOR: the national availability of 20+ data elements for every anesthetic performed in America. Although it sounds simple, the ability to capture patient age, sex, zip code, physical status; procedure type and duration; facility type and geographic location; characteristics of every provider on the team; and the type of anesthesia performed has already led to important insights regarding the state of anesthesia today, including perspective on the enormous variation in coverage models, case mix and normal surgical duration seen from one practice to another.

In the near future, moreover, the penetration of Anesthesia Information Management Systems as part of the electronic healthcare record will grow from its present 25 percent to become a universal standard. At the same time, the use of software to capture adverse outcomes and unexpected complications will grow as well, providing a second and more valuable stream of electronic data. Our registry will be there to witness this transition of anesthesia documentation, and to benefit from the results. We anticipate that the medical specialty registry of the future will be based entirely on the platform we are creating today – one of passive digital absorption of existing electronic data – and on the continued development of analytic and business intelligence algorithms which will surely follow.

Without requiring any extra effort from the 12,000 physician anesthesiologists and 10,000 nurse anesthetists contributing to NACOR we can already provide each participating practice with more than 40 reports regarding their performance and peer-group status. Continued growth in both the breadth and depth of the data captured in NACOR will enable hundreds of academic and comparative effectiveness research projects. Data in NACOR will contribute not only to patient safety but also to development of new drugs and devices, analysis of new models of care (such as the perioperative surgical home), and to
educational products that specifically target gaps in our current knowledge. HIT is the wave of the future, and NACOR is here to ride it.