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The Woolly Mammoths Of Digital Health Care

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By Divya Dhar

Rarely has an “advance” in technology been as unsettling to the user as the electronic medical record (EMR), a digitized version of the old doctor’s chart that is driving physicians crazy while not improving the quality of care by as much as expected. Imagine what it would be like to attend to someone in pain while simultaneously typing your credit card information into an online form (with all the attendant reprimands for missing data).

“I used to be able to recall who the patient was within 20 seconds of seeing two pieces of paper of their old records in front of me,” says Dr. Robert Kersten, professor of clinical ophthalmology at the University of California, San Francisco. “Now I have to go through this cumbersome EMR. Instead of looking at the patient, I have my back to them.” Not only does it harm the physician-patient relationship, Dr. Kersten says, the EMR takes about three minutes longer to fill out than the old-fashioned paper chart. With 50 patients daily, the doctor has just seen his workday increase by two and a half hours.

The Health Information Technology for Economic and Clinical Health Act (aka the HITECH Act) is a part of the 2009 economic stimulus package that set aside \$30 billion in incentives for hospitals to do away with paper medical records in favor of EMRs over the next 10 years. The Affordable Care Act further propelled digitization. As a result, the percentage of hospitals and clinics that use EMRs grew from

5 percent in 2008 to 80 percent now; beginning in 2015, penalties will be levied on those that have not made the digital transition.

For physicians actually using the EMR, however, progress has not been nearly as great as these numbers suggest. “Most doctors are unhappy with their EMR,” says Ben Loop, a vice president at Siemens Healthcare, a major EMR vendor. “They are generating a lot of information that is not very useful.”

Moreover, they are functionally archaic. “You cannot do basic functions like search in an EMR,” says Dr. Kenneth Mandl, professor of pediatrics at Harvard Medical School. For example, a patient’s records can only be accessed by her name or identification number, even though most doctors recall their patients more vividly by their stories or ailments. There is no way to search for that guy who dislocated his jaw biting into a very large burger (actual case: while on a ski vacation).

Why EMRs aren’t (yet) improving care

The intent of introducing the EMR was to streamline and coordinate healthcare by providing universally accessible patient information for accurate clinical decision-making at point of care – and this remains an important objective. But the EMRs that first went into commercial use were designed principally to serve the billing department, not the clinician.

As such, EMRs have yielded far less benefit than predicted. A large study at Kaiser Permanente did show a modest reduction in emergency room visits by diabetes patients. However, another study comparing doctors using EMRs in an ambulatory setting with those who did not showed no difference in physician adherence to medical guidelines.

The main disappointment over EMRs concerns the virtue of “interoperability,” the easy sharing of data across medical facilities or between different IT systems within the same hospital. The challenge of coordinating a patient’s complex medical care has only grown, especially since 60 percent of patient care is delivered outside of the main hospital system, according to Dr. Todd Rothenhaus, chief medical officer of Athenahealth, an EMR vendor.

Which brings us to the next unpleasant feature of the EMR: Different EMR systems do not talk to each other, even if they come from the same vendor. Nor are they likely to: The manufacturers want their systems to become elaborate, proprietary walled gardens to prevent the hospital client from seeking greener pastures and investing in another solution.

Finally, for however primitive they are with respect to the medical decision-making process, EMRs are highly complex behemoths that come with an enormous price tag: Kaiser Permanente is [reported](#) to have spent \$4 billion on its EMR system. So when more user-friendly and agile designs—closer to how doctors think and work—finally become available, hospitals are loathe to replace a system into which they have invested millions if not billions in both software and maintenance contracts.

How patients and startups can lead the way forward

I learned all of this the hard way. As a physician, I became so frustrated by the lack of real-time coordination among EMRs that I decided to design a patient-centric network of patients' providers and their families in order to enable better coordination and in network utilization. This allows doctors and nurses instant visibility into who else is looking after their patients and make referrals into the patient's existing clinical network. Everyone I presented the idea to told me it could be a game changer, but always with the qualm: "Will this integrate with the EMR?"

Even so, mine is one of many health-tech startups that have gotten seed funding recently, thanks to the widespread consensus that our \$2.9 trillion healthcare industry is broken. Funding for digital health [reached \\$700 million](#) in the first quarter of 2014, growing at an annualized rate of 87 percent compared to the first quarter of 2013. Much of this innovation—such as smart pill bottles that send an SMS reminder if you forget to take your pill—may be designed simply to circumvent the EMR. But since over half of total healthcare spending remains in the clutches of the EMRs, inside hospitals or covering physician services, innovations that do not integrate with or replace

the EMR are unlikely to make a significant dent in cost containment, a major objective of the Affordable Care Act.

I am part of a new breed of physician entrepreneurs, inspired by the intuitive technology in our personal lives that allows us, say, to order a cab in seconds, yet appalled that it can take up to an hour to order a CT scan for a rapidly deteriorating patient. Promising improved coordination of health services, the Affordable Care Act has ended up supporting technological woolly mammoths that not only frustrate doctors but hold patient data hostage.

However, the same Affordable Care Act has also created the most transformative conditions in healthcare. One such trend that will shake the industry is the rise in high deductible insurance plans, where now the patients will demand access to their data, because they are paying directly for their care. It's this desire to become empowered patients that will lead to even more health care startups to thrive — and cause the economics to reverse in favor of opening up the data.

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