

Clinical Informatics: An Idea Whose Time Must Come

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Victor Hugo, the 19th century author of *Les Misérables*, wisely observed that nothing is as powerful as an idea whose time has come. Revolutions occur when a concept evolves from the provocative premise of a thoughtful individual to the shared goal of a large, determined crowd. Arlo Guthrie reflected Hugo's insight in the story of Alice's Restaurant. "You can get anything you want" grew from the lament of a single renegade to a deafening chorus that reversed American foreign policy (in four-part harmony, no less).

Clinical informatics—information technology and decision science applied to improving healthcare—is an inherently powerful idea with revolutionary potential. The feature articles in this issue of *JHIM* show that it can and should be purposefully adopted to transform healthcare. Sadly, though, clinical informatics has not yet developed the power of an idea whose time has come. The supporters' chorus is growing, but the collective voice of skeptics and traditionalists is still louder. Healthcare continues to march forward on a paper trail.

Will the idea of IT-based clinical informatics ever launch a revolution? It will because it must. We will keep getting what we've always gotten—waste and errors—if we keep doing what we've always done. The increasing complexity of medical science will produce even worse outcomes if clinicians are expected to keep everything straight in their heads with occasional prompts from a traditional medical record. Continuing the status quo is scary; change is imperative because the

information needs of efficient and effective healthcare no longer can be processed on paper.

Getting Help from the Past

Fortunately, a previous revolution gives hope for clinical informatics by showing the possibility for progress at the foundations of medical practice. Tradition can be overcome when a better idea becomes more powerful.

Just 40 years ago, Dr. Larry Weed conceptualized a standardized, problem-oriented medical record as a necessary advancement in clinical care. His idea met with widespread opposition because most doctors were comfortable organizing case notes as they pleased. They did not want to be forced into a common reporting format. They thought it would take too much time and money. Consequently, clinical observations were recorded anywhere in the record, if they were recorded at all.

Having started my healthcare career in 1969 as a file clerk in a medical records department, I personally witnessed this archaic approach to recording clinical information. The department's medical records librarians spent hours abstracting basic details from each doctor's notes after a patient was released from the hospital. Doctors were generally unwilling to follow instructions that might simplify the process. The standardized discharge summary prepared by a librarian, not a physician, was the only common element across all medical records as recently as the early 1970s.

Revolutionary progress from doctors' free-form notes to standardized medical records began with an

idea about organizing information in a sensible way. Consequently, today's roadblock is not disagreement over how to organize clinical information. The problem is the paper chart where most of the information is centrally stored. The powerful idea is this: The current medical record must be available at all times in a useful way to all who need it, not just the caregiver or clerk who possesses a patient's paper file at a particular point in time.

Manually processed, paper-based distribution of clinical information is the next monument that must be toppled if money and lives are to be saved. For the United States to be really serious about healthcare reform, the everyday meaning of "medical record" must be transformed from "a single, historical paper document" to "a virtual, real-time information resource." Nothing else matters as much, because processing paper is problem No. 1.

A Call to Action

What, then, can be done to accelerate the IT-based clinical informatics revolution? IT professionals and their progressive colleagues throughout the healthcare system must take the offensive in an organized battle against the status quo. We must declare war on business as usual. (Osama Bin Laden is hiding on the paper trail. Pass it on!)

Talking about the good things that IT brings to healthcare has not been a productive strategy. Instead, we need to heap attention on serious, persistent, expensive problems that can be traced directly to inadequate investments in IT and clinical informatics.

We need to sensationalize the shame of spending anywhere from 25

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to 30 cents of every dollar spent on healthcare on administrative expenses. America's successful industries spend less than 10 percent of their operating budgets on administration, thanks largely to automating information processes during the past two decades.

Through organized political action, we need to force the government—the biggest spender of healthcare dollars—to appropriate tens of billions of dollars each year to IT infrastructure and clinical informatics until administrative expenses have been cut in half. We must quickly add the power of our voices to the efforts of the few elected officials who are willing to stake their political futures on IT.

We must get Americans enraged about the high number of medical errors that occur because existing information is not automatically made available in the right place at the right time. We need to barrage the public with real-world examples of time and money wasted because doctors' and hospitals' medical records are not integrated by clinical information

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systems. At the same time, we need to make people aware of issues that will soon be raised by personalized predictive medicine and other offshoots of the genetics revolution. Traditional medical records will prove to be woefully inadequate for the data-intensive task of matching individual patients with optimal treatments at the molecular level.

The bottom line is that healthcare's IT leaders must convince other decision makers to look beyond short-term financial considerations. Return on investment (ROI) has

nothing to do with the long-range imperative for clinical informatics. ROI is a red herring in solving the mysteries of waste and error in healthcare. Clinical informatics is among the most important investments (along with clinical research) that can be made in the future of our nation's health and medical care. To the extent that clinical informatics does not pay for itself, the problem lies with the payment system and its myopic policies. The solution lies with us. We can get anything we want when we all sing the same song. Let's start singing, loudly, in protest against the problems that can be solved by clinical informatics.

About the Author

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