

Panacea Or Placebo: Electronic Health Records Come To The US

By [Jonathan M. Gitlin](#) | Published: March 26, 2008 - 11:55PM CT

The Need For A Better System

Doctors' poor handwriting might be a cliché, but being able to accurately read medical records can often be a matter of life and death. The ubiquity of the personal computer has allowed the clinic to enter the digital age, and given that computers excel at managing information, the development of electronic health records (EHR) has been a no-brainer. Despite this, EHR adoption in the US and elsewhere has been slower than some might like, and at least one presidential candidate has made their widespread adoption a healthcare policy platform plank, promising widespread savings through increased efficiency.

Unlike other software markets, where a single player controls the market (such as Microsoft with Office), or where there are but a few solutions, the EHR field is one of byzantine complexity. There are dozens of different software packages and competing products. In this article, we'll look at the state of the EHR field, along with some of the benefits and problems associated with their use.

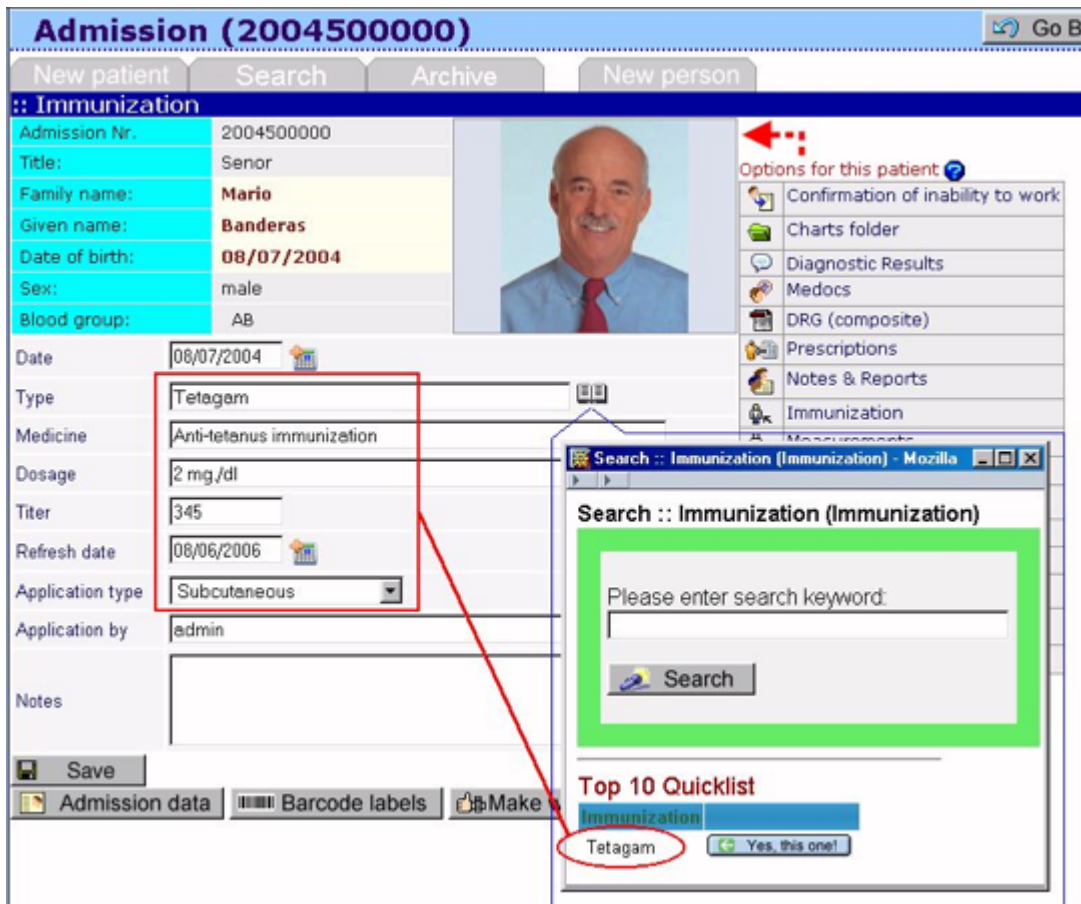
Inefficiencies In The System

Despite the US' position as the world's largest and most advanced economy, the US health care system is a model of inefficiency. Costs are [more than twice](#) those of any other nation in the Organization for Economic Co-operation and Development; the US spends more than \$6,000 per patient per year. Despite this expenditure, health outcomes are, [by most metrics](#), worse than almost every other OECD nation, whether it be life expectancy, infant mortality, years lived free of disease, and so on.

Part of this inefficiency is related to the availability of records. Currently, it's estimated that 20 percent of medical tests ordered by clinicians are repeats of previous tests, conducted because the originals have been lost. When those tests include expensive CT and MRI scans, you can see where some of those massive costs come from.

It's not just money-saving either; medical errors due to incomplete, inaccurate, or illegible records are a serious problem, and patients moving from one care provider to another can encounter problems if their records don't follow them.

To this end, a [recent study](#) by the RAND Corporation suggests that widespread adoption of EHRs could save as much as \$81 billion each year, thanks to fewer redundant tests and procedures and fewer errors in treatment. But EHR adoption in the US lags behind other countries, with adoption rates by physicians' practices at less than 20 percent. By way of contrast, over 90 percent of primary care practices in Scandinavian countries have adopted EHRs.



An example of an Electronic Health Record

So, by increasing the uptake of EHRs, practices should be able to cut their costs, and do away with the mountains of paper records, along with reducing errors and duplicate tests. But even if every doctor in the land adopted EHRs tomorrow, that's no guarantee that things would magically be all right.

Illegible Handwriting, Digital Style

Working in an office, if someone sends you a file you can't open, it's not usually a matter of life or death. On the other hand, an incompatible medical record file moves the

problem of illegible handwriting into the digital age. A common complaint among doctors that Ars spoke to was that of EHR format incompatibility; it's no good having a file you can't read. Unlike productivity software, where programs with differing file formats—such as Word versus WordPerfect—get sorted out in the marketplace, with EHRs, there is a real need for common standards.

In 2004, the US government created, via [executive order](#), the [National Coordinator for Health Information Technology](#) within the office of the Secretary of the Department of Health and Human Services. The Office of the National Coordinator exists to provide “counsel to the Secretary of HHS and Departmental leadership for the development and nationwide implementation of an interoperable health information technology infrastructure.”

Part of that job is to ensure that interoperability standards exist within the health IT industry. I spoke with Dr. John Loonsk, director of the Office of Interoperability and Standards, about the some of the issues surrounding standards. Ongoing issues with competing standards in EHRs have led to the creation of the [Healthcare Information Technology Standards Panel](#), a public-private partnership that works to harmonize standards within health IT.

In addition, another body, the [Certification Commission for Healthcare Technology](#), provides a “seal of approval” of interoperability; solutions certified by the commission can be bought safe in the knowledge that they won't speak Greek to each other. The positives, Loonsk told Ars, will be “having EHRs that can follow the patients and can be accessible by two providers to support care is going to be helpful to improve quality of care, efficiency of care and reduce errors.”

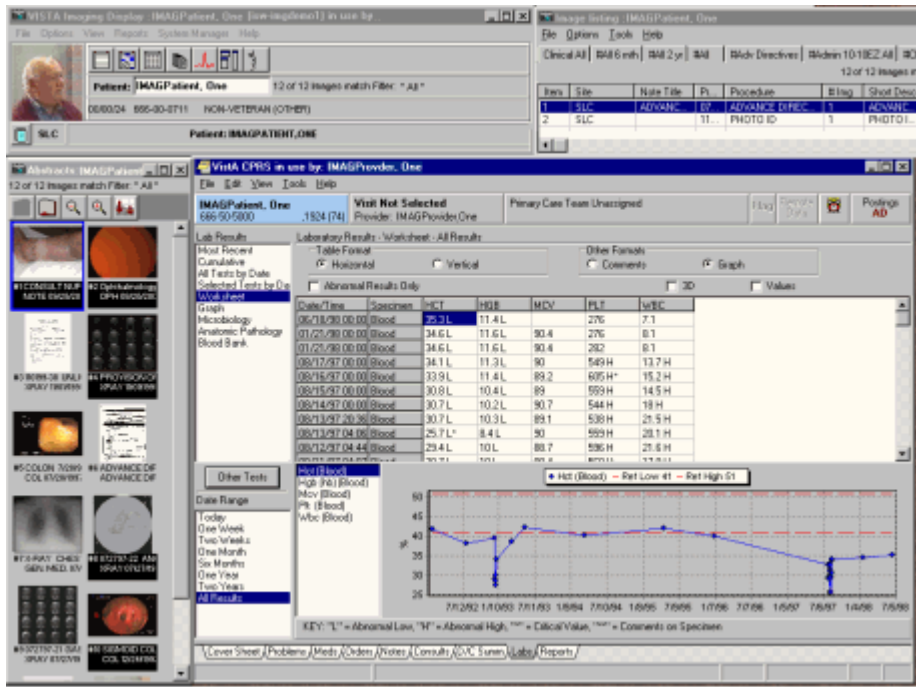
In order to help the spread of such standards among EHRs, the federal government has mandated that standards recognized by HHS have to be incorporated into federal contracts. This is designed to provide a base level of compatibility between the dozens of different solutions without dictating to the market in a way that would stifle innovation.

Dr. Loonsk acknowledged that there is still more work needed in this area; some of the pieces of the challenge are that health information is a broad information space. Unlike banking, which deals in numbers, health IT involves lots of complicated concepts, and there are different ways to communicate those concepts. Your bank balance is your bank balance, but your health records need to relate what a patient is feeling, where they're feeling it, and so on.

Doctors Cautiously Embrace EHRs

The US Department of Veterans Affairs has been a major proponent of EHRs in the US. Their Computerized Patient Record System (CPRS) has been lauded as a leading government innovation by [Harvard University](#) and shows what EHRs can do in large-scale healthcare networks. I spoke with some physicians familiar with the VA's system in order to get an idea of how the system works in practice.

Dr. Jeffery Tuttle, assistant professor of psychiatry at the University of Kentucky, confessed that he still finds paper records easier to deal with due to the lower time overhead involved. Despite this, contact with EHR systems other than the VA's has highlighted the effectiveness of VA's model. Dr. Tuttle said, "I find myself longing for a system similar to the VA. All records and orders are tied to a single, unified system with one login name and one password. 'Signatures' are managed by a second password. I can easily find (and read) records from providers across the country and pull messages from other physicians related to patient care. The interface is simple (not Mac simple, yet) and easy to use. Most importantly, navigating the program is very intuitive."



The VA's Computerized Patient Record System

Dr. Tyler Jones, forensic psychiatry fellow at Georgetown University Hospital, is also a fan of being able to access records from VA hospitals across the nation: "Having that kind of access, particularly with patients that have long-term illnesses, saves time gathering data. Many physicians would simply not make the effort otherwise."

Dr. Jones does inject a note of caution, however. Although mistakes on paper records are often given as a reason to move to digital data, that doesn't mean that the files will necessarily be error-free. Because it's easy to copy and paste text between input fields in the records, small errors can be spread throughout files. The reproduction of errors is really a larger symptom of not reasoning while writing. "Actually putting pen to paper seems to engage doctors' thought processes more."

EHRs aren't just a success in the VA, though. Dr. Mark Block, a thoracic surgeon in private practice in Ft. Lauderdale, points out some of their advantages: "Ultimately, though, I think it saves me time and money because I don't have to worry about finding charts, missing charts, filing papers in charts, etc. I recently moved my office, and all I

had to do was move the server and three client computers, the router, and some peripherals, and voilà... I'm up and running. I didn't have to box up and move hundreds of paper charts and then find a place to store them. It is also a lot easier for me get information on any patient quickly, and to set alerts and send messages to my office staff about patients. It is easy to record phone conversations with patients and other physicians about certain patients. The EMR also does all the billing for me and keeps the statistics in an easy-to-access format.”

Microsoft, Google, And You

But EHRs aren't just about the files your doctors keep on your health. IT giants Microsoft and Google are both entering the health IT business, but on the consumer side of the equation. Microsoft's [HealthVault](#), the more advanced of the two, is a platform for personal health technology that combines data recorded from personal devices (blood glucose monitors, blood pressure monitors, heart rate monitors, peak flow monitors, etc.), along with health and fitness web sites (such the American Heart Association).

Microsoft states that HealthVault is not in fact a personal health record, but more a place to “collect, store and share health information.” Yes, that last one is “share,” for HealthVault accounts can be shared with trusted individuals determined by the user.

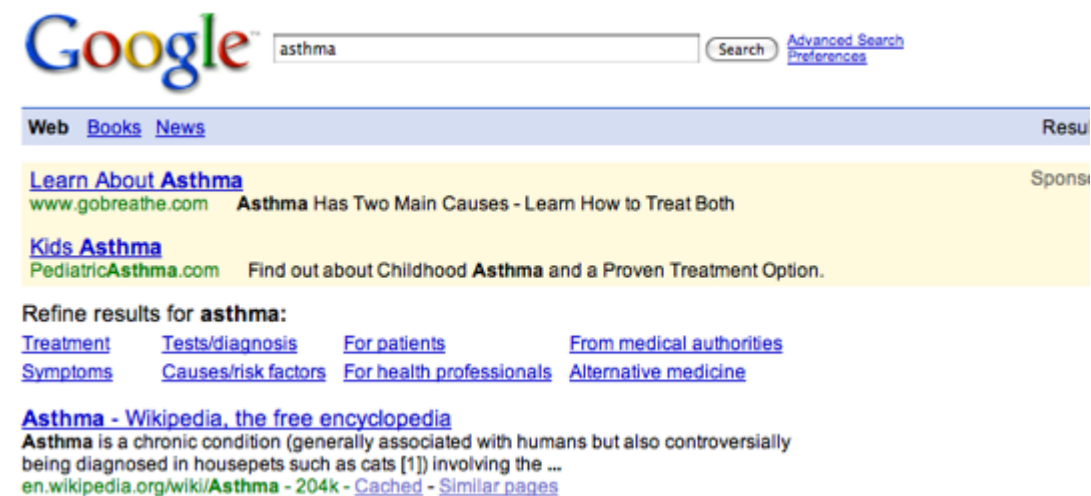


Microsoft's HealthVault

The hope is that, in the future, care providers will also be able to access the data, providing a more complete picture of a patient's health status. The idea is certainly one with merit. Think of your recent visits to your doctor; if they're anything like mine, they probably measured your blood pressure, but there can be quite a large variation of BP even over the course of a day, and factors such as worrying about something (such as the reason you're seeing a doctor) might result in higher-than-expected readings. Now imagine that your doctor had access to your home BP records, charted over several days

or weeks—they're armed with more accurate information regarding your health status, allowing better-tailored therapies.

Less is known about Google's plans for the personal health IT space, although [some details](#) have escaped Mountain View. It is thought that Google Health focuses more on the web search side of things than the integration with personal devices. Currently, if you search Google for a term it recognizes as a symptom or otherwise related to healthcare, it allows you to refine your search. Google Health may well be this on steroids (please excuse the pun), with more tailored searches that incorporate an individual's data to target the search.



Google already narrows your health-related searches for you.

In the future, the possibility of personally tailored medicine via pharmacogenomics (where a patient's genome is used to design custom treatment taking into account individual variants of enzymes etc) will be advanced by the spread of personal health IT.

EHRs And Privacy

Dr. Loonsk was also optimistic about the promise of personal health IT expanding, as it places consumers front and center in the digitization of healthcare, but stated that the area still has a long way to go. The eventual goal is a nationwide health information network based on core standards that must be secure enough to protect patient confidentiality.

That confidentiality is vitally important. We are already starting to see the growth of personal genomics testing companies such as 23andMe, a California startup that promises to genotype you for a sum, although currently their tests are not any more specific than suggesting vague predispositions for conditions. There are (well-founded) fears that, following growth in this area, insurance companies or other interested parties might gain access to such data and use it prejudicial ways, raising rates or denying coverage.

We're all familiar with phishing scams that try and gain access to our financial data; now imagine a world where the same people are trying to access your medical records. Widespread public adoption of personal health IT will necessitate public confidence in the inviolability of that data. Widespread public adoption of personal health IT will necessitate public confidence in the inviolability of that data. Luckily, the US hasn't had the kind of data security scandals that have [repeatedly rocked](#) the UK, but it would only take a lost CD of medical records to negatively affect public opinion on the subject.

So where does that leave us? Will widespread adoption of electronic health records be the panacea that brings US healthcare outcomes to the top of the international league tables? From where I'm sitting, I think it's unlikely. Their widespread adoption will have obvious benefits, and if they help to eradicate the 20 percent of diagnostic tests that are performed because the original results can't be found, then that should indeed have a positive effect on the amount of money spent per patient.

On the other hand, many of the reasons for poor US health outcomes have much deeper structural roots related to a lack of preventative care versus emergency care, issues that are tied in to the lack of a universal healthcare system and the nature of insurance companies that are outside the scope of this article. Perhaps we can say that, as in most other arenas of life where computers have made an impact, they remain tools that can help us if we use them right, but they don't make all the hard work go away.