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FROM THE EDITOR

Death of a sales pitch

The EHR and our troubled health care system, Part 1

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By Malachi G. Sheahan III, MD

In 2000, the Institute of Medicine published "To Err Is Human, <https://www.nap.edu/read/9728/chapter/1> " a landmark study that warned that as many as 98,000 people die annually as a result of medical errors. One conclusion of the report stated, "When patients see multiple providers in different settings, none of whom has access to complete information, it becomes easier for things to go wrong." Government and public reaction to the study resulted in the rushed integration of electronic health records into the U.S. medical system. EHR vendors promised solutions that included a dramatic reduction of preventable errors, a simplified system of physician communication, and the consolidation of a patient's salient medical information into a single, transferable file. Now, almost 20 years later, these promises remain mostly unfilled. How did we get here?

Systems of medical records have been in place since 1600 B.C. For thousands of years, they consisted mainly of the patient's diagnosis and the physician's treatment. In 1968, the New England Journal of Medicine published the special article "Medical Records That Guide and Teach <https://www.nejm.org/doi/full/10.1056/NEJM196803142781105> " by Lawrence L. Weed, MD. In the report, Dr. Weed advocated for the organization of medical records by problems rather than by a single diagnosis. This was the birth of our modern system. Medical records would now include lists

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of symptoms, findings, and problems that would organize the physician's planning and allow third parties to confirm the initial diagnosis. Nearly concurrent with this publication, the next major innovation was developing in a very unusual location.

In 1999, Fortune magazine labeled Jack Welch "Manager of the Century <http://archive.fortune.com/magazines/fortune /fortune_archive/1999/11/22/269126/index.htm> " for his innovative work as CEO of General Electric. His techniques involved cutting waste and streamlining his workforce. While these methods were somewhat controversial, GE's market value increased dramatically under his watch. The publishers at Fortune became interested in finding similar innovators in other fields. In this pursuit, they sent journalist Philip Longman to find the "Jack Welch" of health care.

Mr. Longman had recently lost his wife to breast cancer and was becoming obsessed with medical errors and health care quality integration. He set out to discover the best health care system in the United States. After months of research, Mr. Longman reached a startling conclusion. By nearly every metric, the Veterans Affairs system produced the highest quality of care. The key factor in upholding that quality appeared to be the EHR system VistA <https://www.data.va.gov/dataset/veterans-health-information-systems-and-technology-architecture-vista> (Veterans Information Systems and Technology Architecture).

The development of VistA was a grassroots effort begun in the 1970s. Using Tandy computers and Wang processors, the VA "hardhats" sought to develop an electronic system for medical records and communication. This effort was initially opposed and driven underground by the central bureaucracy. Laptops were confiscated, people were fired. Still, development continued, and in 1978, the Decentralized Hospital Computer Program <https://ehrintelligence.com/news/ehr-and-the-va-part-i-history/> was launched at 20 VA sites. The national rollout occurred in 1994 under the name VistA.

VistA was developed by doctors, for doctors, and routinely enjoys the highest satisfaction rates among all available EHRs. VistA also is an open source model; its code is readily available on the VA website. After seeing the evidence of VistA's efficacy, Representative Pete Stark (D-CA) introduced HR 6898 <https://www.congress.gov/bill/110th-congress/house-bill/6898> on Sept. 15, 2008. The bill would establish a large federal open source health IT system that private hospitals could leverage. The bill also mandated that only open source solutions would receive federal funding. As opposed to proprietary systems, open source models allow for rapid innovation, easy personal configuration, and incorporation of open source apps from unlimited numbers of contributors.

HR 6898 never passed, despite initial bipartisan support. By relying on lobbyists, marketing, and money, the proprietary EHR vendors

killed the Stark bill. After a 4-month scramble, the Health Information Technology for Economic and Clinical Health Act (HITECH <https://www.hhs.gov/hipaa/for-professionals/special-topics/hitech-act-enforcement-interim-final-rule/index.html>) passed, with EHR vendor support. HITECH established a certification system for EHRs. While the Stark bill envisioned a single, open source network, there were soon hundreds <https://www.softwareadvice.com/medical/electronic-medical-record-software-comparison /?utm_source=hitechanswers.net&utm_medium=affiliate> of certified EHR systems in the United States.

Before the HITECH Act, many EHRs existed, but several barriers blocked full implementation. Early systems were essentially electronic filing cabinets. Their developers had not anticipated the lack of standardization among physicians and hospital systems. The need for custom EHR bases frustrated the vendors. The question of marketing was omnipresent. Who was the actual customer? An economic model developed in which clinicians would bear the time and even financial costs as the benefits would be passed on to insurers, hospitals, and, presumably, the patients.

EHRs needed to become practical, affordable, and interoperable, but who was demanding this? Where was the financial motivation? In the beginning, vendors of EHRs had to convince doctors, the public, and the government of their worth. Now, essentially mandated by the HITECH Act, they only had to sell themselves to hospital administrators, who often had a different motive. Profits.

Many of today's EHRs are simply modified billing platforms, and doctors are paying the price. The Meaningful Use standards <https://www.himss.org/meaningful-use-standards> were meant to provide financial incentives for EHR adoption. Stage 2 required EHRs to be able to transport clinical information from one system to another. Looking at our actual practices can provide a master class in the gap between "be able to" and "actually doing." Again, who does the EHR vendor see as the customer? Certainly not the physician. My patients can list every type of inferior vena cava filter (or at least those with pending legal action), but most of them have never heard of an EHR. Just like "service lines," EHRs can make it very difficult for patients to seek care outside of their primary system. Who would see this barrier in communication as a perk and not a deficiency? Hospital administrators. The free transfer of medical records is bad for business. Therefore, hospitals don't prioritize it in their EHRs. The EHR vendors also benefit since an easy transfer of records would simplify a hospital's transition from one EHR to another. So, as with most deficiencies in the EHR, physicians are left to find ways around these problems. Sometimes, we need to go to comical lengths.

Two months ago, a patient pointed to a large machine behind our check-in desk. "What is that," he asked incredulously; it was a fax machine. While my competence with this apparatus is marginal (my office staff has taken to yelling "doctor faxing!" to alert one another

that I am about to inadvertently copy or scan my documents into oblivion), faxes remain a mainstay of medical care. Abandoned by modern business practices as a relic of the 1980s, why are we constantly faxing medical information? Because we are not the customer.

Disruption is now a favorable term in business. Doctors are busy people. BUSY people. Most of us walk a tightrope, a razor-thin timeline. Will we see the next patient in time, the next surgery? Will we get the medical records done today? Will we get the dictations done before being suspended? Will we make the committee meeting, the conference call, the next clinic across town? Will we have dinner with our spouse or see our kids today? Will we make it to the parent-teacher conference inexplicably scheduled for 10:45 a.m. on a Tuesday??!! When deciding between work commitments and family, we side with work overwhelmingly (and depressingly). Explaining this to a layperson is an impossible feat. I have stopped trying, stopped making excuses. Only we know how catastrophic "disruption" can be. Disruption in a 40-patient clinic. Disruption in the trauma bay. I have seen physicians reduced to tears by this disruption. Some activities need disruption. Typing with your back to the patient. Onerous documentation to facilitate billing. Faxing medical records. Will these be disrupted? Who is the customer?

Dr. Malachi Sheahan

In 1999, the Institute of Medicine started this process, telling us, "To err is human." I now respond with another Alexander Pope quote, "The same ambition can destroy or save." The money and influence of EHR vendors destroyed the chance to nationalize the most successful EHR our country has ever seen. What happens now? EHRs are incontrovertibly associated with burnout. Burnout is incontrovertibly associated with outcomes ranging from early retirement to suicide. EHRs cause physician harm. Major vendors can follow the Big Tobacco play book and deny the obvious, but the burden of proof is shifting to them. With their billions of dollars in profits, what have they done to study this problem? To help?

Who is their customer?

Dr. Sheahan <https://www.medschool.lsuhsc.edu/surgery/faculty_detail.aspx?name=sheahan_malachi> *is the Claude C. Craighead Jr. Professor and Chair, division of vascular and endovascular surgery, Louisiana State University Health Sciences Center, New Orleans.*

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