



Healthcare's Digital Revolution: Are We Ready to Reimagine the Work?

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Robert M. Wachter, MD, began his recent presentation for the Healthcare Risk Advisors (HRA) Virtual Conference Series by admitting to what he jokingly called “the stupidest thing I ever said to a mentee,” many years ago: “What will you do after we’ve implemented our electronic health record?” By now, we have all experienced how the electronic health record (EHR) rollout did not go as planned. If we have read Dr. Wachter’s book *The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine’s Computer Age*, we may even understand why the rollout went so badly. Fortunately, Dr. Wachter feels that it is now, finally, “a time for optimism” in the digitization of healthcare. Our success along the road to digitization will depend on what he describes as “reimagining the work.”

The Four Stages of Digitization

From studying the digitization process in other industries, Dr. Robert Wachter—Professor and Chair of the Department of Medicine at the University of California, San Francisco (UCSF), and a member of The Doctors Company Board of Governors—has identified four stages of digitization for healthcare:

1. Digitizing the record.: This is the stage we're completing now—rather later than we would have liked.
2. Interoperability: Connecting (a) primary care providers to hospitals, as well as hospitals to hospitals, and then (b) the entire digital ecosystem (meaning third-party applications, patient-facing systems, and enterprise systems).
3. Gleaning meaningful insights from the data.
4. Converting insights into actions that improve value, whether measured by safety, cost, access, or equity.

We've already begun stage two, but to achieve stages three and four, we need a sea change in how we think about digital data: less as something to gather, more as something to act with and upon. Dr. Wachter says leaders of organizations need to wake up thinking, "We have all this data sloshing around—let's do something with it."

The Productivity Paradox of IT

The statisticians of baseball can predict with stunning accuracy whether a certain player can hit a curveball thrown by a left-handed pitcher in the rain just after a full moon. Meanwhile, Dr. Wachter wryly observes that our inpatient sepsis alerts, considered a triumph among clinical decision-making tools, are wrong about a quarter of the time.

At the moment, medicine is caught in the “productivity paradox of IT,” a term coined by economist and technology expert Erik Brynjolfsson, PhD, of Stanford. In other industries, the benefits of converting from paper to digital systems did not begin to accrue for two, five, even 10 years. Healthcare, which by its nature is highly regulated and cannot afford to play the entrepreneurial game of “go fast and fail,” may take between 10 and 20 years from the start of the EHR conversion to see those benefits accrue.

Reimagining the Work

What needs to happen before digitization begins to pay off? Industries reap the rewards of digitization when the technology improves, yes—that’s a given. but the central challenge is to “reimagine the work.”

Consider a physician’s note: Those who created electronic notes envisioned digitizing a piece of paper in a binder. But if we were to design the electronic note from scratch today, Dr. Wachter points out, it would look more like a feed on Facebook or Twitter. It would include video and audio components. And, like Wikipedia or Google Docs, it would be more collaborative, with room for comments from nurses, social workers, and others.

Part of the reason for the productivity paradox of IT is that humans have a very hard time thinking about brand new ways of doing things. We need healthcare workers and administrators to begin asking: “Why are we doing x in this way? Why don’t we do it this other way?” to help us see fresh possibilities.

A Digitization Success Story

Robert Rushakoff, MD, a diabetologist, is the linchpin of the UCSF Inpatient Glucose Management Service. Each morning, Dr. Rushakoff uses a custom-built dashboard to review data from patients hospitalized at UCSF Medical Center who meet certain criteria. For about half of those patients, Dr. Rushakoff alerts the care team that they need to make an adjustment. His name is now a verb: Clinicians tell each other, “I got Rushakoffed.”

Dr. Wachter says that this system has brought instances of hyperglycemia and hypoglycemia down roughly 40 percent each.¹ Dr. Rushakoff's dashboard review of data on about 20 high-risk inpatients with diabetes takes him roughly one hour each morning—the time it used to take him to perform one endocrinology consult. That is, this dashboard allows Dr. Rushakoff to improve population health in an inpatient setting, facilitated by digitization.

Creating the dashboard took 10 to 15 hours of programming time. The programming is not what was hard, says Dr. Wachter. The thinking was hard. This is reimagining the work.

Divide and Conquer: How to Structure Tech Teams for Success

Dr. Wachter proposes that organizations arrange their technology workforces into two teams with two profoundly different functions:

- Team One might be called the “traditional” digital arm of the organization. Its members solve current clinical care and business problems, maintaining the day-to-day functions of the organization as it currently exists. They tend to focus on the EHR as the cornerstone of their work.
- Team Two is the digital solutions shop. Its members are tasked with thinking ahead about “big hairy problems” for which there is no off-the-shelf tool.

Dr. Wachter explains that UCSF's technology force is organized in this way and that there is no way Team One would ever have had the bandwidth to come up with Dr. Rushakoff's one-stop-shop Inpatient Glucose Management Service dashboard—after all, they have their hands full solving EHR daily use and interoperability problems. Their current multiyear project is called the “UCSF Digital Patient Experience,” and it involves reimagining the entire experience, from scheduling to billing to back-and-forth communication with the health system.

Keep Calm and Carry On

As we set off through stage two in pursuit of full interoperability, Dr. Wachter offers the encouraging thought that we are now, finally, truly, entering the post-EHR era, one in which we will take advantage of new tools and ways of thinking to improve healthcare value. Maybe now we will finally learn the answer to that question from years ago: What will we do after we've implemented our electronic health record?

To hear Dr. Wachter describe the digital revolution as only he can, access the recording of his [presentation](#).

Reference

1. Rushakoff RJ, Sullivan MM, Windham MacMaster H, et al. Association between a virtual glucose management service and glycemic control in hospitalized adult patients: an observational study. *Ann Intern Med.* 2017;166(9):621-627. [doi:10.7326/M16-1413](https://doi.org/10.7326/M16-1413)