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## Interview

## Interview of Robert M. Wachter, MD

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Dr. Robert M. Wachter is Professor and Associate Chair of the Department of Medicine at the University of California, San Francisco, where he directs the 60-physician Division of Hospital Medicine. Author of 250 articles and 6 books, he coined the term “hospitalist” in 1996 and is generally considered the “father” of the hospitalist field, the fastest growing specialty in the history of modern medicine. He is past president of the Society of Hospital Medicine (1999–2000) and past chair of the American Board of Internal Medicine (2012–2013). In 2004, he received the John M. Eisenberg Award, the nation's top honor in patient safety. For the past seven years, *Modern Healthcare* magazine has named him one of the 50 most influential physician-executives in the U.S., the only academic physician to receive this recognition. His new book, *The Digital Doctor: Hope, Hype and Harm at the Dawn of Medicine's Computer Age*, was published in April, 2015

**Healthcare:** What are you learning each day about local and national healthcare delivery as the events surrounding Ebola unfold?

**Wachter:** I'm not a public health expert, but it does expose the degree to which we are not prepared for this kind of thing. We all knew that the public health system and infrastructure are relatively underdeveloped in United States. It's unfortunate that it took a natural disaster to demonstrate how much work needs to be done.

We need to have a structure setup for this kind of disaster and be ready for it. It's not extraordinary that the patient came to the hospital and was misdiagnosed. Most clinicians have never seen [Ebola] before so it's not that hard to believe that it was missed. What is hard to believe is that the electronic health record was blamed. It is clear that [the history] was recorded by a nurse in a certain section of the health record, and the physician did not pick up on it.

What that says to me is that the health record can be better. One of the themes of my new book is how IT changes the nature of our workflow and communication. I can easily envision what happened in that emergency room: the nurse captured the information, recorded it in the electronic health record and moved onto the next task. We have this idea that when one types something into the health record, they are done. I think we have got to get past that and think differently about how we use electronic health records, and when we still need to communicate the old fashioned way.

**Healthcare:** Do you view these events surrounding Ebola as a new class of medical error?

**Wachter:** I think this is just a diagnostic error, but one with two new dimensions:

One dimension is that the error has consequences that are far greater than the usual. They don't just affect the individual but can impact everyone else exposed to it. We have faced that issue before with contagious diseases like tuberculosis. However, the consequences of a missed diagnosis here are potentially far greater.

The second dimension is the electronic medical record and the degree to which it changes workflow and communication patterns. We used to believe that the electronic health record would be our savior for all kinds of mistakes. However, what we are learning, which in retrospect is not that surprising, is that the EHR is capable of generating new kinds of mistakes; some of which are pretty powerful.

**Healthcare:** Information Technology, Interoperability, Public Health, and Ebola: Can it, will it, and should it change things going forth?

**Wachter:** Eventually I think it will but the challenge is that most of us had never seen a case. At the public health and epidemiological level, the system must be made aware of new

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risks that front-line clinicians everywhere need to assess. How good are we at decision support and triggering alerts to a clinician that when a patient has risk factors “A” and “B” together, that we need to think about “X”? We haven’t thought about how to do that without creating alert fatigue. We need to balance sensitivity and specificity to deliver the alerts in ways that are actionable and practical.

In some ways, we are not even good at basic Decision Support 101. Asking us to layer in more dynamic decision support, that changes quickly that changes over the space of a couple days, we need to get there. But to me, that will be a decade long process.

If you go the next step: Why is it that you need a doctor or nurse to even ask about travel to Liberia? In a world with truly seamless interoperability of big data, with Epic talking to Quest talking to Athena, one could envision our electronic health records talking to passport control. You don’t have to ask about travel; the system would know that. The number of steps between now and there, however – that’s fantasy right now.

**Healthcare:** You mentioned some challenges with computerized medicine and building adequate decision support. Do you believe we are headed in the right direction or is it time to reevaluate the tools we have?

**Wachter:** We have to do this. We have to figure out how to computerize the healthcare system. When you hear about errors caused by funky computer systems and people ignoring alerts, there is an instinctive longing for the old days, but most of it is fantasy. The old system wasn’t safe. We couldn’t read each other’s handwriting. There were no alerts and we would miss things. Patients were killed because of medication errors; people didn’t know their patients’ were allergic to medicines and so we prescribed them. There was no way I could follow what my residents were doing if I was at home or out of the building. And so, it can’t be that the right call is to go back to pen and paper. Even as we see clunky things in the computers, there is no question in my mind that my hospital is safer now that it is digital than when it was analog.

Is there a way to get from where we are now to nirvana without all of the uncomfortable, and sometimes dangerous, steps along the way? I’m not sure. I think there is some bumping around that we almost have to do in order to get there.

What I do think is that we are learning to be smarter and anticipate some of the problems before they bite us. I think alerts are a perfect example of the problem. At my hospital, the cardiac monitors in seventy ICU beds go off 2.5 million times in a month. There is an audible alert every eight minutes. One of the nurses in the ICU was asked: What would make you nervous about your patient? She said “silence.” That says that something is really screwed up and that we have not given deep thought to how you alert people in a way that it is productive. Part of that is because we have disassociated the process of developing the computer system and end-users. We have to figure out a way of integrating the people who are developing the computer systems and the users so that when we come up with these ideas that sound great in a PowerPoint presentation or a briefing book, we actually test it and see what it looks like when you use it in real life.

That was one of the most striking lessons for me that came from spending a day Boeing seeing how their computer engineers thought about cockpit design. I don’t think their engineers are any smarter than ours are. But before they release a design, before they actually build it into a Boeing cockpit, they just test the hell out of it. Both in simulation and in real life with test pilots to see: “This thing sounds like a really good idea, but in real life it doesn’t really work that well because it’s over-alerting people and it’s distracting them.” That is the kind of work that we have not yet built into healthcare computer development.

For example, when we computerized radiology, all of a sudden, without any forethought, people stopped going down to radiology department to talk to the radiologist. The relationships with radiologists were really useful. What sorts of structures and type of culture, do we need to make sure the hospitalists and radiologists still talk to each other? If we had learned to ask those kinds of questions, I think we could have mitigated some of the harm, not all of it, but some harm.

That is basically what I have learned and am trying to promote: How do we both make the technology better but also try to understand culture, workflow, personnel, and communication patterns? How are they going to be changed by technology and how do we create systems that take advantage of the technology? To use it as a tool without screwing up the rest of the things we need to deliver good and safe health care.