

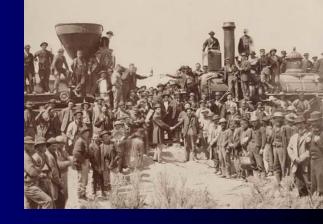
The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age

Robert Wachter, MD

Professor & Chair of the Department of Medicine, University of California, San Francisco Author, "The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age"

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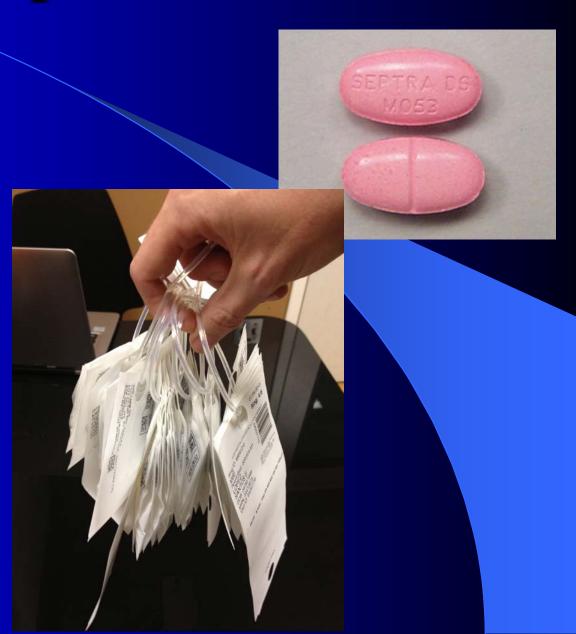
Professor and Chair, Department of Medicine
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Why I Decided to Explore Health IT

Combin 4 ps GP





Robert's Amazon.com

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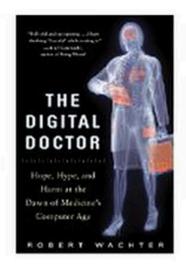
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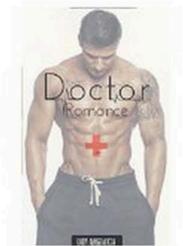


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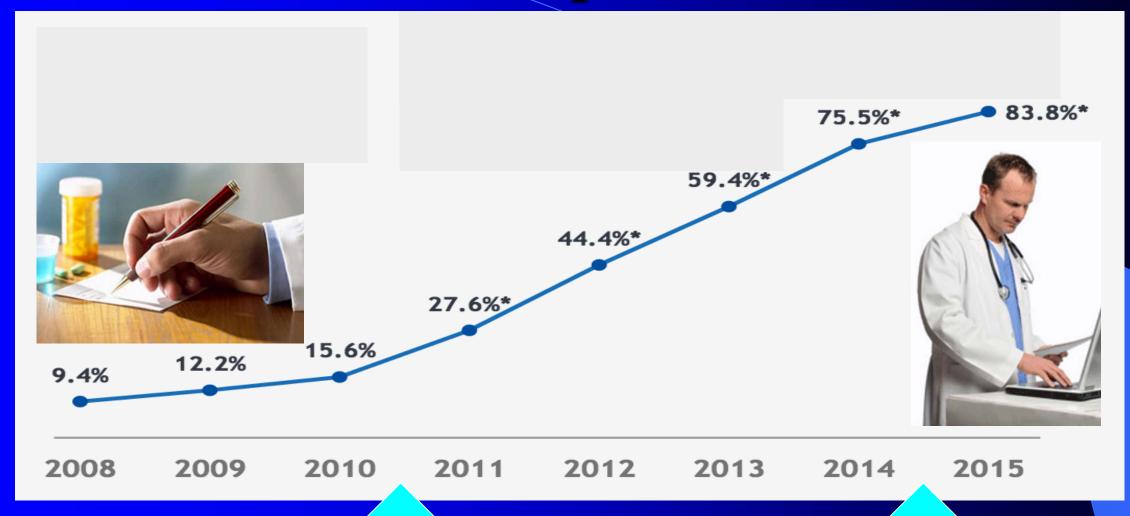


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"The Challenge That Will Dominate Your Career..."



EHRs in US Hospitals, 2008-2015



Office of the National Coordinator for Health IT

\$30 billion in federal incentives under HITECH

The Big Picture: Two Transformational Trends

Pressure to deliver high-value care

The Dominant Issue
Today

The digitization of the U.S.

healthcare system

Prediction: The Dominant Issue in 2025

Richard Baron on the Trauma of Computerizing His Philadelphia Office Practice

"The staff came to work one day and nobody knew how to do their job."

The Demise of Radiology Rounds





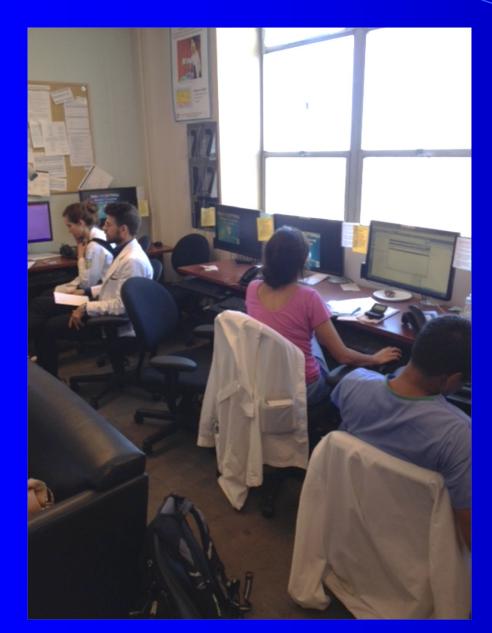
"The man who ruined radiology"

— Paul Chang's dad

Digital Radiology as Canary in Coal Mine

- The digitization of the thing creates the opportunity for infinite distribution (at no cost)
- Social relationships and communication patterns that previously depended on gathering around the thing will wither
- Power relationships mediated by who controls the thing will be renegotiated
- What happens when the thing isn't the film, it's the medical record...

Residents' Room Vs. The Ward





A 7-year-old Girl's Depiction of her MD Visit



Toll E. The cost of technology.

JAMA 2012

MD Burnout in the EHR Era



- Physician burnout rates now over 50%
 - Higher than other professions
 - Up 9% in last three years
- Burnout associated with computerized order entry use and perceived "clerical burden"

2014 Advertisement For AZ ER Job

Arizona General Hospital will be coming to The Grand Canyon State later this year!! Located in Laveen, a Phoenix suburb, Arizona General is a 40,000 square-foot boutique general hospital. Services offered include:

- Emergency Room
- Radiology Suite inc. CT, X-Ray, and Fluoroscopy
- Two State-Of-The-Art Operating Rooms
- Outpatient Surgery
- 16 Inpatient Rooms
- NO ELECTRONIC MEDICAL RECORD



What Went Wrong?



- Adaptive vs.technical change
- Connecting the parts
- The digital squeeze on physicians
- The Productivity Paradox

Health IT: The Mother of all Adaptive Problems



"... problems that require people themselves to change. In adaptive problems, the people are the problem and the people are the solution. And leadership is about mobilizing and engaging the people with the problem rather than trying to anesthetize them so that you can just go off and solve it on your own."

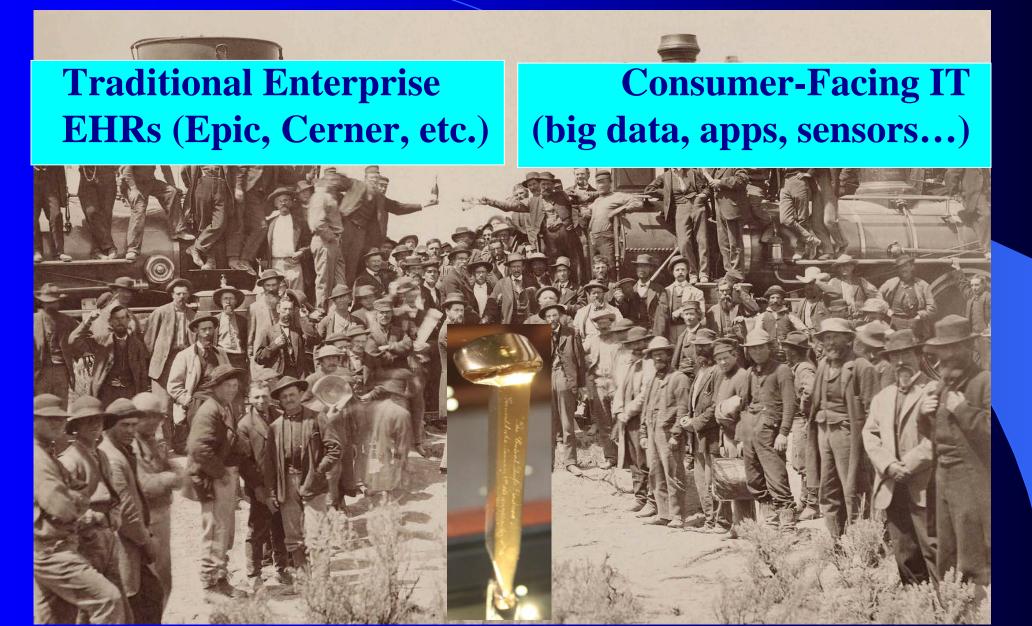
Ronald Heifetz, Kennedy School of Government

The Four Stages of Health IT



- 1. Digitizing the medical record
- 2. Connecting the parts
 - a. Enterprise system to enterprise system
 - b. Third-party apps to enterprise systems
 - c. Patient-facing systems to enterprise systems, and to one another
- 3. Gleaning meaningful insights from the data
- 4. Converting these insights into action that improves value

When Things Will Really Get Interesting



The Digital Squeeze on Physicians

EHR as unique and powerful enabler of...





The Productivity Paradox of Information Technology: Review and Assessment

Erik Brynjolfsson

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Center for Coordination Science MIT Sloan School of Management Cambridge, Massachusetts



"You can see the computer age everywhere except in the productivity statistics."

-- Nobel Prize winning economist Robert Solow, 1986

The Two Keys for Unlocking the Productivity Paradox

Improvements in the technology



Reimagining the work itself

A Better Future (?)

- Productivity paradox usually takes 10 years to resolve in healthcare, it'll take 15-20
 - Most productivity gains come from people "practicing at the top of their license"
- Disruption: first in wellness, then chronic disease, and *very* last, sick care system
- Don't underestimate power of the guilds to block change
 - MDs are more powerful than cabbies
- In the end, highest value care will win
 - Will clearly be tech-enabled (and, in some cases, tech only)

What Do We Need to Do?

- Connect the digital pieces
- Focus on building decision support and managing alert/alarm fatigue
- Build skills and culture to reimagine the work
 - As much about teamwork, QI, systems as IT
 - Likely need new workflows, specialties
- Retain sense of optimism: it'll get better



