The Digital Doctor:

Hope, Hype & Harm at the Dawn of Medicine's Computer Age

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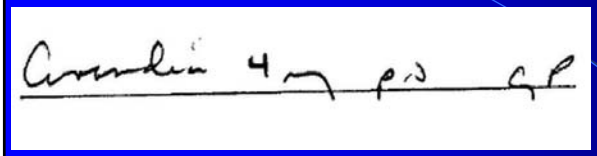
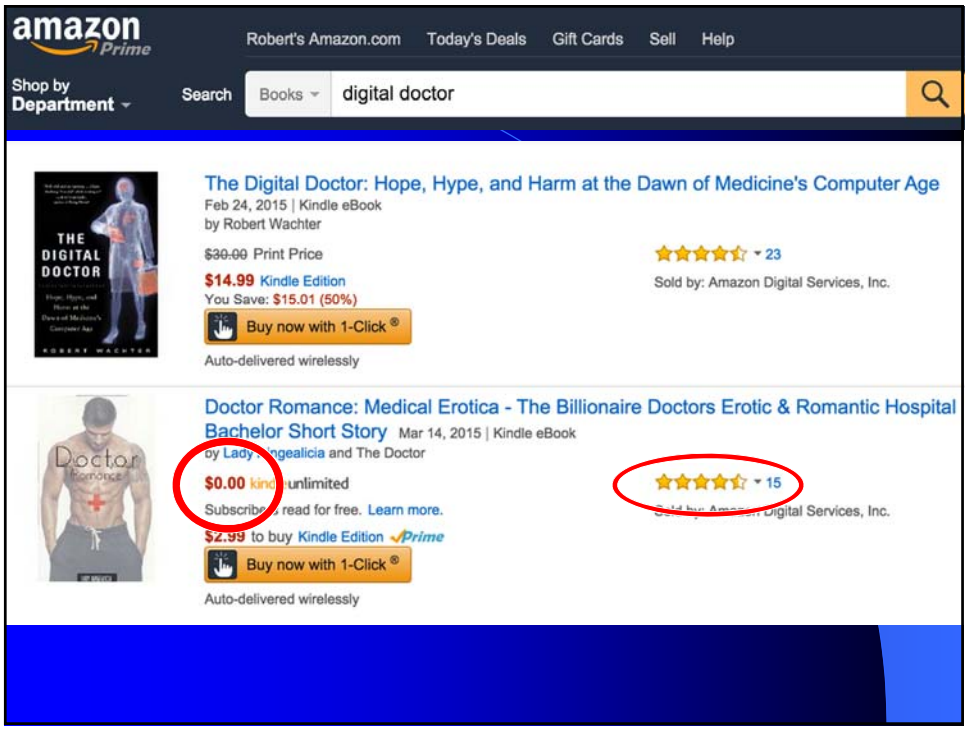
Disclosures

Dr. Wachter receives royalties from McGraw-Hill for writing/editing several books (including one on digital health); receives stock options for serving on the board of Accuity Medical Management Systems; receives a yearly stipend for serving on the board of The Doctors Company; serves on the scientific advisory boards for Amino.com, PatientSafe Solutions, Twine, and EarlySense (for which he receives stock options); has a small royalty stake in CareWeb, a hospital communication tool developed at UCSF.

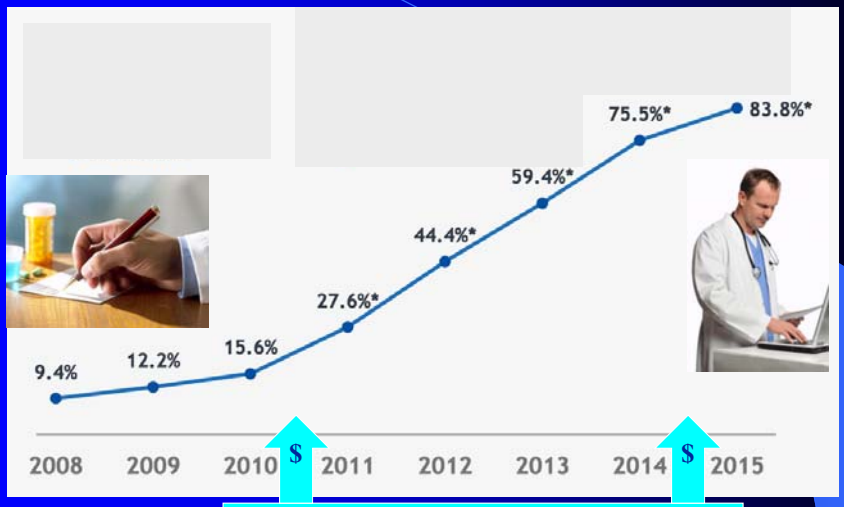
Why I Decided to Explore Health IT





"The Challenge That Will Dominate Your Career…"

EHRs in US Hospitals, 2008-2015



Office of the National Coordinator for Health IT

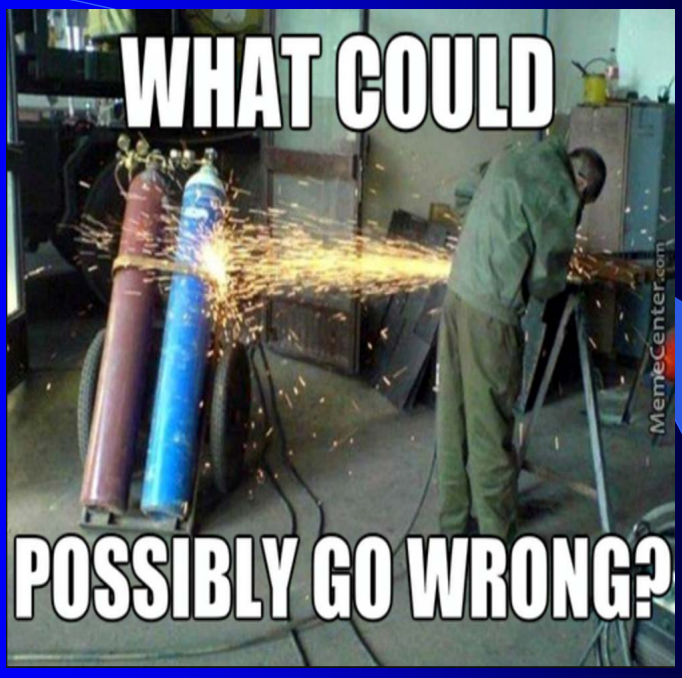
The Big Picture: Two Transformational Trends

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."

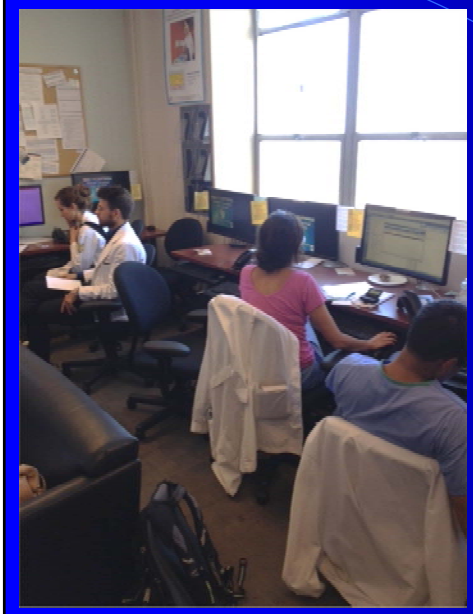
The Demise of Radiology Rounds

"The man who ruined radiology"
– Paul Chang's dad

Digital Radiology as the Canary in the 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



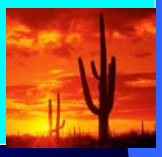
A 7-year-old Girl's Depiction of her MD Visit

Toll E. The cost of technology. *JAMA* 2012

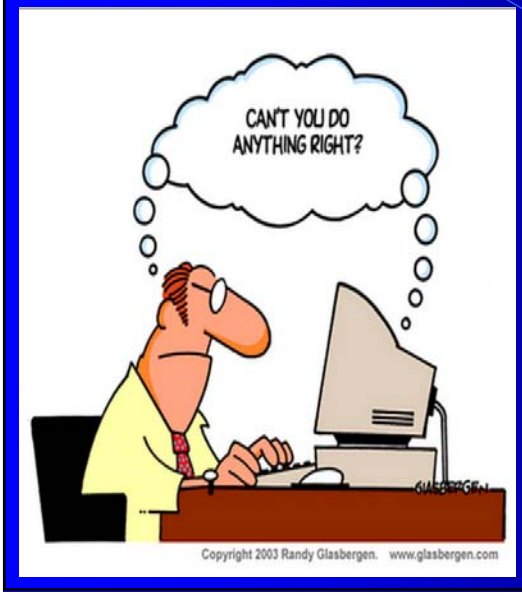
2014 Advertisement For AZ ER Job

Arizona General Hospital will be coming to The Grand Canyon State later this year!! Located in Laveen, Arizona, AGH 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 then 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

- [x] 1. Digitizing the 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

The Digital Squeeze on Physicians

EHRs as unique and powerful enablers of…

Central/ Corporate Control

Democratization, Questioning of Expertise

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 but 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

What Do We Need to Do?

- Connect the digital pieces
- Learn to use our data for improvement, build decision support
- Build skills, culture, governance to reimagine the work
  - As much about teamwork, QI, systems as IT
  - Need new workflows, personnel, leadership
  - Need to optimize after initial training/Go Live
- Retain sense of optimism: it'll get better

Value
DIGITAL