

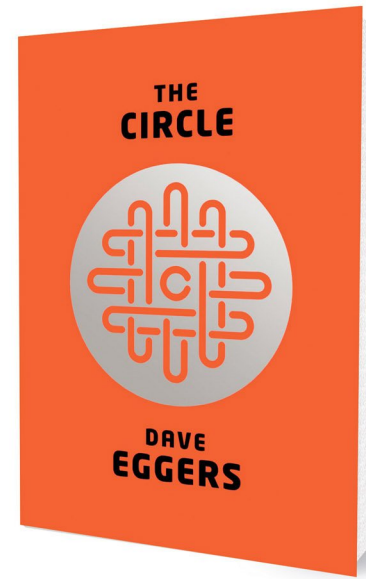
# INFORMATION TECH IN HEALTH AND MEDICINE

// CLASS 12

**FALL 2015 / SECTION 02 / HOLLY BUCK**

# TODAY'S CLASS...

- Extra credit assignment posted
- Midterm Review posted
- Class survey  
(anonymous, in class)
  
- Mini-lecture
- Creative exercise: Disruptive healthcare products



# ISSUES IN IT & HEALTH

- Health care accounts for 1 in every 5 dollars spent in the U.S.
- 17.9 % of the gross domestic product, up from 4% in 1950
- Every 13 years, spending on U.S. health care doubles.
- This is driven by technology
- It could, in 25 years, reach a third of the economy and devour 30 percent of the federal budget. -> higher taxes; money not spent on education, infrastructure, etc.

“In every industry but one, technology makes things better and cheaper. Why is it that innovation increases the cost of health care?”

- Jonathan Skinner, prof @ Dartmouth Institute for Health Policy & Clinical Practice

See: <http://www.technologyreview.com/news/518871/we-need-a-moores-law-for-medicine/>

# ISSUES IN IT & HEALTH

- “A dizzying array of different treatments, some that provide enormous health value per dollar spent and some that provide little or no value.”
- Insurance pays for any treatment that doesn't obviously harm the patient, regardless of effectiveness
- “Unlike many countries, the U.S. pays for nearly any technology (and at nearly any price) without regard to economic value.”
- Since 1980, health-care spending as a percentage of GDP has grown 3x as fast in the U.S. as in other developed countries, while the U.S. has lagged in life-expectancy gains
- Physicians and patients are isolated from actual prices: you wouldn't buy a plane ticket or a car before knowing what it would cost...
- Difficult or impossible for the customer to say “no”

# ISSUES IN IT & HEALTH

- Digital medicine = cheaper healthcare?
- Access / distribution to new technologies (+ tech as cheaper replacement for in-person care)
- Personal touch component: does good medicine require human interaction & care?
- Privacy in electronic health records
- ...?

# ELECTRONIC HEALTH RECORDS & HIPAA

- Health Insurance Portability and Accountability Act of 1996 – protects workers when changing jobs
- Establishes standards & protocols for transfer of electronic health data between providers, insurers, and healthcare clearinghouses
- Requires confidential handling of “Protected health information”
- State laws that are more stringent may be in effect
- Who owns your health records?

# DISTRIBUTION, BROADLY

Jacob R.: "...generally speaking, the companies that focus on the development and distribution of technology are typically uninterested in doing so when there is no profit to be made.

Therefore, it would be important for somebody to take lead and actually begin to distribute their technology to those in need of it, and then advocate or others to do so both because of a moral imperative and also because, from a marketing standpoint, you are creating trust with new customers while simultaneously improving the quality of life of those customers and future generations of customers in the region, which can be seen as a long term investment geared up to eventually return its own profit while creating customers for life."

Which social actors currently take the lead on this?  
Which social actors potentially could?

# DISTRIBUTION IN TELEMEDICINE

Victor: "A big ethical concern for providing diagnosis and care instructions via telemedicine to individuals in developing countries is that they are not able to meet the medical standards prevalent in the country of origin. This includes but is not limited to sterility of conditions, sterility of medical equipment, competency of provider on location, etc.

To give an example, a doctor provides advice to administer an anti-inflammation drug through IV to reduce severe swelling of a leg injury. Unfortunately, the equipment used is not necessarily subject to the same standards the doctor giving the advice is accustomed to encountering. The equipment transmits a disease that serves to worsen the patient's health rather than benefit. This is merely one example and a crude one at best. Complications could be much more drastic or widespread depending on the situation.

Is it ethical to give advice for care such as this, if there is no guarantee that this type of situation will not occur? Does the medical professional providing said advice take responsibility for negative outcomes as they would within their country of origin?



# CHALLENGES IN DIGITAL HEALTH

- <https://twitter.com/TechCrunch/status/646440545363980288>
- Entrenched interests?
- “Two of the five most profitable industries in the United States — the pharmaceuticals industry and the medical device industry — sell health care. With margins of almost 20 percent, they beat out even the financial sector for sheer profitability.”

[http://www.washingtonpost.com/blogs/ezra-klein/post/why-an-mri-costs-1080-in-america-and-280-in-france/2011/08/25/gIQAVHztoR\\_blog.html](http://www.washingtonpost.com/blogs/ezra-klein/post/why-an-mri-costs-1080-in-america-and-280-in-france/2011/08/25/gIQAVHztoR_blog.html)

# YOUR MISSION

- Your team has to think up a product (or app) that will disrupt the healthcare industry.
- You need a compelling 1-2 minute elevator pitch.

Write out:

- What you do, briefly (50,000 foot view)
- Problem definition: the big problem that someone can't solve today with the existing solutions on the market.
- How you solve the problem.
- Risks and mitigation strategies.