

HS2045

WEEK FIVE

October 7,9,11 2013

HS 2045

Class #1: Introduction to Cloud Medicine

October 7, 2013

REMINDER: Poll #3 (opened 12:30 Friday, closes 12 Wednesday) > graded Wednesday

- Teams: love them, hate them – how do we make them work?

Readings for this week

There are two

- Health affairs – pretty straightforward
- Greenhalgh - wowza

Other Updates

- Your assignment

Let's try this one more time

- FHTs = docs + other HCPs
- Docs:
 - FHN, FHG, FHO >> go under (nest in) FHTs
 - Blended funding models
 - Single Practice >> stay solo, no option for FHT
 - FFS, maybe some blending.
- All other HCPs

Take a look

- [http://www.healthforceontario.ca/en/Home/Physicians/Training %7C Practising in Ontario/Physician Roles/Family Practice Models#fh_t](http://www.healthforceontario.ca/en/Home/Physicians/Training_%7C_Practising_in_Ontario/Physician_Roles/Family_Practice_Models#fh_t)

Collective Competence... good idea eh?

- <http://www.youtube.com/watch?v=vl-hifp4u40>
- A lot to think about re: teams

Health Affairs, 2002

- 10 + yrs later.... Any truth?
- What are they saying?
- HC is information intense
 - Similar orgs would spend 10-15% on IT, HC = 2-3%
- Information overload

Information overload

- 6-8yrs to get it into a text book
- 17yrs to put something into practice (approx.)
- Keeping up with the literature is near impossible
 - '5 yrs behind the literature'

Data, Information, Knowledge

- Knowledge is power
- Distribution of power is/has shifted

Data, Information, Knowledge

- Data management
- Information management
- Knowledge management

- All new demands
- New jobs, new technologies to support/integrate

New data + new technologies

- Eg of Medline and the Genome
- As 'all things medicine' become more complex, the need for more specialized training continues
- What does that mean for those already in the workforce?

Rise of Consumerism

- Consumerism is a trend – and one that will not fall easily
- What is it?

Consumerism

- The internet = the more (mis-) informed patient
- The digital divide
 - The empowered pt vs doctor knows best
- So even though consumers are getting more able to search, the skill set req'd to interpret might not be keeping up
 - Literacy
 - Motivation
 - Educational level
 - (ie, not just access to tech)

Consumerism and Responsibility

- Whose responsibility is health?

For next class

- Reading #2

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Class #2: EHRs – A Brief History of Everything

Oct 9, 2013

What's in the news?

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Consumerism and Responsibility

- Whose responsibility is health?
- Who controls health resources?
 - Gate keepers

Consumerism

- The internet ^{can also lead to} = the more (mis-) informed patient
- The digital divide
 - The empowered pt vs doctor knows best
- So even though consumers are getting more able to search, the skill set req'd to interpret might not be keeping up
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Communication is Key

- ‘failure to communicate effectively will be likely to place a health care provider at an economic disadvantage’
- So even though we are going ‘high tech’, the ‘low tech’ skill of good communication still reigns
 - With the added challenge of being able to communicate through/over/about technology

New Jobs due to Tech as emerging trend

- Informationists - clinical librarians
- Personal health advocates and advisers
- Telemedicine practitioner, presenter and consultant
 - often nurses
- The skill set for 'emerging' HCPs is must more comprehensive than those today
 - Information retrieval, clinical epi, biostats, critical appraisal
 - Hard skills: 'the basics', Tech skills
 - Soft communication skills

EPR

- often these are terms used synonymously

- EPR, EMR, EHR
- EGMR - electronic global medical record
- **PHR > this gets at the 'consumerism' angle and you being in charge of your own health**
 - Google PHR...

- your record doesnt follow you from ed to gp but it follows you in the same health team or hospital

EHRs in Ontario

- Today, **2 out of 3 Ontarians** have an electronic medical record (EMR).
- **6 out of 10** physicians use an EMR in their practice.
- Doctors can now receive hospital reports into their EMRs **faster than ever.** (when their emrs are compatible to the hospitals's !)
 - Reduces patient wait times
 - Helps avoid hospital re-admissions
- Over **3,000 types of lab results** can be accessed through physicians' EMRs.

EHRs in Ontario

- **92% of hospital sites** can share diagnostic images and reports digitally within their region.
- *Medication history of **all Ontario seniors** is accessible to health care providers in all hospitals and emergency rooms.*
more for the electronic global medical record

Electronic Health Information Falls Into Three Categories

EHR: *Electronic Health Records*

- Electronic health records (EHRs) bring together your individual information registered with health care providers (your family doctor, specialist, health care team) and the provincial health care plan.
- **Eventually,** EHRs will include data from hospital information systems, community care clinics and other providers as well.

Electronic Health Information Falls Into Three Categories

EMR: *Electronic Medical Records*

- Electronic medical records (EMRs)/EMR software are the computer software physicians use to collect, manage and store your EHR.
- digital equivalent of the old paper files and charts
- details about the care received from a family doctor, specialist, nurse, dietician or other health provider is captured electronically using EMR software.
- More than 9,000 physicians and specialists are employing EMR systems.

Electronic Health Information Falls Into Three Categories

PHR: Personal Health Records

- Personal health records (PHRs) are the records that you access and maintain as a patient – your record of appointments, email correspondence with health care providers, information about medications and any interaction with online patient groups.

Patient care

Patients will notice a difference in their health care experience through:

- Improved care through safer, more accurate and complete information shared among all health care providers
- Reduced wait times for appointments, procedures and access to community care facilities
- Reduced wait times for laboratory test results and clinical diagnosis
- Improved security of confidential health information through modern, encrypted data protection systems

Doctors and clinicians

- Immediate, accurate, secure access to pertinent patient medical information from all relevant sources, including hospital and community care reports and discharge records, as well as EMR files
- Rapid access to a wide array of data ranging from annual patient physicals, lab reports and test results, medication records, and digital diagnostic images
- Ability to coordinate and share data among different electronic record-keeping systems
- Reduced potential for adverse drug interactions due to electronic prescribing and record-keeping
- Improved practice efficiencies through automated workflows
- More time to focus on patients

Impact on the health care system

Electronic health records improve access to the health care system and the quality of care patients receive while reducing costs. Benefits to the system are achieved through:

- Lower costs through fewer duplicate tests, fewer physician and specialist visits, and fewer emergency room and hospital visits
- More efficient transfer of patients to the appropriate level of care (from hospital emergency rooms to long-term care facilities)
- Improved management of chronic diseases
- Reduced demands on health care resources

EHR comes with challenges, and errors

Top 10 challenges:

- Cost - its the office's cost the government doesnt pay
- Time (collaboration; 'all-in')
- Preparation
- Rollout strategy (big bang or baby steps)
- Vendors
- Training
- Communication
- Culture
- Data migration

EHR Common Mistakes

- **Work around** - when you skip things in data entry to make something easier
- **Shadow paper documents**
- **Lack of workflow analysis** - lack of understanding how physicians work
- **Undertraining**
- **Lack of interoperability/interface with others**
- **Alert fatigue** some ehRs will alert you when you enter something in wrong
- **Small errors effect LARGE groups**

What about this...

- unlike errors found in a paper record, correcting an electronic error may completely override the initial error, making it look as if the record never contained a mistake. That, in turn, means that a clinician has no way to show that he or she relied on erroneous data when treating a patient

Read more: [EHR corrections can cause new mistakes - FierceEMR](http://www.fierceemr.com/story/ehr-corrections-can-cause-new-mistakes/2013-06-04#ixzz2hA79MrxQ) <http://www.fierceemr.com/story/ehr-corrections-can-cause-new-mistakes/2013-06-04#ixzz2hA79MrxQ>

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So there should be some basic solutions

- Still learning from those around us
- No one-size fits all approach
- What can the literature tell us?

Research Traditions/Roots of EPR

- Health Informatics (EBM)
- Change Management (HSR)
- Information systems
- Computer supported works
- Critical sociology
- Systems research (risk management)
- Actor-network theory (philosophy)

Key Tensions (why it isn't so easy)

1. The EPR itself - dont have a good definition for what it even is yet
2. The user (HCPs)- who are the users
3. Organizational context (readiness to change?)
4. Clinical work (the art of medicine)
5. Process of change
6. Implementation success
7. Complexity and scale (bigger is better, or small is beautiful)

1. The EPR

- What is it going to be used for?
- How are we going to use it?
- How are we going to integrate it?

The EPR User

- Motivate to make the change?
- Skills required
- User friendly or task friendly?

Complexity and Scale

- Studies have shown that bigger isn't necessarily better for EPR
- Efficiency gains in economies of scale will never be realized due to the trade off of loss in local and contextual details (KNOWLEDGE!)

Some of the recommendations

- More research
- No solid conclusions from the literature
- (academic) Insight into why it is so complex
- Personal/anecdotal evidence easy to find too

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Class #3: Working Class

October 11, 2013

Plan

- Feel free to come to the classroom to work
- Idea is to come together as your group and start to discuss your project and the work/topic/end product

Readings for Week #6 (Oct 16-18): Dx, Tx, Rx

Choose your own... about technology advances in Diagnostics

- Eg: <http://web.mit.edu/newsoffice/2012/noninvasive-diagnostics-for-cancer-1216.html>
- <http://www.glensfallshospital.org/services/Center-for-Lung-and-Chest-Surgery/new-diagnostic-technology.cfm>
- <http://phys.org/news/2012-11-technology-analysis-diagnosis-illness.html>
- <http://globenewswire.com/news-release/2013/08/14/566679/0/en/Genovis-evaluates-new-technology-for-early-diagnosis-of-cardiovascular-disease.html>
- <http://www.medicaldaily.com/new-technology-uses-wireless-signals-diagnose-traumatic-brain-injury-245853>

Prepping for class next week

- We are going to start talking about diagnostics and treatment – so I want you to do some ‘googling’ and see what you can find re: new technologies for diagnostics.
- Find 2-3, and write them down
- Gather enough details to be able to explain (in brief) what the technology is, what it is used for... and possible the previous or the alternatives to not having this new Dx tool