

The Future of Cancer Registration in the Era of Electronic Health Records

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Outline of Presentation

□ **Electronic Health Record System (EHRs)**

- What are they?
- Why a provider should adopt an EHRs?
- EHR Adoption
- EHRs: Epidemiology, Treatment, and Public Health
- Why should we invest in EHRs?
- What does the future hold?

What is an Electronic Health Record (EHR)?

- ❑ It is an electronic version of a patient's medical history, that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that person's care under a particular provider including:
 - Demographics
 - Progress notes
 - Medications
 - Vital signs
 - Past medical history
 - Immunizations
 - Laboratory data
 - Radiology reports

Clarification of Common Terms

- ❑ **Electronic Medical Records (EMRs) are a digital version of the paper charts in the clinician's office. An EMR contains the medical and treatment history of the patients in one practice.**
- ❑ **EHRs focus on the total health of the patient—going beyond standard clinical data collected in the provider's office and inclusive of a broader view on a patient's care.... They are built to share information with other health care providers, such as laboratories and specialists, so they contain information from *all the clinicians involved in the patient's care.***

Why Adopt EHRs? (1 of 2)

- **Providers who use EHRs report tangible improvements in their ability to make better decisions with more comprehensive information. EHR adoption can give health care providers:**
 - Accurate and complete information about a patient's health
 - The ability to quickly provide care
 - The ability to better coordinate the care they give
 - A way to share information with patients and their family caregivers

Why Adopt EHRs? (2 of 2)

□ EHRs can also

- Flag potentially dangerous drug interactions (to help prescribing doctors explore alternatives before a problem occurs)
- Verify medications and dosages (to ensure that pharmacists dispense the right drug)
- Reduce the need for potentially risky tests and procedures
- Reduced cost of healthcare and improving patient outcomes and diagnostics
- Once standards are established, more data can be collected at the same cost

<https://www.healthit.gov/providers-professionals/why-adopt-ehrs>

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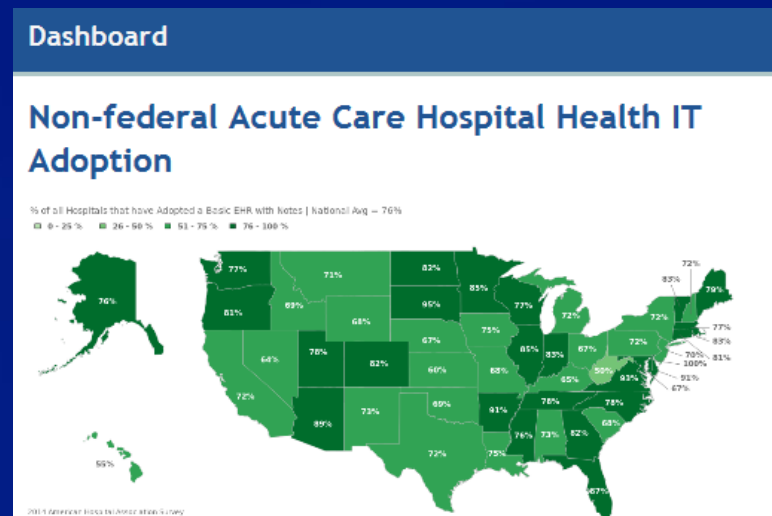
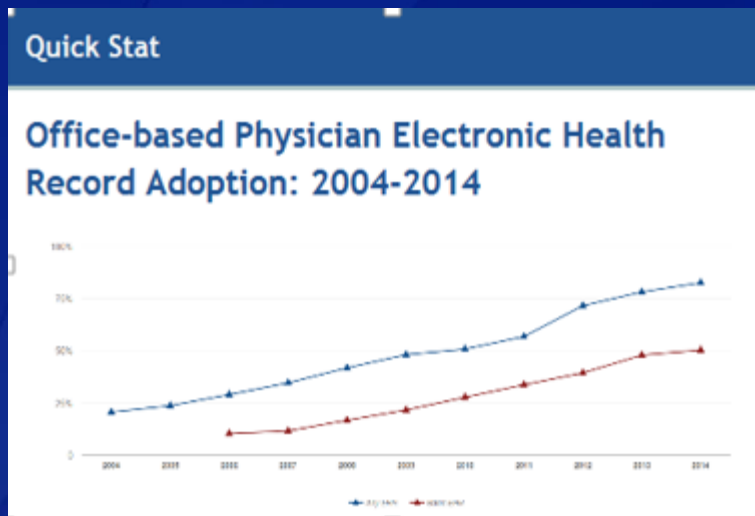
ONC Video Presentation

EHR Adoption

- ❑ According to the Office of the National Coordinator (ONC) Health IT Dashboard, as of 2014, 83% of office-based physicians and 76% of hospitals have adopted EHR systems.
- ❑ Since 2008, the adoption of any EHR system has nearly doubled for both.
- ❑ If trends continue, nearly all health care providers may adopt an EHR in the next 5 years.

ONC Health IT Dashboard

- ❑ <http://dashboard.healthit.gov/index.php>
- ❑ The Health IT Dashboard is developed and maintained by the ONC. The Dashboard provides access to analysis, research, public datasets, and more on health IT and ONC programs.



Are all EHR Systems the same?

- ❑ No, EHR systems are not the same**
- ❑ Each EHR vendor may collect and store data elements any way they want**
- ❑ EHR design may differ due to different workflows**
- ❑ These vendors may not collect the same data elements and the granularity may differ by EHR**
- ❑ How can EHR standardization of data collection and reporting be achieved?**
- ❑ Promote interoperability standards for data reporting**

EHRs: Epidemiology, Treatment, and Public Health (1 of 5)

- ❑ Real-time reporting is now possible**
- ❑ Reporting can include comorbid conditions with current health status and history**
- ❑ Screening history, education, and reminders can be included**
- ❑ Some or all the data contained in the EHR can be sent in a single report (no cost differential)**
- ❑ EHRs reports can be aggregated into a single database for analysis (Big Data Analytics)**

EHRs: Epidemiology, Treatment, and Public Health (2 of 5)

- ❑ **Big Data analytics projects are also being funded using aggregate data from EHRs**
- ❑ **What is Big Data?**
 - Example: Airline Ticket Sales
 - Business: Competitive edge to stay in business
 - Strategic Investment
 - Science
- ❑ **Healthcare Initiatives (Public and Private)**
 - 2012 National Science Foundation announces \$10M awards
 - 2014 Emory Healthcare
 - 2014 Mayo Clinic Example

EHRs: Epidemiology, Treatment, and Public Health (3 of 5)

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gives us a sense of what are the long-term outcomes? What should we be shooting for? And what are things that make some places better than others?"

Mayo makes it easy for staff to tap into the Optum Labs database, requiring only a simple two-page summary of their research question — a far cry from the unwieldy process of applying for government research grants.

Interest is high, said Shah, with six to 10 project applications coming in each week. Hypothetical queries or those that don't directly help patients are rejected.

To date, more than 90 projects are in the pipeline. Mayo clinicians have published four papers in medical journals and presented 13 abstracts at medical conferences.

McCoy, a self-described "research nerd," is using big data to research risk

factors for people with multiple chronic illnesses and "waste" in the system from treatments that don't help or end up costing more. She already has co-published a paper that compared common medications for Type 2 diabetes, finding that an older and cheaper drug worked as well or better, and cost less than newer and more expensive drugs.

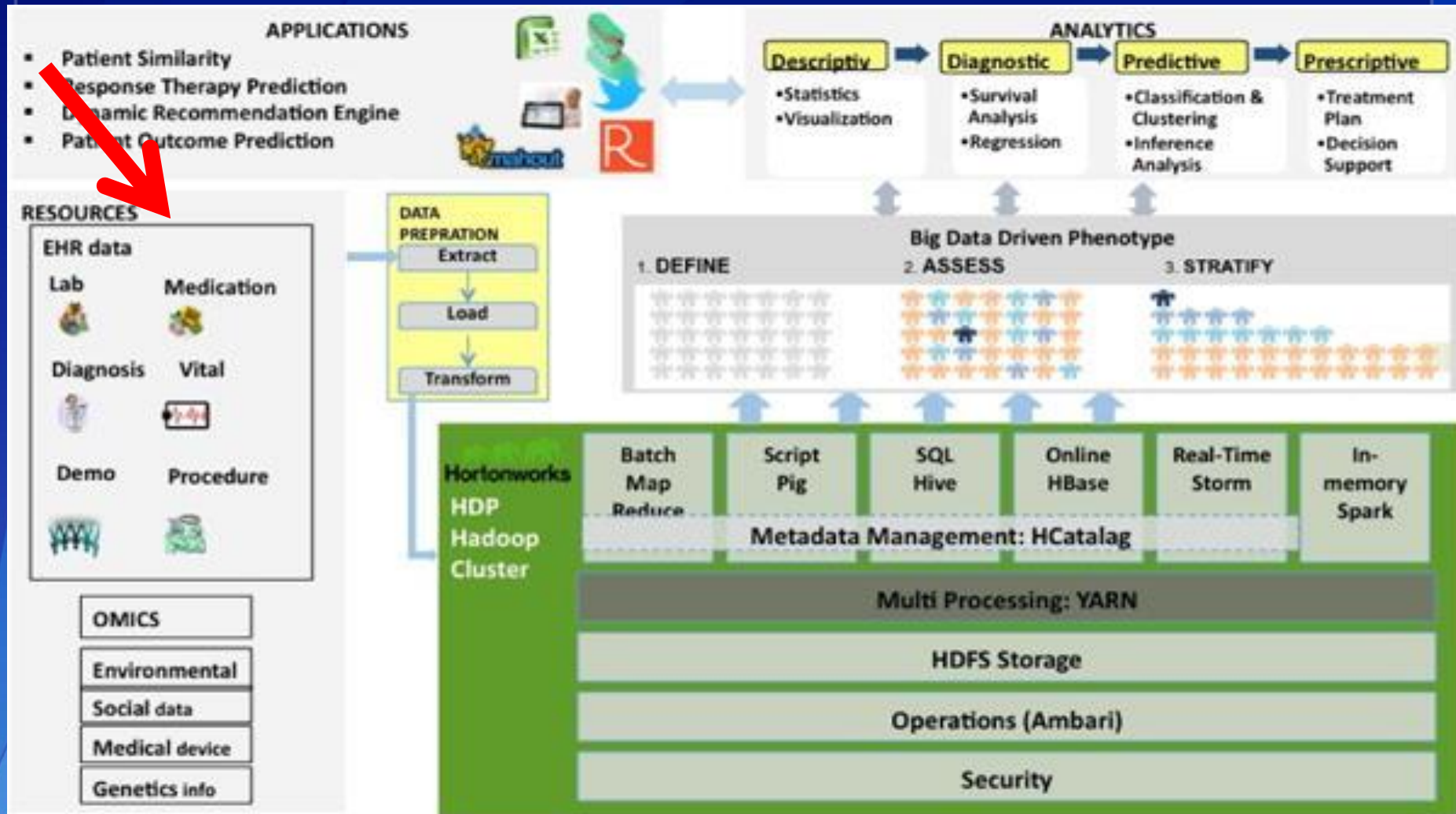
The NIH is now conducting a clinical trial asking similar questions, which will cost millions of dollars and take decades to complete and analyze.

"Clinical trials are important," McCoy said. "But ultimately with scarce resources, what if we can answer the question in a year by running models? It's not a replacement for clinical trials, but it's food for thought about research funding."

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EHRs: Epidemiology, Treatment, and Public Health (4 of 5)



EHRs: Epidemiology, Treatment, and Public Health (5 of 5)

- **Precision Medicine cohort initiatives are now being funded by directly accessing EHRs for improvements to treatment (Announced on January 30, 2015)**
 - \$215 M investment in the President's 2016 Budget
 - Million-person or more voluntary cohort
 - Direct access to EHRs
 - Public-private partnerships
 - Better treatments for cancer
 - Along with MU, Precision Medicine will be driver for EHR standards (reporting, vocabularies, and relationships with vendors)

Why Invest in EHRs?

- **FEDERAL HEALTH IT STRATEGIC PLAN:** Together with other strategic initiatives, health IT can **facilitate improved public health surveillance, collect more complete and accurate data, and link clinical care and supportive community-based services and policies.** Applying innovative health IT in these efforts will improve the ability to reach high-risk populations and support the delivery of comprehensive, culturally and linguistically appropriate, and easily navigated services.

What does the future hold?

- ❑ Wide spread adoption of EHRs by healthcare providers**
- ❑ Potential for collecting more data at lower costs**
- ❑ Consolidation across providers and EHRs vendors**
- ❑ Remote extraction at any point in time for real-time reporting**

Where should we invest our limited cancer dollars?

- ❑ Promote interoperability standards that will benefit the reporting of cancer cases**
- ❑ Continue working with EHR vendors and providers**
- ❑ Develop automation to support EHR linking, consolidation, and completeness**

Thank you!

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