



Capturing, Storing, Integrating and Using Electronic Health Record (EHR) Data: A Central Cancer Registry's (CCR's) Experience

I. Zachary, PhD, MSHI, CTR^{1,2,3}, J. Jackson-Thompson, MSPH, PhD^{1,2,3}, Alena Headd, MSIT^{1,2}, Nancy Cole, BS, CTR^{1,2}

University of Missouri-Columbia (MU) ¹ Missouri Cancer Registry and Research Center (MCR-ARC), ² Department of Health Management & Informatics, ³ MU Informatics Institute



SP #3 (From EHRs to MCR) is funded as part of American Recovery and Reinvestment Act (ARRA) Comparative Effectiveness Research activities through the Centers for Disease Control and Prevention (CDC) (subcontract with ICF Macro). MCR-ARC core activities are supported in part by a cooperative agreement between the Centers for Disease Control and Prevention (CDC) and the Missouri Department of Health and Senior Services (DHSS) (#U58/DP003924-015) and a Surveillance Contract between DHSS and the University of Missouri

Abstract

Capturing, storing, integrating and using electronic health record data is part of the process to stream data directly from the EHR to the CCR. We outlined the steps taken by MCR-ARC to receive, process and incorporate EHR data while maintaining the integrity of all CCR data and reviewed existing data processes and storage to identify potential problems and solutions.

Background

Healthcare entities that participate in Healthcare Information Exchanges (HIEs) need to prepare for expanded security and information environments. With the American Recovery and Reinvestment Act of 2009 (ARRA), HITECH (Information Technology for Economic and Clinical Health) requires more than the mandated transition to the EHR; standardization, interoperability and data exchange must move from abstract concepts and become reality. The EHR allows for real-time data sharing but presents challenges: interoperability of data elements and formats; need for data storage; data quality assurance; and record consolidation issues.

- ARRA (HITECH) is more than a transition to EHR
- CCRs must prepare for expanded security and for changing information environments

Objective

Describe steps taken by MCR-ARC to receive, process and incorporate EHR data while maintaining the quality and security of all CCR data.

Methods

- We reviewed MCR-ARC's existing data processes/data storage to identify potential problems and plan for large amounts of EHR data to be received, processed and stored.
- Challenges that need to be addressed include:
 - Where to store securely large amounts of incoming data;
 - Cost to store and back up the increased volume of data;
 - Software to be utilized to import and process the incoming records so that multiple entries for an individual are combined into a single record;
 - When and how an ERH record will be imported into the main CCR database for editing and possible consolidation;
 - What will be done with records deemed incomplete by CCR and national standards.

Results: Questions to be answered

Question1? How will data come in securely?

- Additional security measures
- Solution MoveIT Central

Question2? What is the cost to store and back up the increased volume of data?

- Additional cost for data administration

Question3?

What software will be utilized to process the incoming records?

- Possible Solution: eMaRC Plus or other software that is capable

Question 4? When and how will an EHR record be imported into the main CCR database for editing and possible consolidation?

- Possible solution
 - Separate holding database
 - CRS+ stand alone



Question 5? - Timing How long are we holding cases?

Question 6? - What will be done with records deemed incomplete by CCR and national standards?

Secure Transmission at MU

MoveIT Central (preferred)

- MoveIT DMZ developed by Standard Networks, Inc.
- PHIN-MS, Direct (acceptable alternative)

Interoperability

- Different standards and codes
- Registries need stage information
- Mapping of incoming data

CPT codes 11100-11101 "biopsy of skin, subcutaneous tissues and/or mucous membrane unless otherwise listed; single lesion"

Fords codes

- 25 laser excision
- 26 polypectomy
- 27 excisional biopsy

Discussions/ Conclusions

- Receiving, processing and storing large amounts of data being streamed from a variety of EHRs has presented many challenges but leads to capture of previously unreported cancer cases.
- These challenges are being considered by the NAACCR Physicians Workgroup