Use of Clinic/Physician Office (C/PO) Electronic Health Records (EHRs) to Improve Cancer Surveillance Quality, Reduce Costs and Advance ePublic Health

Public Health Informatics Conference
Atlanta, GA
April 29, 2014

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Acknowledgments

- This project was funded as part of American Recovery and Reinvestment Act (ARRA) Comparative Effectiveness Research activities through the Centers for Disease Control and Prevention (CDC)

- MCR-ARC data collection activities are supported by a Cooperative Agreement between the Missouri Department of Health and Senior Services (DHSS) and the CDC and a Surveillance Contract between DHSS and the University of Missouri (#U58/ DP003924-02)

Background: Hospital Reporting

- Central cancer registries (CCRs) have traditionally relied on hospitals to abstract and submit new cancer cases to the CCR
  - Advantage
    - Relatively small number of hospital systems
    - Except for low-volume facilities, have trained registry staff that review medical records and prepare abstracts

Background: Changes in Reporting

- Changes in medical practice and health care delivery have increased the incidence of cancers being diagnosed/treated outside a hospital setting
  - For example, within Missouri:
    - inpatient & outpatient hospital
    - pathology laboratories
    - ambulatory surgical centers
    - free-standing cancer clinics and treatment centers
    - skilled nursing facilities
    - intermediate care facilities
    - residential care facilities I and II
    - physician offices (if not reported by another source)
  - Note: Collecting non-inpatient cases required expansion of cancer reporting laws

Background: Changes in Reporting (Cont'd)

- Complete surveillance of some cancers may be particularly affected by diagnosis/ treatment outside of the hospital setting, *e.g.*,
  - Leukemia
  - Lymphoma
  - Melanoma skin cancer
  - Prostate cancer
  - *in situ* & localized Breast, Cervical, and Colorectal cancers

Background: C/PO Reporting

- Cases treated entirely within a physician office setting present a potential challenge for CCRs
  - Relatively large number of C/POs
  - Lack of trained tumor registrars to prepare abstracts

Background: C/PO Reporting (Cont'd)

- But EHR systems provide a possibility of automating the collection of detailed data
  - The majority of NPCR-funded CCRs only collect 1st course treatment, summary treatment information, and no co-morbidities
    - This limits the ability to evaluate outcomes and comparative effectiveness research
  - Access to EHR data can potentially provide treatment and co-morbidities detail not present in standard cancer abstracts
    - Challenges: case selection, storage

Background: Current Sources

- 120 dermatologists report to MCR
  - 19 (16%) electronically via CDC's Web Plus™
  - 101 (84%) via paper form
- MCR has been receiving ePath reports (non-CDA based) via PHIN-MS for several years
- Free-Standing Radiation Facilities report prostate via CDC's Web Plus
- Ambulatory Surgical Centers report via paper

Background: Current Sources (Cont'd)

- Hospitals
  - Non-Low Volume Facilities report electronically
  - Low Volume Facilities (including Critical Access Hospitals [CAHs])
    - Currently, MCR or a contractor receives copies of medical records to abstract
    - Efficiency can potentially be increased by electronic reporting

- MCR-ARC is one of two CCRs that participated in an ARRA-funded pilot project to improve cancer reporting by importing real-time data directly from EHRs to CCR

Methods: Identifying Partners

- To increase case completeness by obtaining previously unreported cases and treatment information from EHRs, we:
  - Partnered with the Missouri Health Information Technology (MO HIT) Assistance Center to identify potential:
    - Clinic/physician offices (C/POs)
    - Critical access hospitals (CAHs)

Methods: Identifying Partners (Cont'd)

- Conducted site visits
  - Recruited 8 participants
    - 6 CAHs, 2 C/POs
    - Focus primarily on the 2 C/POs
- Identified and collaborated with:
  - Facility EHR vendors
  - CDC software developers
    - Export files
    - Develop interfaces
    - Import, store, and process data

Methods: Identifying Partners (Cont'd)

- Staff & a MU Stage 2 certified vendor provided a demonstration at the 2013 Missouri Dermatological Society Annual Meeting in St. Louis, MO

Methods: Software Issues

- Worked with other state and national groups/ organizations to:
  - Identify & assess software options that allow secure transfer of encrypted data via the Internet
    - MU's secure messaging software MoveIT (preferred)
    - Direct, PHIN-MS (acceptable)
  - Registry staff serve on national workgroups to develop/implement MU Stage 2 – Cancer Reporting guidelines
    - C/PO & Mapping Workgroups
      - Data elements
      - Formats
      - Triggers

Methods: Software Issues (Cont'd)

- Added a specialty physician (urologist)
- Trying two options:
  - Pros:

Trigger Event	Physician-driven
Automated	Physician decides when to send
More data	CCR gets critical data
	Easier to process at CCR

  - Cons:

Trigger Event	Physician-driven
May overwhelm CCR	Some detailed data may not be sent

Methods: Registration of MU 2 Intent

- Collaborated with Missouri Department of Health and Senior Services staff to increase the number C/POs submitting EHR cancer data to MCR via DHSS's website for MU attestation and reporting
  - http://health.mo.gov/atoz/mophie/
  - http://mcr.umh.edu/mcr-meaningfuluse.php

Results: C/PO Participation (Cont'd)

- **C/PO #1: Rural clinic –** completely electronic throughout:
  - Approached their EHR vendor (MediTech™) at HIMSS 2012
    - MediTech began working on changing reports to CDA formatted reports
    - Clinic developed implementation strategy of new cancer-reporting module
  - Received test data that was analyzed and feedback given to MediTech
    - Changes made to reports
  - EHR 2nd in country to be certified for MU Stage 2 - Cancer Reporting by Office of National Coordinator (ONC) (Feb 2013)
    - MCR-ARC expected to receive live data Summer 2013
    - Revised date is Summer 2014

Results: Specialist C/PO Participation

- **C/PO #2: Urologist**
  - Joined project in 2012
  - Received test data that was form-based EMR
    - Contacted EMR vendor (BuildYourEMR™) to adapt their reports for cancer-reporting to CDA formatted reports
  - Received subsequent test data that was analyzed
    - BuildYourEMR changed some formatting issues
  - EHR vendor 3rd in country to be ONC certified for MU Stage 2 Cancer Reporting (June 2013)

Results: Project Status

- Urologist Implementation has been completed
  - Live data anticipated soon
  - Analysis of data will begin immediately upon receipt of live data
  - Practice averages between 50-100 cases per year
    - Prostate cancers have never been received from a C/PO by MCR-ARC before

Results: CAH Participation

- Three CAHs
  - Selected EHR: 3
    - Implemented: 0
- Since none have implemented their EHRs, no preliminary findings

Results: Registration of MU 2 Intent

- DHSS is a centralized location for MU 2 reporting
  - Other than during the pilot, reports will be routed through DHSS
  - A similar process is used for ePath reports that MCR has been receiving for several years
- As of Jan 2014, 6 have registered their intent to participate in Stage 2 with DHSS

Challenge: Software

- Interoperability between C/PO and CCR software
- Convincing EHR vendors to change to CDA format before Stage 2 (1/1/14)
  - MU2 postponed a year during pilot and uncertainty of Cancer Reporting's inclusion
  - Convincing vendors to create a module for MU2 Cancer Reporting
- Convincing C/POs to choose cancer reporting as one of three options in MU Stage 2
  - Statutory, but no MU2 obligation

Challenge: C/PO Participation

- On-boarding additional C/POs
  - Targeted specialties
    - Need to determine #s
  - Other specialties that diagnose/treat cancer
    - Parts of state have few practitioners in targeted specialties
- Additional resources will be needed

Challenges: Staffing & Infrastructure

- Funding cuts
  - Staffing deficits (4 core positions)
  - Limits CCR's ability to implement EHR reporting by C/POs not in pilot
- Processing data and internal workflow
  - Storage
  - Consolidation of reports
- State HIE is under development
  - DHSS hopeful it would be up and going before 2015

Conclusions

- Identifying cost-effective ways for CCRs and non-hospital reporters to capture cases and report as mandated by law is challenging but rewarding
- Obstacles remain to be overcome but use of EHRs presents a viable solution
- Funding challenges remain
- Barrier: convincing C/POs to choose cancer reporting & convince EHR vendor to create the necessary module

Questions?

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