National Program of Cancer Registries - Modeling Electronic Reporting Project (NPCR-MERP)

NAACCR 2005 Conference
June 7, 2005

Sandy Thames, CDC
“By computerizing health records, we can avoid dangerous medical mistakes, reduce costs, and improve care.”

President George W. Bush, State of the Union Address, January 20, 2004
President’s Health Initiative

- 10 years – EHR is available for most Americans at any time and place, no matter where it originates

- Voluntary participation

- EHR to share information privately and securely among health care providers - when authorized by the patient
EHR Specific Activities

- National Health IT Coordinator
- Public Health Information Network (PHIN)
- HL7 EHR System Functional Model
DHHS’ Framework for Strategic Action: Decade of HIT Delivering Consumer-centric and Information-rich Health Care – July 21, 2004

- Inform Clinical Practice
- Interconnect Clinicians
- Personalize Care
- Improve Population Health
  - Unify public health surveillance architecture
  - Streamline quality and health status monitoring
  - Accelerate research and dissemination of evidence
National Health Information Network (NHIN)

- A highly secure network that can move data where patients authorize it to go
- Provide “out-of-the-box” interoperability for compatible EHRs
- Accelerate regional deployment by providing tool kits and services necessary to achieve interoperable EHRs
- Must be operated in the public interest and interoperable with public health
Public Health Information Network

- Early Event Detection
- BioSense
- Outbreak Management
- Outbreak Management System, lab result reporting
- Surveillance
- NEDSS
- Secure Communications
- Epi-X
- Analysis & Interpretation
- BioIntelligence analytic technology
- Information Dissemination & KM
- CDC Website
- Health alerting
- PH Response
- Countermeasure administration; isolation, vaccine, prophylaxis

Federal Health Architecture, NHII & Consolidated Health Informatics
Public Health Challenges with EHR

- Understand public health organization:
  - Domain/programs fragmentations
  - Organizational hierarchy
- Understand commonalities among PH domains/programs and PH settings in terms of data sources, users, public health goals and functions
- Define the role of the EHR in integrating primary care and PH practices
- Define the processes for involving the various PH stakeholders in the national effort for the standardization of health care data via the EHR
- Develop PH vocabulary
EHR Standards to HL7

- Charge to HL7 – Accelerate Development of EHR Standards
- Who and what is HL7?
  - Standards setting organization - ANSI
  - A tool for clinical data transfer
- EHR System Functional Model
  - Summary of Functions
  - Describes Behavior of a System from Functional Perspective
The Electronic Health Record?

- Talking about EHR for 20+ Years
- All or most hospitals have some type of electronic systems
  - Billing
  - Disease Index
  - Physician Dictation
- Today – Hybrid EHR
- Today - New emphasis on EHR
Medical Record Locations/Formats
Introduction to the EHR

EHR Lifetime

PCP: Primary Care Physician

Radiologist

Surgeon

Radiation Center

Oncologist

Physical

Needle Bx

Lumpectomy
Axillary Dissection

Radiation

Hormonal Rx

Follow-up Visit

PCP: Primary Care Physician
Electronic Health Record Systems (EHRs)

- Longitudinal collection of electronic health information for and about persons, where health information is defined as information pertaining to the health of an individual or health care provided to an individual
- Immediate electronic access to person- and population-level information by authorized users
- Provision of knowledge and decision-support that enhance the quality, safety, and efficiency of patient care
- Support of efficient processes for health care delivery (reduce duplication of effort and redundancies)
Paper Systems to E-Systems

- How we do our jobs – our business
- Paper system legacy
  - Batch processing concept
  - Accession and wait
  - Pull MR and abstract
- Electronic systems allow new designs
  - Example: demographics via MR Number
  - Case finding example - Matching DI
- Future: Free CTRs to be CTRs
Proposed Cancer Registry Data Flow

**HOSPITAL REGISTRY**
- Summarize
- HL7 File: Clinical

**CENTRAL REGISTRY**
- Consolidate
- HL7 File: Cancer Abstract

**NATIONAL PROGRAMS**
- Reference Path Lab
- Hospital C

**Hospital A**
- Path Report
- Op Report
- History & Physical
- Admissions
- Dx Imaging
- Other Records

**Hospital B**
- HL7 File: De-identified Cancer Abstract

**Hospital C**
- Private Physician

HL7 File:
- Clinical
- Cancer Abstract
- Patient Demographics

CDC

NPCR
NPCR-MERP: What is it?

A collaborative project to develop and test a model for the electronic capture and reporting of cancer registry data

- From hospital’s EHR (and hospital database system) and other data sources (such as reference path labs) to hospital and central cancer registries
- Using commonly available data sources in “standardized” format
- Capturing data elements to meet cancer registry standards (NAACCR)
- Developing automated, electronic methods for capture and transfer of data, that are potentially transportable
NPCR-MERP Collaborator Roles

- **CDC-NPCR**
  - Facilitate & Guide Model Development

- **Virginia Commonwealth University Health System (VCUHS)**
  - Implement & Test Model

- **Virginia Cancer Registry (VCR)**
  - Monitor Model Development/
Pilot Central Registry Automation
The Charge/Mandate

- Construct a comprehensive model that can enable NPCR to demonstrate the potential of electronic cancer registry reporting to their grantees and partners
  - Exploit the electronic health record (EHR)
  - Incorporate national standards
  - Identify ways to improve timeliness, completeness, and quality
  - Identify opportunities to automate manual process
  - Present in multiple levels of granularity and specificity
  - Be reflective of current industry best practices
NPCR-MERP
Scope

*Numbers rank the data sources as to the quantity of useful data available
NPCR-MERP Objectives

Phase I

- Develop a model for electronic capture of cancer surveillance data to enhance the efficiency, completeness, & accuracy of case reporting from an electronic health record
  - Methods and data will be standards-based
  - UML and non-UML diagrams for different audiences
  - Applicable to both hospital and central cancer registries

- Test implementation of the model in a large hospital setting (VCUHS)

- Distribute the model via the NPCR-MERP Website for input
NPCR-MERP Objectives

Phase II

- Form a CDC-NCI Collaborative Workgroup
- Convene a National Steering Committee of subject matter experts from the broader cancer surveillance community to:
  - Provide input on a comprehensive model
  - Synchronize vocabularies
  - Identify the best use of national resources
  - Assess and set the national priorities
  - Collaborate on the development of a national plan
NPCR-MERP Objectives

Phase II (Continued)

- Extend the model to reflect national best practice
- Test automated and staggered (or "real-time") reporting
- Assess transportability of the model
NPCR-MERP Team

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NPCR-MERP Website

http://www.cdc.gov/cancer/npcr/merp

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