Modernizing Vital Records with eVitals Standards

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Objectives

- To describe activities within the Federal government that have supported plans for Health Information Technology
- To describe the significance of standards for Health Information Technology
- To describe the CDC/NCHS eVitals Standards Initiative
- To provide details on the eVitals Standards activities
U.S. Plans for Health Information Technology

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

Former President G. W. Bush in State of the Union Address on January 20, 2004

Established goal for most Americans to have access to an interoperable electronic health record (EHR) by 2014

Established the Office of the National Coordinator for Health Information Technology (ONC) through an Executive Order
U.S. Plans for Health Information Technology

“To lower healthcare cost, cut medical errors, and improve care, we’ll computerize the nation’s health record in five years, saving billions of dollars in health care costs and countless lives.”

President Barack Obama in First Weekly Address on January 24, 2009

Consistent with Bush’s 2014 goal for electronic health records
American Recovery & Reinvestment Act (ARRA)

- President Obama signed ARRA on Feb. 17, 2009

- ARRA required the Department of Health and Human Services (DHHS) to create, vet and publish an initial set of HIT system standards, implementation specifications and testing criteria to promote adoption and “meaningful use” of EHRs

- ARRA is serving to stimulate adoption of HIT
Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009

TITLE XIII—HEALTH INFORMATION TECHNOLOGY

SEC. 13001. SHORT TITLE; TABLE OF CONTENTS OF TITLE.

(a) SHORT TITLE.—This title (and title IV of division B) may be cited as the “Health Information Technology for Economic and Clinical Health Act” or the “HITECH Act”.

(b) TABLE OF CONTENTS OF TITLE.—The table of contents of this title is as follows:

Sec. 13001. Short title; table of contents of title.

Subtitle A—Promotion of Health Information Technology

PART 1—IMPROVING HEALTH CARE QUALITY, SAFETY, AND EFFICIENCY

Sec. 13101. ONCHIT; standards development and adoption.

PART 2—APPLICATION AND USE OF ADOPTED HEALTH INFORMATION TECHNOLOGY STANDARDS; REPORTS

Sec. 13111. Coordination of Federal activities with adopted standards and implementation specifications.

Sec. 13112. Application to private entities.

Sec. 13113. Study and reports.
What is a Standard?

**standard**  
*noun*  
ˈstan-dərd\]

- something considered by an authority or by general consent as a basis of comparison

The Big Mac Standard

Two all-beef patties, special sauce, lettuce, cheese, pickles, onions – on a sesame seed bun
Standards are the Essential Building Blocks for Electronic Health Record Systems

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Standards for Population Health and Healthcare

NCHS and its partner organizations have developed, implemented and maintained many of the critical standards used in population health and healthcare:

- Standard certificates for vital events
- International Classification of Diseases and its clinical modifications
- Uniform data sets for hospital and ambulatory care

These standards can contribute to and benefit from current deliberations on national standards.
NCHS eVitals Standards Initiative

Develop national standards to facilitate the national exchange of birth, death and fetal death records between electronic health record systems and state vital statistics systems.
Why the eVitals Standards Initiative?

A significant number of data items for Vital Registration are captured in medical records for the:
- U.S. Standard Certificate of Live Birth
- U.S. Standard Certificate of Death
- U.S. Standard Report of Fetal Death

Medical Records have been identified as the preferred source to obtain medical and health data

It provides consistency for collecting VR data using emerging EHR data and communication standards
Why the eVitals Standards Initiative?

Hypothesis:
Interoperability with EHRs may improve the timeliness, accuracy and quality of the information collected for vital records purposes.
Debates about using EHRs for VR

Debates abound about the:

- Use of EHRs as a source for VR information
- Benefits of EHR approach to VR community
- Improvements in quality and timeliness of VR data
- Reduction in the redundancy of data captured
It is worthwhile to lay the foundation for standardizing the exchange of VR data as efforts towards developing and implementing EHRs continue.
Electronic Health Record (EHR) and Vital Record (VR) Systems Information Exchange

- Capturing birth and death data in electronic health record systems
- Improving the timeliness, accuracy, and completeness of vital records data
- Electronic exchange using HL7 and IHE-based standards
eVitals Standards Activities

- Stakeholder Engagement
- Standards Development Activities
- Trial Implementations, Demonstrations and Pilot Testing
Stakeholder Engagement and Standards Development Activities

- Collaborating with the National Association for Public Health Statistics and Information Systems (NAPHSIS) and individual states/jurisdictions to support standards development activities

- Participating in standards development activities with the Standards Development Organizations (SDOs)
Health Level Seven International (HL7)

- Dedicated to developing standards for the exchange, integration, sharing, and retrieval of electronic health information
- Includes over 2,300 members representing more than 90% of the information systems vendors serving healthcare
- VR standards developed through support of the HL7 Public Health and Emergency Response Work Group (PHER WG)

Available at: http://www.hl7.org/about/index.cfm?ref=nav
HL7 Vital Records Standards

Data Model
- HL7 V3 Domain Analysis Model: Vital Records, Release 1

Functional Profile
- HL7 EHR-S FM VR Functional Profile, Release 1.1

Messaging
- HL7 V2.5.1: Birth & Fetal Death Reporting, R1 Draft Standard for Trial Use (DSTU)
- HL7 V2.5.1: Vital Records Death Reporting, R1 DSTU

Document
- HL7 V3 CDA R2: Birth & Fetal Death Reporting, R1 DSTU
- HL7 V3 CDA R2: Vital Records Death Reporting, R1 DSTU
Integrating the Healthcare Enterprise

- Promotes the coordinated use of established standards such as HL7 to address specific clinical needs in support of optimal patient care

- VR standards developed through support of the IHE Quality, Research and Public Health Committee (QRPH)

Available at: http://www.ihe.net/
Integrating the Healthcare Enterprise (IHE)

Available at: http://www.ihe.net/IHE_Process/
IHE Vital Records Standards

- Identifies the EHR content (medical/health information) that may be used for VR reporting

- Defines:
  - Structure of the form used for pre-population based on the standard Facility Worksheet

- Document that may be submitted based on the pre-population
eVitals Standards Trial Implementations

Trial Implementations at IHE Connectathon

- Structured testing event that includes hundreds of vendors, engineers and IT architects
- Participate in a full week of interoperability testing using real-world clinical scenarios
- Connectathons are held globally in North America, Europe, Asia, Australia, and Japan year-round
eVitals Standards Demonstrations

Healthcare Information and Management Systems Society (HIMSS) Interoperability Showcase
eVitals Standards Demonstrations

National Association for Public Health Statistics and Information Systems (NAPHSIS) 2013 Demonstrations
NAPHSIS/NCHS 2013 Annual Conference Demonstration

IHE Birth and Fetal Death Reporting Content Profile

Form Manager

Form Filler

Present Birth Certificate Form with relevant clinical data from the EHR and allow for manual data entry

Form Receiver

Send all the data (pre-populated and manual data entry) to VR System

Form Pre-populate

Birth Certificate Facility Worksheet
NAPHSIS/NCHS 2013 Annual Conference Demonstration

HL7 V2.5.1 Vital Records Death Reporting, Release 1 (US Realm)

**Funeral Director**
- Electronically completes the funeral director’s section of the Death Certificate

**EHR**
- Allows access to the EHR while clinician completes medical certifier’s section of the Death Certificate

**EDRS**
- Electronically send all the data entered through the EHR to the VR System
eVitals Standards Pilot Testing

- Minnesota Department of Health
  - Evaluating readiness for secure electronic exchange of birth registration information using the IHE and HL7 standards

- Utah Department of Health
  - Collaborating with Intermountain Healthcare to test sending death information using the HL7 V2.5.1 message
Challenges to eVitals Standards Development and Implementation

• States/Jurisdictions legally responsible for the registration of vital events concerned about the accuracy and quality of EHR data

• Limited funding to support states/jurisdictions pilot testing of eVitals Standards

• Vital Records not specifically recognized in Meaningful Use Regulations

• Limited EHR and VR system vendors adoption of eVitals standards
“Nothing ventured, nothing gained.”

Benjamin Franklin
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