

# Improving Public Health through e-Vital Records

CDC Public Health Informatics Conference

April 30, 2014

# Presentation Agenda

- ❑ **Modernizing Vital Records with eVital Standards**
- ❑ **Minnesota e-Birth Records Project**
- ❑ **Interoperability between Vital Records and EHRs in Utah**
- ❑ **Challenges and Opportunities**
- ❑ **Q&A**

# Modernizing Vital Records with eVital Standards

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CDC Public Health Informatics Conference

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National Center for Health Statistics

Classifications and Public Health Data Standards Staff

# 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

# Standards for Population Health and Healthcare



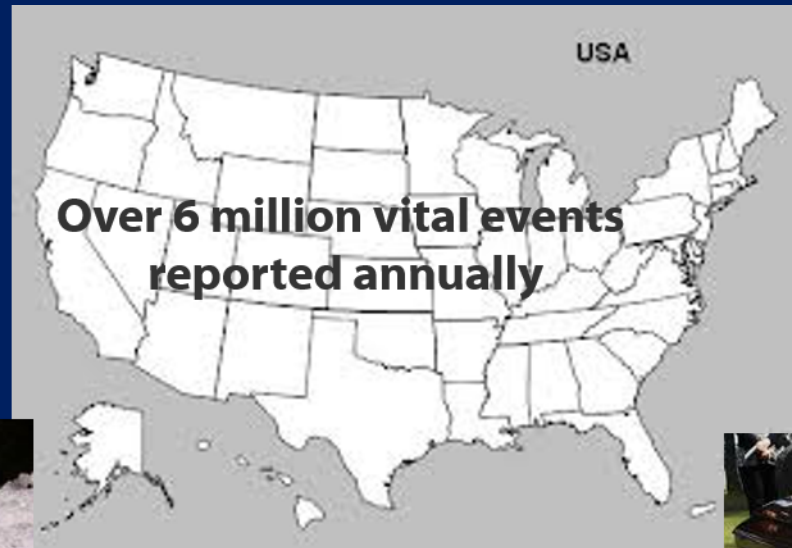
NCHS and its partner organizations have developed, implemented and maintained many of the critical standards used in population health and healthcare:

- 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.

# National Vital Statistics System

Vital statistics data are widely used to monitor and improve the nation's health



**National Vital Statistics System**





# Medical and Health Information Captured for the U.S. Standard Certificate of Live Birth

## Prenatal Care

- Visit Information
- Past pregnancies

## Risk Factors

- Medical Conditions (DM, HTN)
- Infertility Treatment
- Previous C-Section

## Labor & Delivery

- Onset of Labor
- Method of Delivery
- Maternal Morbidity

## Newborn

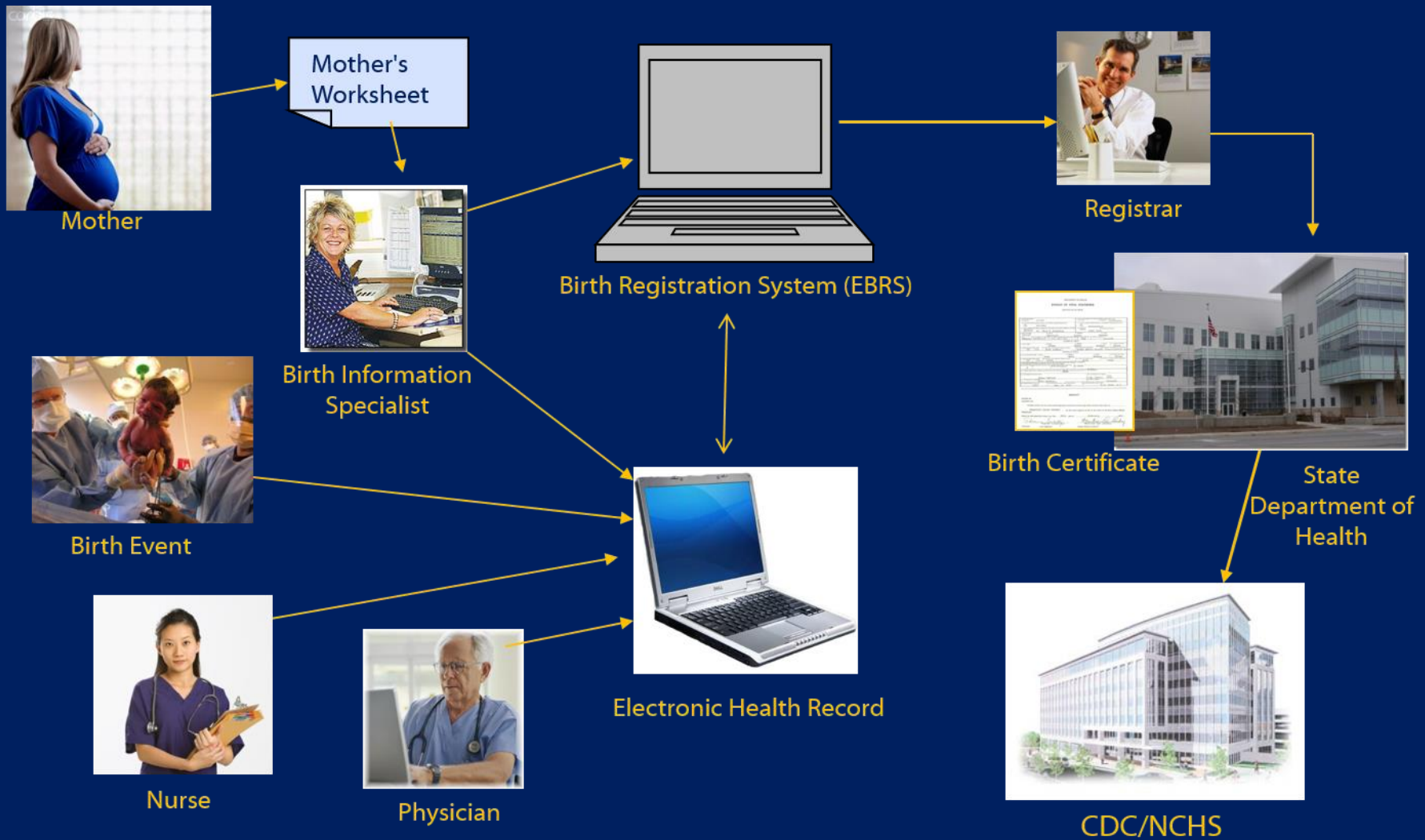
- Birth weight
- Abnormal Conditions
- Congenital Anomalies

## **NCHS eVitals Standards Initiative**

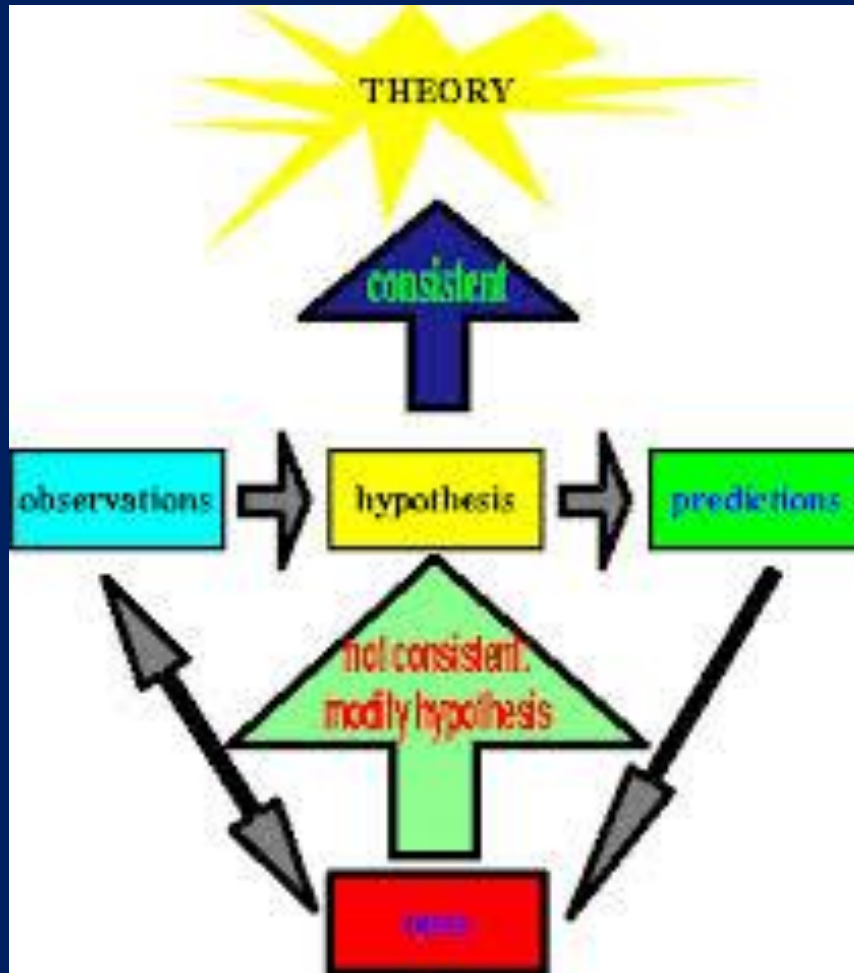
**Develop national standards to facilitate the national exchange of birth, death and fetal death records between electronic health record systems and state vital statistics systems**



# Standards to Support Capturing VR Data at the Point of Care or Contact



# Why the eVitals Standards Initiative?



**Hypothesis:**  
Interoperability with EHRs may improve the timeliness, accuracy and quality of the information collected for vital records purposes

# NCHS eVital Standards Initiative



**It is worthwhile to lay the foundation for standardizing the exchange of VR data as efforts towards developing and implementing EHRs continue**

# eVital Standards Activities

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

# Stakeholder Collaboration

- **Ongoing collaboration with the National Association for Public Health Statistics and Information Systems (NAPHSIS) and states/jurisdictions to support standards development activities**
- **Outreach and partnership with EHR, VR and public health system vendors to develop, test and implement the VR standards**





# Standards Development Activities

- Participating in standards development activities with the Standards Development Organizations (SDOs)



**Health Level Seven  
International (HL7)**

**IHE** Integrating  
the Healthcare  
Enterprise



# 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>



- 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/>

# IHE Vital Records Standards

## IHE Content Profiles

### IHE Birth and Fetal Death Reporting (BFDR)

### IHE Vital Records Death Reporting (VRDR)

Mother's medical record # \_\_\_\_\_  
Mother's name \_\_\_\_\_

FINAL (2/5/04)

FACILITY WORKSHEET FOR THE LIVE BIRTH CERTIFICATE

*For practitioners working in the fields of law or more technical nature, this worksheet should be completed for the 1st live birth report in the delivery. For each subsequent live birth report, complete the "Additional Live Births" section. For any final live in the pregnancy reportable under this reporting requirement, complete the "Multiple Births for the First Child Report" section. For information on sources, and common key words and abbreviations please see "The Guide to Completing Facility Worksheets for the Certificate of Live Birth."*

1. Facility name\* \_\_\_\_\_  
(If not available, give street and number)

2. Facility ID (National Provider Identifier) \_\_\_\_\_

3. City, Town or Location of birth: \_\_\_\_\_

4. County of birth: \_\_\_\_\_

5. Place of birth:

Hospital

Free-standing birthing center (if nonmedical birthing center is defined as one which has no direct physical connection with any licensed delivery center.)

Home birth

Planned to deliver at home  Yes  No

Clinic/Doctor's Office

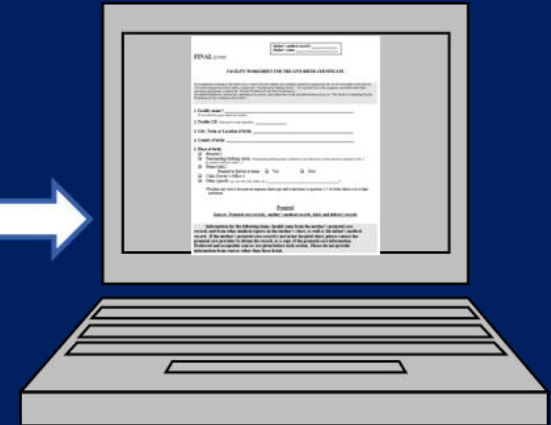
Other (specify: e.g., nat. nat., nat., place, etc.) \_\_\_\_\_

\*Facilities may wish to have pre-set responses (and copy and/or alter) to questions 1-5 for births which occur at their institution.

**Prenatal**  
Sources: Prenatal care records, mother's medical records, labor and delivery records.

Information for the following items should come from the mother's prenatal care records and from other medical reports in the mother's chart, as well as the infant's medical record. If the mother's prenatal care record is not in her hospital chart, please contact her prenatal care provider to obtain the record, or a copy of the prenatal care information. Preferred and acceptable sources are given before each section. Please do not provide information from sources other than those listed.

## VR Form



## EHR System



## Vital Records System State Department of Health

# 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

# HL7 Vital Records Standards

FINAL 01040

\_\_\_\_\_  
Mother's medical record #  
\_\_\_\_\_  
Mother's name

FACILITY WORKSHEET FOR THE LIVE BIRTH CERTIFICATE

*For preparation resulting in the birth of one or more live-born infants, this worksheet should be completed for the first live birth infant in the delivery. For multiple pregnancies, complete this worksheet for the first-born infant. For stillbirths, complete this worksheet for the first stillbirth. For multiple stillbirths, information on location and content by words and abbreviations please see "The Check to Completing Facility Worksheet for the Completion of the Book."*

1. Facility name: \_\_\_\_\_  
*(If an institution, give street and number)*

2. Facility ID (National Provider Identifier): \_\_\_\_\_

3. City, Town or Location of birth: \_\_\_\_\_

4. County of birth: \_\_\_\_\_

5. Place of birth:

Hospital

Free-standing birthing center (if free-standing birthing center is defined as one which has no direct physical connection with a hospital or delivery center)

Home birth

Planned to deliver at home  Yes  No

Clinic/Doctor's Office

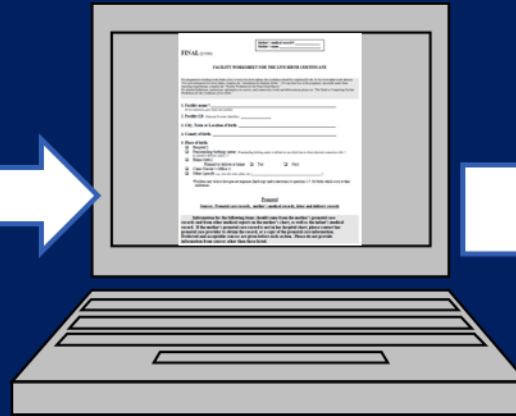
Other (specify: e.g., see with, train, plane, etc.): \_\_\_\_\_

*\*Facilities may wish to have pre-set responses (hard-copy and/or electronic) to questions 1-5 for births which occur at their facilities.*

**Prenatal**  
Source: Prenatal care records, mother's medical records, labor and delivery records

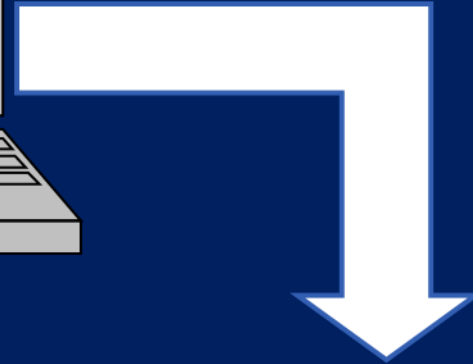
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VR Form



EHR System

HL7 V2.5.1



HL7 CDA



Vital Records System  
State Department of Health

# Trial Implementations, Demonstrations and Pilot Testing



# Acknowledgements

Special thanks to those who have collaborated with us during the trial implementations and demonstrations to support development of the Vital Records standards





# 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 are what  
make life interesting.

Overcoming them is  
what makes it  
meaningful.

# Challenges to eVitals Standards Development and Implementation

- **Limited funding to support states/jurisdictions pilot testing/adopting eVital Standards**
- **Limited EHR and VR system vendors adoption of eVital standards**
- **Vital Records not specifically recognized in Meaningful Use Regulations**



# Opportunities for eVital Records Initiative

## □ **Get Ready**

- Develop an informatics-savvy workforce
- Start an eVital Records Initiative
- Conduct a readiness assessment of state and local partners

## □ **Be Aware**

- Become familiar with the available VR standards
- Contribute to national policy discussions, e-health and standards related activities

## □ **Get Involved**

- Participate in SDO activities to review and provide feedback on the VR standards
- Engage in trial implementation/pilot testing activities

# THANK YOU

