Making Healthcare Information Technology Meaningful for Maternal and Child Health

Bob Bowman, Indiana State Department of Health
John Eichwald, Centers for Disease Control and Prevention
Terese Finitzo, OZ Systems

Who we are...

What’s HIT about?
• Creation and Use of an Electronic Health Record (EHR)
• Because of Federal Initiatives like:
  • Certification
  • Meaningful Use
• And secure, two-way data sharing among trusted Healthcare Partners
  • Interoperability
What’s the Question for MCH?

- What information do our (MCH) programs need to receive from providers (and their EHRS) to perform critical programmatic functions?
- What information do our programs need to send to providers (and their EHRS) to fulfill our programmatic mission?
- What’s the benefit of using standards-based applications for public health information exchanges?

Definition of an EHR-S

An Electronic Health Record System encompasses:
- Longitudinal collection of electronic health information about and for patients
- Electronic access to patient and population-level information by authorized users
- Provision of knowledge and decision support systems
- Support for healthcare delivery efficiency

Electronic Record Definitions

- **Electronic Medical Record (EMR):**
  created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization.
Electronic Record Definitions

• Electronic Health Record (EHR): conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.

Electronic Record continued

• Personal Health Record (PHR): conforms to nationally recognized interoperability standards and that can be drawn from multiple sources while being managed, shared, and controlled by the individual.
EHR Benefits: Hospital Staff and Administration

- improve clinical data capture
- improve efficiency of workflow processes
- reduce medical errors (improve patient safety)
- facilitate clinical decision support
- improve clinical documentation and portability
- improve quality of care

EHR Benefits for Public Health

- timelier access to more health information
- evaluate the effectiveness of quality assurance and improvement activities
- reduce time and expense of documenting services already provided
- analyze demographic and age specific data
- uniform data standards enable programs to provide comparable and accurate information for state and federal reporting requirements

EHR Benefits: Families

- Empower families with electronic access to their own information for improving their own health and well-being
- Reduce repetition of information
- Provide families access to secure records to provide portability of health information
- Help transition health information from a provider focused healthcare system to a patient/family focused healthcare system
- secure access to all public health information (e.g. all screening results, not just infants who did not pass)
- access pertinent information from all healthcare team members across multiple settings
- clinical decision support provides automated “alerts” to improve compliance with best clinical practices and jurisdictional guidelines
- ensure continuous screenings, facilitate timely diagnoses and intervention

**EHR Benefits: Healthcare Providers**

- ensure continuous screenings, facilitate timely diagnoses and intervention

**Office-based Physicians with EMRs/EHRs**

- United States: 2001 - 2010
- National Ambulatory Medical Care Survey (NAMCS) conducted by the CDC/NCHS

**Local Health Department Capacity**

- The National Association of County and City Health Officials (NACCHO) needs assessments
- 134 local health departments that responded
  - 62% were able or planning to receive data from meaningful use-certified EHR systems
  - large health departments (89%) small (45%)
- Fewer than half of respondents were already receiving and processing data for the three public health meaningful use requirements
  - electronic lab reporting
  - immunization registries
  - syndromic surveillance
“The nice thing about standards is that you have so many to choose from.”
Andrew S. Tanenbaum

Nationally recognized standards provide base for flow of information securely, reliably, consistently, and accurately.

Interoperability allows two or more systems to transmit, exchange, store, and manage information electronically.

What It Takes To Demonstrate Interoperability

David Keith
Terese Tone
Jason Bill Nitin

Public Health Data Standards Consortium

Anna Orlova, PhD
PHDSC Executive Director

Lori Fourquet
e-Healthsign, LLC

Wendy Scharber
RHIT, CTR
Registry Widgets

How about some stories?
EHDI in the era of interoperability

- St Elsewhere Hospital’s EHR sends a notification to EHDI about Baby Don’s birth.
- When Don arrives in the nursery, his EHDI EHR is waiting. (No data entry!)
- Baby Don is screened. He passes screening in both ears.

The device sends Don’s results to his EHDI EHR.

- EHDI IS sends a care plan to PCP’s EHR with
  - Results, Risk factors and Next early hearing care steps
  - Care plan reminds PCP to talk to family about speech and language

At the end of the month, State EHDI team runs a Quality Report on how many newborns were screened before they were discharged. Happily, this baby qualifies.
HIT’s not just for EHDI you know!

Quality of Diabetes Care: Patients Treated by Physicians using EHR vs. Paper Medical Records

A significantly higher proportion of patients being treated by physicians with EHRs received care that aligns with accepted treatment standards.*

September 1, 2011. New England Journal of Medicine

*Even after adjusting for patient demographic characteristcis and insurance type, differences remain significant, p < 0.001.

Physician Reporting Public Health - Cancer Registry
Wendy Blumenthal, MPH
Epidemiologist, Cancer Branch
CDC/ONIEH/NCCDPHP

Integration the Healthcare Enterprise®
Quality, Research and Public Health
CDC Collaborations

Mother and Child Health (MCH)
Michelle Williamson, MSIS, BSN; Senior Health Informatics Specialist, Classifications and Public Health Data Standards
CDC/OSELS/NCHS
Vital Registration from the Birthing Facility EHR to the State Center for Health Statistics

- Enhance timeliness of information

For example:

Pre-populated Vital Records Facility Worksheet

Birthing EMR submits their summary to an approved receiver of the summary.
Vital Registration

- The same birth notification for EHDI can be repurposed for NBS
- If something happens to a baby's filter paper card...
- The NBS program has an accurate denominator – just like EHDI about the number of births in a hospital

Newborn Bloodspot Screening

Immunizations

Remember that Birth Notification message? An accurate denominator is public health’s best tool.
A Public Health Program Approach to EHR Meaningful Use

What are the goals of Meaningful Use?
Meaningful Use sets goals that are about healthcare, not about information technology. The overall goals of meaningful use are to use EHR technology to:
1. Improve quality, safety, and efficiency of patient care
2. Engage patients and families in patient care
3. Enhance care coordination
4. Ensure adequate privacy and security for personal health information
5. Improve population and public health

How does Meaningful Use impact my program?
- Submission of electronic data to Immunizations registry was included in Stage 1
- Requires submission of data to the state registry unless the registry is incapable of receiving the data
- Actual submission is to be in accordance with applicable laws and practices of the state
- Other MCH programs are prime candidates for inclusion in Stage 2 and 3 of meaningful use
Improving outcomes through Meaningful Use?

- It is possible for MCH programs to take advantage of the fact that EHRs must be able to receive data in a standard format.
- By getting involved early, MCH programs may be able to transmit necessary data to health care providers more efficiently and more timely.

How about Learning? Sharing?
MCH will need to send and receive information to and from providers to fulfill their programmatic functions.
These communications need to be implemented using nationally recognized standards.
There is a window of opportunity now. It would be wise to leverage your resources where you can.
There are opportunities for learning and participation.

**Take home messages**

- HealthIT.gov ([www.healthit.gov](http://www.healthit.gov))
- IHE Educational Webinar Series ([www.ihe.net](http://www.ihe.net))
- HIMSS Interoperability Showcase ([www.interoperabilityshowcase.org](http://www.interoperabilityshowcase.org))
- National Quality Forum ([www.qualityforum.org](http://www.qualityforum.org))

**To get involved or learn more**