Measuring Public Health Meaningful Use

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Meaningful Use for Public Health Professionals: Basic Training
May 16, 2011 – CDC
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Disclaimer

- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Introduction

- Recap ofPresented Topics
- **Meaningful Use Adoption by Public Health**
  - Why Measure Meaningful Use and Public Health Adoption
  - Relevant Terminology
  - Meaningful Use vs. Public Health Reality
  - Public Health Agency Meaningful Use Capabilities
  - Technical Profile – Electronic Lab Reporting
  - Metrics
Your Challenge During This Session: Summarize

- The end of this session will include a small group discussion.
- You will create a list of “top tips” for meaningful use adoption by public health.
- Be ready to contribute “top tips” gleaned from this presentation.
Why Measure Meaningful Use and Public Health Adoption?
Why Measure Meaningful Use and Public Health Adoption?

- Describes what public health investments have accomplished
  - Immunization Registries (IIS)
  - Reportable Lab Results (Electronic Lab Reporting)
  - Syndromic Surveillance
- Determine if public health is ready for Stage 1
- Respond to questions from non-public health stakeholders
- Justify why public health should be involved Stages 2-3
- Allows CDC to tailor its support for public health agencies
RELEVANT TERMINOLOGY
Relevant Terminology (1 of 2)

**Certification**

- Process that electronic health records (EHRs) and modules go through to ensure they meet meaningful use objectives and specified standards.
- Standards for testing are published by National Institute of Standards and Technology (NIST).
- Certification process is performed by the Authorized Testing and Certification Bodies (ATCB).
Relevant Terminology (2 of 2)

**Testing**
- The eligible hospitals/eligible professionals (EP) exchange messages with public health agency (PHA) to get the correct format and values as determined by PHA.

**In Queue**
- Follows successful testing.
- Eligible hospitals/EP may be prioritized by PHA for validation at a later date.

**Validation**
- Public health evaluation of new electronic data.
- Comparison with paper submission or previous electronic data flows.

**Production**
- Data is continuously being sent to the PHA and is being monitored for quality assurance.
MEANINGFUL USE VS. PUBLIC HEALTH REALITY
When implementing systems, many PHAs have accommodated whatever format was available:

- Local codes, instead of Logical Observation Identifiers Names and Codes (LOINC)
- Systematized Nomenclature of Medicine (SNOMED)
Meaningful Use Regulations vs. Public Health Reality (2 of 3)

- Meaningful use currently doesn’t consider how public health will receive data from eligible hospitals/EP
  - Putting eligible hospitals and EPs in queue
  - Validation of reporting data
Meaningful Use Regulations vs. Public Health Reality (3 of 3)

- Medicaid/Medicare providers
  - Same requirements, different timeline

- Rules describe requirements of healthcare, not how PHAs should react or work with providers and hospitals

- Technical capability vs. capacity of public health
PUBLIC HEALTH AGENCY
MEANINGFUL USE CAPABILITIES
Public Health Receiving Scenarios

Scenario 1
- Complete EHR
- HIE (Routing to PH, no transformation of message format)
- Directly to Public Health
- Message Receiver
- Data Stores and Applications

Scenario 2
- EHR and/or LIMS
- MU Compliant Messages
- HIE (Routing to PH, no transformation of message format)
- Directly to Public Health
- Message Receiver
- Data Stores and Applications

Scenario 3
- EHR and/or LIMS
- MU Compliant Messages
- HIE (Routing to PH, with transformation of message format)
- Directly to Public Health
- Message Receiver
- Data Stores and Applications

Eligible hospitals must certify all modules, since EHR is not performing all MU functions.
Metrics to Describe PHA Meaningful Use Capability

- Can the state receive data for Immunization Information Systems (IIS), Electronic Lab Reporting (ELR) and Syndromic Surveillance (SS) in the ONC-prescribed format?
- If not ready, when will these systems be ready?
TECHNICAL PROFILE - ELR
What transport mechanism is used for ELR?

- PHIN MS?
- Direct?
- sFTP?
- Other?
Routing Hub?  

Health Information Exchange?
What integration technologies are being used?

- Rhapsody?
- Cloverleaf?
- Mirth?
- Other?
PHA’s Technical ELR Profile (4 of 5)

- HL7 2.5.1 Messages for ELR

- Can the PHA accept it?
- Can the surveillance system consume it?
Does the PHA use an HIE to convert a meaningful use-compliant HL7 message?
METRICS
PHA’s Hospital Metrics for ELR

- How many are in testing, production and in queue for validation or production?
- How many are currently in production with a format other than HL7 2.5.1?
Who is Interested in These Metrics?

- CDC
- ONC
- Federal advisory committees
- Public health representatives on advisory/standards setting committees
- Public health associations- Association of Public Health Laboratories, ASTHO, Council of State and Territorial Epidemiologists, National Association of County and City Health Officials
- State and local PHAs
Where Do We Get Information to Support the Metrics?

- ASTHO survey data provides the baseline
- CDC jurisdictional capabilities summaries
- Reports that are part of cooperative agreements
  - Epidemiology and Laboratory Capacity
  - IIS-EHR Interoperability
- BioSense redesign website and environmental Scan
When Will Your Agency Be Ready to Receive Test Messages?
As of November 2010

Source: ASTHO Meaningful Use Readiness Survey 2010
Readiness of PHA to Test for Meaningful Use
As of March 2011

Source: CDC Jurisdictional Capability Summary 2011
Additional Jurisdictional Metrics

Using HIE or HUB

Can Receive ELR 2.5.1

Can Consume ELR 2.5.1

Can Consume ELR 2.3.1

n = 38

Source: CDC Jurisdictional Capability Summary 2011
Hepatitis A – Real World Example

MEANINGFUL USE IMPACT ON PUBLIC HEALTH
Hepatitis A Case in Food Handler

Pre-Meaningful Use

Timeline

Day 7
Symptoms appear

Day 9
Physician visit/tests performed

Day 13
Results sent to Physician
Hepatitis A Case in Food Handler
Pre-Meaningful Use

Case report and fax machine Up to 7 days

Fax to PHA
Hepatitis A Case in Food Handler Pre-Meaningful Use

Day 7
Symptoms appear

Day 9
Physician visit/tests performed

Day 13
Results sent to physician

Day 15
PHA notified

Day 16
Food handler status established

Day 18
Clinic held

Restaurant Closed

Eligible for Preventive Measures
## Event Information

<table>
<thead>
<tr>
<th>Event Data</th>
<th>Lab Results</th>
<th>Concerns</th>
<th>Persons</th>
<th>Tests</th>
<th>Event Properties</th>
<th>Event History Trail</th>
</tr>
</thead>
</table>

### Labs

- **Spec Date:** 01/02/2011
- **Spec Source:** Whole blood sample
- **Spec Number:** 1234
- **Test:** Hep A virus Ab IgG, Ab IgM, AChR, Pt: Ser: Ord: Result: Positive

### Details

- **Spec Date:** 01/02/2011
- **Spec Source:** Whole blood sample
- **Spec Number:** 1234
- **Test:** Hep A virus Ab IgG, Ab IgM, AChR
- **Pt:** Ser: Ord: Result: Positive
- **Last Update:** 01/03/2011
- **Updated By:** [Name]

- **Specimen Info:**
  - Date: 01/02/2011, 1234, Whole blood sample

- **Test:**
  - Hep A virus Ab IgG, Ab IgM, AChR, Pt: Ser: Ord: Result: Positive

- **Susceptibility:**

- **Laboratory:**
  - Baystate Medical Center - 759 Chestnut Street, Springfield, MA 01199, (413) 794-4500

- **Ordering Facility:**
  - University of Massachusetts Health Services, 150 Infirmary Way, Amherst, MA 01003, (413) 577-3754

- **Ordering Provider:**
  - Dr. Dave Jones, UMASS Health Services, 150 Infirmary Way, Amherst, MA, 01003, 999-999-9999

- **Notes:**
Hepatitis A Case in Food Handler After Meaningful Use

Day 7
Symptoms appear

Day 9
Physician visit/tests performed

Day 11
PHA notified
Food handler status established

Day 13
Clinic held

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Day 15
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PRE-MEANINGFUL USE

POST-MEANINGFUL USE
### Workflow Queues - Epi Immediate Notification

<table>
<thead>
<tr>
<th>Event</th>
<th>Person</th>
<th>Status</th>
<th>Disease</th>
<th>Last Update</th>
<th>Assigned To</th>
<th>Assigned To Group</th>
<th>Team</th>
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<tbody>
<tr>
<td>Administrative</td>
<td>Peter Griffin</td>
<td>Open</td>
<td>Anthrax</td>
<td>07/17/2006</td>
<td>N/A</td>
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<td>(Event) TEST00006</td>
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<tr>
<td>Administrative</td>
<td>Tom Sawyer</td>
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<td>Hep A</td>
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<td>(Event) 100000007</td>
<td>(Holyoke, MA)</td>
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<tr>
<td>Administrative</td>
<td>Jane Smith</td>
<td>Open</td>
<td>GAS</td>
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<td>(Boston, MA)</td>
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<tr>
<td>Administrative</td>
<td>Shawn Campbell</td>
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<td>Hep A</td>
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<td>(Event) TEST00005</td>
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Assign selected items to user: [ ] Assign selected items to group: [ ]

Assign: [ ] Re-assign: [ ]

Back | Case Page
# Demographic Package, Tom Sawyer Hepatitis A

**Event ID:** T1000000204

**Address Information (Address information below conforms to address when first reported)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Street address</td>
<td>369 Smither Street</td>
</tr>
<tr>
<td>City</td>
<td>Holyoke</td>
</tr>
<tr>
<td>State</td>
<td>MA</td>
</tr>
<tr>
<td>Zip code</td>
<td>01894</td>
</tr>
<tr>
<td>Official City</td>
<td>HOLYOKE</td>
</tr>
</tbody>
</table>

**Select Contact Point**

<table>
<thead>
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<th>Value</th>
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<tbody>
<tr>
<td>Unique address condition</td>
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</tr>
<tr>
<td>Patient telephone # (home)</td>
<td>(617) 698-3698</td>
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<tr>
<td>Patient telephone # (work)</td>
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**Employment Information**

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</tr>
<tr>
<td>Employer telephone #</td>
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<tr>
<td>Employer address</td>
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</tr>
<tr>
<td>Employer city</td>
<td></td>
</tr>
<tr>
<td>Employer state</td>
<td></td>
</tr>
<tr>
<td>Employer zip code</td>
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<tr>
<td>Occupation</td>
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**Demographic Information**

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<th>Value</th>
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<tbody>
<tr>
<td>Birth date</td>
<td>01/27/1972</td>
</tr>
<tr>
<td>Place of birth (country)</td>
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<tr>
<td>Age</td>
<td>35</td>
</tr>
<tr>
<td>Age type</td>
<td>Years</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Is case Hispanic?</td>
<td></td>
</tr>
<tr>
<td>Next of kin notes</td>
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</table>
### 3. Clinical Package, Tom Sawyer Hepatitis A

#### Diagnosis/Clinical Information

<table>
<thead>
<tr>
<th>Diagnosis date:</th>
<th></th>
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</table>

The period of infectivity for Hepatitis A begins two weeks before symptom onset and continues for one week after symptom onset.

<table>
<thead>
<tr>
<th>Infectious period start date:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Infectious period stop date:</td>
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</table>

<table>
<thead>
<tr>
<th>Did case have symptoms?</th>
<th>Yes</th>
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</table>

<table>
<thead>
<tr>
<th>Symptom onset date:</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Abdominal cramps:</td>
<td></td>
</tr>
<tr>
<td>Anorexia:</td>
<td></td>
</tr>
<tr>
<td>Chills:</td>
<td></td>
</tr>
<tr>
<td>Dark urine:</td>
<td></td>
</tr>
<tr>
<td>Diarrhea:</td>
<td></td>
</tr>
<tr>
<td>Fatigue:</td>
<td></td>
</tr>
<tr>
<td>Fever:</td>
<td></td>
</tr>
<tr>
<td>Jaundice:</td>
<td></td>
</tr>
<tr>
<td>Malaise:</td>
<td></td>
</tr>
<tr>
<td>Nausea:</td>
<td></td>
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</tbody>
</table>
Hepatitis A Case in Food Handler After Meaningful Use

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Eligible for Preventive Measures
Immunization Information System
Two Scenarios

Pre MU

Post Mu

0% 50% 100%

Customers with preventative measures

Customers without preventative measures

<table>
<thead>
<tr>
<th></th>
<th>Pre MU</th>
<th>Post MU</th>
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</thead>
<tbody>
<tr>
<td>Customers with</td>
<td>1100</td>
<td>1500</td>
</tr>
<tr>
<td>Customers without</td>
<td>400</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre MU</th>
<th>Post MU</th>
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</thead>
<tbody>
<tr>
<td>Employees excluded</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Employees not</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>excluded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Resources

- CDC Meaningful Use Webpage- http://www.cdc.gov/ehrmeaningfuluse/
- CMS Meaningful Use Incentive Program- https://www.cms.gov/EHRIncentivePrograms/
Your Challenge During This Session: Summarize

- Find two partners. Agree on “top two tips.”
- Combine with another group of three. Agree on “top two tips.”
- Write one tip on each large post-it, and place them on the wall.