Public Health – EHR Vendors Collaboration Initiative
Webinar

Electronic Case Reporting (eCR)
Standards Update

February 20, 2018
Special Session #7: Zika Virus Disease Update

Coming Up! Special Session #7: Zika Virus Disease Update for Electronic Health Record (EHR) Vendors, Health Information Technology Developers, Public Health, and Clinical Healthcare Partners on Nov 2, 2016 1:00 PM - 2:00 PM EDT

Please pre-register for the webinar by clicking the link below:

https://attendee.gotowebinar.com/register/3504905897385254131

Abstract:

This webinar will be focused on the recommendations around Ask at Order Entry (AOE)* for pregnancy status in Zika virus (ZIKV) laboratory test orders with the possibility of a broader discussion on the capture of pregnancy status in electronic health records, per the clinical workflow and an update on the algorithm for ZIKV risk assessment in pregnant women, based on the latest Centers for Disease Control and Prevention (CDC) guidelines.

Terms explained:

* Ask at Order Entry (AOE): Some tests, such as microbiology cultures and those that determine heavy metal ion concentration, require additional
Question and Answer Session
How to submit or ask questions for the panel members?

Submit or Ask Questions

- Submit your text question and comments using the Question Panel
- Please raise your hand to be unmuted for verbal questions.
Electronic Case Reporting (eCR) Standards Update

Laura Conn MPH
CDC and Co-Chair Digital Bridge eCR Implementation Taskforce

John W. Loonsk MD FACMI
eCR lead HL7, Consultant APHL, CMIO CGI Federal

February, 2018
What is Electronic Case Reporting (eCR)?

The automated generation and transmission of case reports from electronic health records to public health agencies for review and action.
eCR Standards Status

• Electronic Initial Case Report (eICR) Release 1.1
  • HL7 eICR CDA – first published 6/2016
  • APHL supports on-line eICR document validation site
  • Example CDA documents are available
  • HL7 FHIR – draft data specification provided for comment

• Reportability Response (RR) Release 1.0
  • HL7 Reportability Response CDA – published 1/2018
  • Example CDA documents are available
  • HL7 FHIR – draft data specification provided for comment

Clinical Care

Public Health

Store and Forward “Push”

Store and Forward “Push”
eCR Standards Status

• Trigger codes (RCTC)
  • Excel spreadsheet available from PHIN VADS
  • HL7 FHIR – value set bundle and subscription service reviewed and tested in HL7 Connectathon

• More complex distributable reporting rules
  • Questions and planning in HL7 “For Comment” ballot

• Supplemental data
  • Demonstration using RFD/SDC URI standard at 2018 HIMSS Showcase
Electronic Initial Case Report (eICR)

- Initial data on reportable conditions
- Automated transmission
  - From EHRs to APHL AIMS platform and on to Public Health Agencies (PHAs)
  - From EHRs to PHAs
- Manually initiated when requested by provider
- Routine and emergency use cases
  - Monitor disease trends
  - Manage potential cases in outbreaks
## Electronic Initial Case Report (eICR) v1.1 - Value

<table>
<thead>
<tr>
<th>Clinical Care / EHR Vendors</th>
<th>Public Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reduced reporting burden – automated</td>
<td>• Processable clinical care data</td>
</tr>
<tr>
<td>• Can address legal reporting requirements</td>
<td>• Can be variably populated based on available data, but when data available uses consistent format</td>
</tr>
<tr>
<td>• C-CDA Templates – easy to implement</td>
<td>• Increased reporting yield, more complete, more timely data</td>
</tr>
<tr>
<td>• All jurisdiction, all condition – vs. ~200 different per PHA</td>
<td>• Critical clinical data not in lab results</td>
</tr>
<tr>
<td>• Focused, consistent interoperability target</td>
<td>• Travel history</td>
</tr>
<tr>
<td></td>
<td>• Plans to add pregnancy and eventually possibly other data</td>
</tr>
</tbody>
</table>
Electronic Initial Case Report (eICR) Data

- History of Present Illness
- Reason for Visit
- Date of Onset
- Diagnoses
- Date of Diagnosis
- Symptoms
- Laboratory Results
- Laboratory Order Code
- Placer Order Number
- Medications Administered
- Immunization Status
- Death Date
- Patient’s Travel History
- Travel History Start Date
- Travel History End Date
- Text Description of Travel
- Travel Location Code
- Travel Location Address
- Hospital Unit
- Visit Date/Time
- Admission Date/Time
- Discharge Date
- Patient Class
- Patient ID Number
- Patient Name
- Parent/Guardian Name
- Patient or Parent/Guardian Phone
- Patient or Parent/Guardian Email
- Street Address
- Birth Date
- Patient Sex
- Race
- Ethnicity
- Preferred Language
- Occupation
- Pregnant
- Date of the Report
- Report Submission Date/Time
- Sending Application
- Trigger Condition Codes
- HL7 Document ID
- SetID and Version Number
- Provider ID
- Provider Name
- Provider Phone
- Provider Fax
- Provider Email
- Provider Facility/Office Name
- Provider Facility/Office Name
- Provider Address
- Facility ID Number
- Facility Name
- Facility Type
- Facility Phone
- Facility Address
- Facility Fax
Reportability Response

• One sent to clinical care for each eICR
• Narrative for provider / reporter when appropriate and machine processable data for EHR System Administrators (errors and warnings, etc.)
• Returned to clinical care the way the eICR was sent
• Can be sent to Public Health Agency for their use as well
Reportability Response (RR) v1.0 - Value

**Clinical Care / EHR Vendors**

- Confirmation of reporting
  - Place of care
  - Place of patient’s residence
- Supports bidirectional communication
- Opportunity for actionable next steps in the context of the jurisdiction, the patient, and the condition(s)
- Viewable, queueable document

**Public Health**

- Connect responsible public health agency with provider / reporter
- Express / launch necessary next steps and enable follow-up
  - Specimen collection
  - Isolation and care
  - Supplemental data retrieval / investigation
**Reportability Response Function**

- Confirmation of receipt and reportability status for electronic processing
- Present reportability message for reporter / provider when needed

**Subject:**
Public Health Reporting Communication: one or more conditions are reportable, or may be reportable, to public health.

**Summary:**
Your organization electronically submitted an initial case report to determine if reporting to public health is needed for a patient. "Zika virus" is reportable to "Local Department of Health". An initial case report was sent to "State HIE". Additional information may be required for this report.

"Zika virus" for "Local Department of Health"
Reporting is required within "24 hours". Reporting to this Public Health Agency is based on "both patient home address and provider facility address".

Local mosquito-borne Zika virus transmission was reported in your area. Increased watchfulness for symptoms of Zika virus in your patients is warranted. (Immediate action requested)

Zika has particular risks for pregnant women. Follow-up guidance for pregnant women and couples who are planning pregnancy. ([Link](#)) - Immediate action requested

Further Laboratory testing for Zika may be needed. Guidance for additional testing and specimen collection ([Link](#)) - Action requested

If you have additional questions regarding Zika or reporting, the Local Department of Health can be reached at 800 555-5555 or here. ([Link](#)) - Information only

**Additional Resources (Information only):**
- Control and prevention information for providers ([Link](#))
- Prevalence in State ([Link](#))
- CDC webpage ([Link](#))
- Patient information factsheet ([Link](#))
Supplemental Data Demonstration

• Data not found in eICRs
  • May not be recorded in standard way as a part of care
  • Entry into a web form
    • Public health condition and investigation questions
    • Is variable by condition and jurisdiction, but is accommodated in form entry
    • URL in Reportability Response
    • Minimizes EHR integration needs
• Eventually, in FHIR, some may be a supplement in the “push” transaction – e.g. for specialty EHRs
FHIR Futures - Transactions

• Fast Health Interoperability Resources (FHIR) are both data and transaction standards

• Major focus on RESTful queries, but “push messaging” is a part of FHIR API also

• Public health has relied heavily on “push messaging”
  • Reporting events begin in clinical care
  • Interorganizational queries and external dependencies have historically not been well received by clinical organizations / systems

• FHIR subscription service and value set bundle
  • XML or JSON representation of trigger codes – easier to manage
  • Email, SMS, other notifications, no FHIR needed on EHR side

• FHIR infrastructure offers possibilities for API – based rules engine (CDS Hooks, SMART on FHIR, FHIR EHR subscription) and CQL – based rules definition language
FHIR Futures - Data

• Conservation of FHIR resources enables more reuse (and hence less manual entry) in data supply chain

• Industry needs to consider CDA and FHIR roles and timing – two timeframes: 1) starting support of new and 2) ending support of old standards

• eICR and Reportability Response – pretty straightforward mappings

• Possible to use transforms between standards – both ways

• Working to lay out a path forward that cuts through the hype and builds on CDA accomplishments
Conclusions

• Case reporting is required by law in every state and territory
  • Regardless of federal regulation need to support

• Implement CDA eICR and RR now
  • Easy to implement, can help prevent fragmentation of requirements going forward
  • Readily transformable to FHIR when industry is ready

• Opportunity to continue to facilitate eCR for EHR vendors and PHAs
  • Partner in HL7 eCR Connectathon Track
Questions?