09-SI-01

Committee: Surveillance/Informatics

Title: Common Core Data Elements for Case Reporting and Laboratory Result Reporting

Statement of the Problem:

Public health case reporting of "reportable conditions" by clinicians, hospitals and laboratories is mandated by law in each U.S. state/territory. Reporting enables public health authorities to monitor, prevent, and contain disease. However, reporting requirements vary from jurisdiction to jurisdiction, which is reflected in each state/territory's reportable condition form and/or policy. This has resulted in disparate format as well as content (vocabulary and terminology) of the data elements required for reporting across states/territories. As result, case reporting and laboratory result report information may not carry the same meaning for each condition being reported.

In June 2007, the Council of State and Territorial Epidemiologists (CSTE) passed position statement 07-EC-02, "CSTE Official list of Nationally Notifiable Conditions". [1] The document outlined two key recommendations by the American Health Information Community (AHIC), one of which called upon CSTE, in collaboration with CDC, to identify common data elements in order to help facilitate a standards-based approach to the exchange of relevant information for disease surveillance.

The CDC-CSTE Case Report Standardization Workgroup (CRSWg) reviewed local and state reportable condition report forms, and developed a set of common core data elements for public health case reporting. The sections include:

- What condition is being reported?
- Who has it? (subject name and demographics)
- Who is reporting it? (provider, facility, laboratory)
- When is it being reported and to whom? (date and jurisdiction)

The CRSWg subsequently developed a list of common core data elements for laboratory reporting, which was vetted by the CSTE Electronic Laboratory Reporting (ELR) workgroup.

The data elements apply in three types of use cases for case reporting and laboratory reporting: 1) paper forms, 2) web-based forms, and 3) automated extraction from hospital and laboratory information systems.

Background

In 2005, the U.S. Department of Health and Human Services (HHS) established a federal advisory body called the American Health Information Community (AHIC). The group,

under the DHHS Office of the National Coordinator for Health Information Technology (ONCHIT), was chartered to make recommendations to the Secretary of Health on how to accelerate the development and adoption of health information technology. In January 2007, AHIC approved a recommendation to develop the Public Health Case Reporting (PHCR) Use Case to articulate the information flows, issues, and infrastructure to address public health case reporting. [2] The use case was published in March 2008.

In addition to the PHCR use case, ONCHIT has also published the Harmonized Biosurveillance (Visit, Utilization, and Lab Result Data) Use Case and Harmonized Electronic Health Record (Laboratory Result Reporting) Use Case.

The Health Information Technology Standards Panel (HITSP), also established by ONCHIT, developed the "Public Health Case Reporting Interoperability Specification" (also referred to as IS-11). [3] HITSP is charged with harmonizing data and technical standards for exchange of health information. For example, HITSP encourages the adoption of uniform national coding nomenclatures, such as Logical Object Identifiers Names and Codes (LOINC) for laboratory tests and Systematized Nomenclature of Medicine (SNOMED) for organisms and conditions, in order to reduce the variation in concept representation and support efficient data exchange and the design of interoperable systems. As such, HITSP's publication of IS-11 is intended to identify a suite of constructs that, taken as a whole, define how to integrate and constrain existing standards and specifications to satisfy the requirements imposed by PHCR Use Case.

Statement of the desired action(s) to be taken:

1) CDC should promote the adoption of a core set of standardized data elements for case reporting and laboratory result reporting that are common across all conditions. To accomplish this:

- CDC should collaborate with CSTE to define best practices in the design of state/territory reporting requirements, to include the use of nationally consistent language for common core data elements for case reporting and laboratory result reporting.
- CDC should collaborate with CSTE to maintain a central listing of common core data elements for case reporting and laboratory result reporting, including vocabulary, terminology, and interoperability specifications.
    - A proposed list of data elements is provided in Appendix A.
- CDC should collaborate with CSTE to develop technical guidelines for common core data elements for case reporting and laboratory result reporting which include:
    - Language representation using simplified clinically-relevant terms
    - Detailed technical specifications for these data elements to support electronic submissions of case reports and laboratory result reports.

- The finalized and any subsequent list of common core data elements for case reporting and laboratory result reporting require approval by the CSTE membership or Executive Board.

2) The Office of the National Coordinator for Health Information Technology (ONCHIT) should adopt the CDC-CSTE common core data elements and encourage relevant certification bodies to include them as part of health information technology certification processes to ensure that clinical and laboratory information systems can support public health case reporting requirements.

Public Health Impact:

Clinician, hospital and laboratory reporting of reportable conditions helps public health authorities to monitor the impact of disease, measure trends, assess the effectiveness of prevention and control measures, identify populations or geographic areas at high risk, allocate resources appropriately, formulate prevention strategies, and develop public health policies. A set of common core standardized data elements for case reporting and laboratory result reporting would enable interoperability between public health and clinical care systems as well as electronic disease surveillance systems. In turn, public health jurisdictions and programs will be able to exchange standard case and laboratory report messages.

Electronic health records (EHRs) have the ability to automate case reporting. The adoption of EHRs has become increasingly widespread throughout the U.S., but a recognized national standard for case reporting does not yet exist. The set of common core data elements for case reporting can serve as the basis for the development of implementation guides to support this activity, which will guide EHR vendors to create products that will meet the requirements of multiple public health jurisdictions and programs.

Finally, the use of existing national standards for electronic case reporting of reportable conditions to public health authorities promotes the implementation the of the American Recovery and Reinvestment Act of 2009 (H.R. 1), the economic stimulus bill that the President signed into law on February 17, 2009 (P.L. 111-5). Specifically, the Health Information Technology for Economic and Clinical Health Act or HITECH Act promotes the widespread adoption of electronic records using standards developed under ONCHIT. [4]

References:

1. CSTE. CSTE official list of Nationally Notifiable Conditions. Available at http://www.cste.org/PS/2007ps/2007psfinal/EC/07-EC-02.pdf.

2. American Health Information Community Biosurveillance Workgroup. Recommendations. Available at http://www.hhs.gov/healthit/ahic/index.html.

3. HITSP Public Health Case Reporting Interoperability Specification. Available at http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=1&PrefixNumeric=11

4. Health Information Technology for Economic and Clinical Health Act. Available at http://democrats.science.house.gov/Media/File/Commdocs/HealthIT%20Bill.pdf

Appendix A: Common core data elements for case reporting and laboratory result reporting, Version 1.

Case Reporting	Laboratory Result Reporting	Description
Reporting Information	Reporting Laboratory	
Date of report		The date that the report is being sent to the health department.
Reporter name	Name	The name of the person or facility sending the report to the health department.
	CLIA	
	License number	
Reporter Contact Information	Reporting Laboratory	
Telephone	Phone	The phone number of the person or facility sending the report to the health department.
Address		The address (Street, City, State/territory, Zip Code) of the person or facility sending the report to the health department.
	Report ID	
Health Care Provider Information	Ordering Provider	
Last name	Last name	The last name of the person that diagnosed the subject of the report.
First name	First name	The first name of the person that diagnosed the subject of the report.
Facility Name		The name of the facility that the health care provider diagnosed the subject of the report.
Facility/Provider Contact Information	Ordering Provider	
Phone	Phone	The phone number of the person or facility that diagnosed the subject of the report.
Street address	Street address	The address (Street, City, State/territory, Zip Code) of the person or facility that diagnosed the subject of the report.
	Second address line	
City	City	
State/territory	State/territory	
Zip code	Zip code	
	County	
Subject Information	Patient Information	
First name	First name	The first name of the subject
Middle name or	Middle name or	The middle name of the subject

initial	initial	
Last name	Last name	The last name of the subject
	Identifier	
	Identifier type	
	Identifier assigning authority	
Street address	Street address	The street address of the subject of the report.
	Second address line	
City	City	The city of the address of the subject of the report.
State/territory	State/territory	The state/territory of the address of the subject of the report.
Zip Code	Zip Code	The zip code of the address of the subject of the report.
County	County	The county of the address of the subject of the report.
Telephone	Phone	The telephone of the subject of the report.
Age	Age	The age of the subject of the report at time of diagnosis.
	Age units	
Date of birth	DOB	The date of birth (MM/DD/YYYY) of the subject of the report.
Gender	Sex	The current gender of the subject of the report.
	Race	The Race(s) of the subject of the report.
	Ethnicity	The Ethnicity of the subject of the report.
	Next of Kin	
	Last name	
	First name	
	Phone	
Clinical Information		
Name of Condition		The name of the Condition diagnosed for the subject of the report.
Date of onset		The date that the subject began having symptoms of condition being reported.
	Ordering facility	
Name	Name	Name of organization collecting the specimen which may be different from the organization performing the laboratory analysis.
	Street address	
	Second address line	
	City	

	State/territory	
	Zip code	
	County	
	Phone	
	Specimen	
	Accession number	
Collection date	Collection date	The date that the specimen for the laboratory test was taken from the subject of the report.
	Received date	
	Type	
Source	Source	The physical body location from where the specimen for the lab report was taken from the subject.
	Test/result	
Test ordered, name	Test ordered, name	The name of the laboratory test.
	Test ordered, code	
	Test ordered, code system	
	Test performed, name	
	Test performed, code	
	Test performed, code system	
	Result, numeric	
Result, name	Result, name	The result of the laboratory test.
	Result, code	
	Result, code system	
	Result date	
	Result status	
	Reference range	
	Units	
	Performing lab name	
	Performing person name	
	Specimen sent to PHL	

Coordination:

Agencies for Response:

(1) David Blumenthal, MD, MPP
National Coordinator
US Department of Health and Human Services, Office of the National Coordinator for Health Information Technology
200 Independence Avenue, S.W.
Suite 729-D
Washington, D.C. 20201
(202) 690-7151
David.Blumenthal@hhs.gov

(2) Thomas R. Frieden, MD, MPH
Director
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta GA 30333
(404) 639-7000
txf2@cdc.gov

Agencies for Information:

(1) Robert M. Pestronk, M.P.H.
Executive Director
National Association of County and City Health Officials
1100 17th Street, NW, Second Floor
Washington, DC 20036
(202) 507-4271
rpestronk@naccho.org

(2) Paul Jarris, M.D., M.B.A.
Executive Director
Association of State and Territorial Health Officers
2231 Crystal Drive Suite 450
Arlington, VA 22702
(202) 371-9090
pjarris@astho.org

(3) Scott Becker
Executive Director
Association for Public Health Laboratories
8515 Georgia Avenue, Suite 700
Silver Spring, MD 20910
240-485-2745 ext 201

sbecker@aphl.org

Submitting Author:

(1) Steven Macdonald, PhD
Epidemiologist
Washington State Department of Health
PO Box 47846
Olympia WA 98504
360-236-3183
steven.macdonald@doh.wa.gov

Co-Author:

(1) John P. Abellera, MPH
Health Scientist
Centers for Disease Control and Prevention
1600 Clifton Rd., MS E91
Atlanta, GA 30333
404-498-6684
jla7@cdc.gov

(2) Catherine J. Staes, BSN, MPH, PhD
Assistant Professor
University of Utah, Department of Biomedical Informatics
26 South 2000 East
Salt Lake City, UT 84112
801 213-3351
Catherine.staes@hsc.utah.edu