

## 06-EC-02

**Committee:** Executive

**Title:** Establishing the standard of Health Level 7 version 2.5 (HL7 v2.5) for public health electronic reporting by January 1, 2008.

### **Statement of the Problem:**

Electronic reporting of public health information has become standard practice for state and local health departments, the Centers for Disease Control and Prevention (CDC), and other parties such as laboratories. The advantages of electronic information exchange include the rapid, accurate, and efficient reporting of reportable conditions and laboratory results and improved public health preparedness and response. A requirement for the electronic sharing of information is the use of commonly agreed-upon standards so that all partners can send and receive readable messages.

Health Level 7 (HL7) is the international messaging standard format used to exchange health-related information as described at <http://www.hl7.org>. Currently, a variety of HL7 versions are in use or proposed as national public health standards. As an example, the CDC/PHIN website shows a list of HL7 formats for public health use that includes at least three current standards (versions 2.3.1, 2.5, and 3.0). (Appendix)

The use of different HL7 formats creates major problems. For example, in electronic laboratory reporting, laboratories need to report to different jurisdictions each with their own requirements, and state/local health departments have to accept reports from laboratories in different formats. The lack of national agreement regarding which HL7 version to use for public health is significantly compromising public health surveillance. One major national laboratory is willing to update their HL7 format, but has been waiting for over a year for national consensus on which version to use so that the change is made once for the nation. In the mean time, laboratories hesitate to update their systems to help meet public health needs, thereby delaying progress in the rapid transmission of laboratory reports, which directly compromises public health's ability to respond to imminent health problems in the community.

There is general agreement among state public health departments and the CDC that one standard messaging version and a timeframe for implementing it would have the following benefits:

- Laboratories and other senders of information would no longer have to implement multiple versions of HL7 to meet differing messaging requirements;
- Receivers of information could implement one parser version of HL7 for multiple purposes;
- All parties could make more informed decisions about funding and developing new systems with more assurance that they would be able to readily communicate with their public health partners;
- Faster progress towards rapid, more complete and accurate, and cheaper information exchange could be accomplished since planners would not have to wait for further HL7 consensus.

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

The proposal is to establish HL7 v2.5 by January 1, 2008, as the national standard for public health entities to receive electronic messages.

In essence this proposal would require all public health entities to be able to accept HL7 v2.5 by January 1, 2008, but would not mandate that all reporting entities use HL7 v2.5 by that date. Since HL7 v2.5 is capable of receiving prior HL7 versions (backward compatibility), reporting entities could still use earlier functional systems. However, establishing HL7 v2.5 will benefit all parties by allowing informed planning for implementing future public health electronic information exchange and encourage reporting entities to invest in HL7 messaging with the assurance that it is accepted as a national standard. It is acknowledged that HL7 v2.5 should be considered as a temporary standard that will change at some point beyond 2008 as technological advances occur. Considerable work with later HL7 versions is already ongoing and will undoubtedly be of benefit in the future.

CSTE supports a goal of attaining a HL7 version 3.0 XML standard in the future.

**Public Health Impact:****Benefits:**

- Provide a standard format for exchange of information.
- Provide a clear statement to public health partners encouraging them to migrate to a single specific format for electronic messaging. Deciding on one HL7 version will allow laboratories and other public health partners to confidently update their reporting format with the knowledge that there is general consensus on its use.
- Encourage collaboration among public health partners to migrate to a standard format. Vendors of laboratory information management systems will get a clear and consistent message of where public health is going and where, therefore, vendors also need to go.

**Costs:**

- Some public health entities have already implemented systems and would need to expand or replace their current systems with upgraded capabilities. CDC is beginning to address some of these needs, with the negotiation of favorable licensing terms with makers of relevant software tools.

**Coordination:**

**Agencies for Response:**

- (1) Julie L. Gerberding, MD, MPH, Director  
Centers for Disease Control and Prevention  
1600 Clifton Road NE, Mailstop D-14  
Atlanta, GA 30333  
404-639-7000  
[jyg2@cdc.gov](mailto:jyg2@cdc.gov)
  
- (2) Jan Markowitz, Executive Director  
National Association of Public Health Surveillance and Information  
Systems  
801 Roeder Road  
Suite 650  
Silver Spring, MD 20910  
301-563-6001  
301-563-6012 (fax)

**Agencies for Information:**

- (1) Scott Becker, Executive Director  
Association of Public Health Laboratories  
2025 M St NW Ste 550  
Washington, DC 20036-3320  
202-822-5227  
202-887-5098 (fax)  
[sbecker@aphl.org](mailto:sbecker@aphl.org)
  
- (2) Anna Orlova, PhD, Executive Director  
National Public Health Data Standards Consortium  
c/o Johns Hopkins Bloomberg School of Public Health  
624 N. Broadway, Room 382  
Baltimore, MD 21205  
410-614-3463  
410-419-6314 (cell)  
410-614-3097 (fax)  
[aorlova@jhsph.edu](mailto:aorlova@jhsph.edu)
  
- (3) Denise Love, Executive Director  
National Association of Health Data Organizations  
448 East 400 South  
Suite 301  
Salt Lake City, Utah 84111  
801-532-2262  
801-532-2228 (fax)  
[dlove@nahdo.org](mailto:dlove@nahdo.org)

**Submitting Authors:**

- (1) Perry F. Smith, MD, State Epidemiologist  
New York State Department of Health  
Tower Building, Room 503  
Albany, NY 12237-0608  
518-474-1055  
[pfs01@health.state.ny.us](mailto:pfs01@health.state.ny.us)
  
- (2) Michael Davisson  
Washington State Department of Health  
PO Box 550501  
1610 NE 150th Street  
Shoreline, WA 98155-7224  
206-418-5420  
206-696-2750 (cell)  
206 418-5515 (fax)  
[Michael.Davisson@doh.wa.gov](mailto:Michael.Davisson@doh.wa.gov)

## Appendix


Reference : [http://www.cdc.gov/phin/architecture/implementation\\_guides/index.html](http://www.cdc.gov/phin/architecture/implementation_guides/index.html)

Note: "Current" refers to the current proposal by CDC for new standards.  
"Prior" refers to the version that is currently in production.

## Notification

	Name	Type	Status
current:	<a href="#">PHIN NCRN - Generic Investigation</a>	HL7 Interaction: PORR_IN100001; HL7 Version: 3.0	Available
prior:	<a href="#">Prior NCRN Messages</a>		
short desc:	Message used for transmitting the core information related to Notifiable Condition Report Notification (NCRN). All PHIN NCRN V3 messages utilize this generic investigation implementation guide in addition to their disease condition specific extensions. The PHIN NCRN - Generic can be used independently to report disease conditions that do not require extended data sets.		
current:	<a href="#">PHIN NCRN - Bacterial Meningitis &amp; Invasive Diseases</a>	HL7 Interaction: PORR_IN100001; HL7 Version: 3.0	Available
prior:	<a href="#">Prior NCRN Messages</a>		
short desc:	Message used for transmitting extended case information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: BMIRD Generic, <i>Haemophilus influenzae</i> , <i>Neisseria meningitidis</i> , Streptococcus Group A, <i>Streptococcus pneumoniae</i> .		
current:	<a href="#">PHIN NCRN - Hepatitis 1</a>	HL7 Interaction: PORR_IN100001; HL7 Version: 3.0	Available
prior:	<a href="#">Prior NCRN Messages</a>		
short desc:	Message used for transmitting extended case information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Hepatitis Generic, Hepatitis A Acute, Hepatitis B Acute, Hepatitis Non-ABC, Chronic Hepatitis B.		
current:	<a href="#">PHIN NCRN - Hepatitis 2</a>	HL7 Interaction: PORR_IN100001; HL7 Version: 3.0	Available
prior:	<a href="#">Prior NCRN Messages</a>		
short desc:	Message used for transmitting extended case information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Hepatitis C Acute, Hepatitis C Virus Infection Chronic or Resolved, Perinatal Hepatitis B.		
current:	<a href="#">PHIN NCRN - Vaccines Preventable 1</a>	HL7 Interaction: PORR_IN100001; HL7 Version: 3.0	Available
prior:	<a href="#">Prior NCRN Messages</a>		
short desc:	Message used for transmitting extended case information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Measles, Mumps, Rubella, Tetanus.		

current:	<a href="#">FIIN NCRN - Vaccinable Preventable 2</a>	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Available
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with  [Prior NCRN Messages](#)

short  
desc. Message used for transmitting extended case information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Animal Rabies, Congenital Rubella Syndrome, Pertussis.

current:	<a href="#">FIIN Case Notification - Outbreak General</a>	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Available for Public Health Review - 7/15/05
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short  
desc. SARS Case Report XML Legacy

short  
desc. Message used for transmitting notification of confirmed, probable and suspect cases associated with a disease outbreak.

current:	<a href="#">FIIN Investigation and Exposure Notification</a>	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Available for Public Health Review - 7/15/05
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short  
desc. Message used for transmitting investigation and exposure notifications associated with a disease outbreak.

#### Earlier Versions of Notifiable Condition Report Notification (NCRN) Messages (May 2003)

short desc.	NCRN Messaging Basic Description, Schemas and Sample Messages	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Legacy
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short  
desc. Provides an overview to the May 2003 version of the Notifiable Condition Report Notification messages. Also included are XML schemas and sample message instances.

short desc.	NCRN Disease Specific Implementation Guides -- Part 1	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Legacy
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short  
desc. Message used for transmitting information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Hepatitis A, Hepatitis B (Perinatal), Hepatitis B (Acute), Hepatitis C (Chronic or Resolved), Group A Streptococcus, Group B Streptococcus, *Haemophilus influenzae*, CRS and a generic guide.

short desc.	NCRN Disease Specific Implementation Guides -- Part 2	HL7 Interaction: PORR_IN100001 HL7 Version 3.0	Legacy
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short  
desc. Message used for transmitting information related to the following Notifiable Condition Report Notification (NCRN) disease conditions: Other Invasive Strep Diseases and Bacterial Meningitis, Hepatitis Non-ABC, Chronic Hepatitis B, Measles, *Neisseria meningitidis*, Hepatitis C (Acute), Pertussis, Rubella, *Streptococcus pneumoniae*, Summary Notification Message.

#### Laboratory

	Name	Type	Status
current:	<a href="#">FIIN Laboratory Test Order</a>	HL7 Message OML001; HL7 Version 2.5	In Public Health Review

status	PHIN Laboratory Order	HL7 Message ORM001, HL7 Version 2.3.1	Legacy
short desc	Message used for transmitting laboratory orders to a performing Public Health Laboratory or for reporting laboratory activity for the purposes of early event detection.		
current	<u>PHIN Laboratory Test Order Response</u>	HL7 Message ORU022, HL7 Version 2.5	In Public Health Review
short desc	Message used for transmitting application-level acknowledgement of a PHIN Laboratory Test Order confirming receipt of an order and intention to fulfill requested laboratory testing.		
current	<u>PHIN Laboratory Result - Generic</u>	HL7 Message OULR22, HL7 Version 2.5	In Public Health Review
status	PHIN Laboratory Result - Microbiology	HL7 Message ORUR01, HL7 Version 2.3.1	Legacy
short desc	Message used for transmitting laboratory results. The upgrade to an HL7 laboratory observation unsolicited (OUL) v2.5 supports a specimen-centric message for human, environmental and food testing of a biochemical nature including microbiology.		
current	<u>PHIN Laboratory Result - Biochemical Assay</u>	HL7 Message OULR22, HL7 Version 2.5	In Public Health Review
status	Bioterrorism Laboratory Result	HL7 Message ORUR01, HL7 Version 2.4z	Legacy
short desc	Message used for transmitting laboratory results of Laboratory Response Network specific assays. This message supports the BioWatch program in addition to other bioterrorism related testing. The upgrade to an HL7 laboratory observation unsolicited (OUL) v2.5 supports specimen-centric information previously handled by non-standard HL7 "2" segments.		
current	<u>PHIN Laboratory Result - ELIS</u>	HL7 Message ORUR01, HL7 Version 2.3.1	Current
short desc	Message used for transmitting laboratory-reportable findings to public health.		
<b>Healthcare Related</b>			
current	<u>PHIN Laboratory, Pharmacy and Supply Orders</u>	HL7 Message ORM001, HL7 Version 2.3.1	Current
short desc	Message used for transmitting laboratory, pharmacy and supply order data to support early event detection.		
current	<u>PHIN Healthcare Encounter - Chief Complaint</u>	HL7 Message ADT^A04, HL7 Version 2.5	In Public Health Review
status	PHIN Healthcare Encounter - Chief Complaint	HL7 Message ADT^A04, HL7 Version 2.3.1	Legacy
short desc	Message used for transmitting healthcare encounter chief complaint data to support early event detection.		

current:	<u>PHIN Healthcare Encounter Diagnosis</u>	HL7 Message ORU^R01, HL7 Version 2.5	In Public Health Review
prior:	PHIN Ambulatory Care Diagnosis	HL7 Message ADT^A08, HL7 Version 2.3.1.	Legacy
short desc:	Message used for transmitting healthcare encounter diagnosis data to support early event detection.		

## Response

	Name	Type	Status
current:	<u>PHIN Countermeasure Administration - Substance Administration</u>	HL7 Message RAS^O17, HL7 Version 2.5	In Public Health Review
prior:	PHIN Smallpox Pre-Event Vaccination	XML	Legacy
short desc:	Message used for transmitting information on the administration of vaccines and other substances given as a countermeasure response.		

current:	<u>PHIN Countermeasure Administration - Follow-up</u>	HL7 Message ORU^R01, HL7 Version 2.5	In Public Health Review
short desc:	Message used for transmitting information on follow-up observations associated with countermeasure responses and administration.		

current:	<u>PHIN Countermeasure Administration - Other Treatment Orders</u>	HL7 Message ORU^R01, HL7 Version 2.5	In Public Health Review
short desc:	Message used for transmitting information on non-substance treatments or protocols (other treatment orders) associated with countermeasure administration		

current:	<u>PHIN Countermeasure Administration - Referral</u>	HL7 Message REF^I12, HL7 Version 2.5	In Public Health Review
short desc:	Message used for transmitting interventions to be managed associated with countermeasure response and administration.		

current:	<u>PHIN Countermeasure Administration - Adverse Event</u>	HL7 Message ORU^R01, HL7 Version 2.5	In Public Health Review
prior:	PHIN Smallpox Vaccine Adverse Event	XML	Legacy
short desc:	Message used for transmitting adverse events identified during active surveillance associated with countermeasure response and administration.		