



**Department  
of Health**

# **Comparing a Standard (NAACCR Volume V) with a Draft Standard (HL7 version 2.5.1 Implementation Guide: ELR Reporting to Public Health, Release 2)**

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# Objectives

- Inform the NAACCR community of the HL7 organization's Draft Standard for Trial Use (DSTU), of the "HL7 Version 2.5.1 Implementation Guide (IG): Electronic Laboratory Reporting to *Public Health*, Release 2 (US Realm)", that may influence how central cancer registries in the U.S. receive and process electronic pathology laboratory data.
- Important to note: the ELR requirements for laboratory reporting to U.S. Public Health agencies (i.e., Meaningful Use) are different from (but similar to) the NAACCR e-path specs as defined in Volume V.

# Objectives Continued

- Introduce the gap analysis/comparison document, which compares the current NAACCR Volume V standard with the Draft Standard; work conducted by the NAACCR Electronic Laboratory Reporting Messaging Task Force (TF).

# Outline

- Background: the need for a comparison of standards and potential impact of the Draft Standard on central cancer registries relying on *Public Health* Information Network (PHIN) supported systems.
- Approach: a NAACCR TF to conduct a gap analysis.
- The Gap Analysis
- Results: a document (*work in progress*) listing differences between the Standard (NAACCR Volume V, ver. 4.0) and the “Draft Standard”.

# Background: Need for a Comparison

- In May 2014 the Health Level Seven (HL7) organization published the “HL7 Version 2.5.1 IG: Electronic Laboratory Reporting to *Public Health, Release 2* (US Realm), DSTU Release 1.1.”
- This DSTU “merges constraints and elements necessary for laboratory reporting to *public health*” with the already-established HL7 Version 2.5.1 IG: Laboratory Results Interface for US Realm, Release 1.
- The intent of a DSTU is to obtain comments from the field, i.e., the users of a current standard. These comments will inform the balloting.

# Need for a Comparison- Continued

- Why would this DSTU IG for ELR to public health have any impact on the NAACCR community?
- Many central registries in the U.S. rely on the infrastructure that comes with Public Health Information Network (PHIN) supported systems.
  - The PHIN initiative and its activities emanate from Centers for Disease Control and Prevention's Division of Health Informatics and Surveillance (DHIS). "PHIN is a national initiative to increase the capacity of public health agencies to electronically exchange data and information across organizations and jurisdictions."

Adapted from <http://www.cdc.gov/phin/about/index.html>

# Background: Impact of the Draft Standard

- Changes proposed in the Draft Standard may have implications for the users of Volume V that operate within PHIN-supported systems.
- Accommodating requirements for different, but comparable, IGs that expect stakeholders to implement different messaging interfaces may be costly and negatively impact standardization of (laboratory) cancer reporting.
- In August 2014 NAACCR's Standardization and Registry Development Steering Committee approved a TF to be formed to take on the comparison.

# Approach: NAACCR ELR Messaging Comparison TF is Formed

- In September 2014 a small, but dedicated TF was formed with volunteer members representing various organizations: Central Cancer Registries (U.S. and Canada); vendors; NPCR; SEER; and a well-known-to-the-NAACCR-and-HL7-community, internationally recognized, independent HL7 expert, Ted Klein.
- **The aim:** to conduct a gap analysis.



# Approach Continued: The TF Conducts a Gap Analysis

- The TF met monthly (teleconferences and WebEx sessions).
- The gap analysis entailed identifying, documenting, and commenting on the differences between the Current Standard and the Draft Standard (e.g., data types, usage, value sets) per each HL7 segment; comments to be submitted to the HL7 organization by Nov. 27<sup>th</sup>, 2015.
- Current Standard (Volume V) available (for free) at:  
<http://www.naaccr.org/StandardsandRegistryOperations/VolumeV.aspx>
- Draft Standard (ELR for Public Health) available (for free) at:  
<http://www.cdc.gov/phn/resources/PHINguides.html>

# Comparing Standards- Similar to Panning for Gold



# Gap Analysis: Work Templates

- Two templates were created, one in Word (for comments) and one in Excel (addressing each of the fields and subfields in both standards).
- TF members were assigned the task of reviewing one relevant HL7 segment each, for example, MSH, PID, ORC, OBR, or OBX, and to complete the two templates mentioned above for “their” segment.
- The next step was to consolidate all the templates into one easy-to-read and easy-to-follow summary style document.

# Example: Word Template (based on Vol V) for OBX Segment with Comments

Seq	Len	DT	Opt	Tbl#	Item#	Element Name	NAACCR Usage	NAACCR Cardinality
1	4	SI	O		00569	Set ID - OBX	R	[1..1]
2	3	ID	C	0125	00570	Value type	R	[1..1]
3	250	CE	R		00571	Observation identifier <sup>1</sup>	R	[1..1]
4	20	ST	C		00572	Observation sub-id <sup>2</sup>	RE	

[\[TK1\]](#) LRI (i.e., the Draft) has a fixed value set of LOINC codes; registry messaging uses LOINC and others.

[\[TK2\]](#) Our RE rule matches the LRI guide; should probably consider changing this in Vol V to be “CE”.

# Example: Excel Comparison Template for OBX

## Summary of differences between Volume V 4.0 and the LRI\* IG DSTU specification

Element type	Element ID	Where difference lies	Difference description
Field	OBX-3 (Observation Identifier)	Vocabulary	LRI has a fixed value set of LOINC codes; registry messaging uses LOINC and others.
Field	OBX-4 (Observation sub-ID)	Usage	Vol V rule of RE matches the LRI guide; should probably consider changing this in Vol V to be "CE".

Attention given to: data types, usage, cardinality, value sets, descriptions.

\*LRI (Laboratory Results Interface) IG DSTU= Draft Standard

# Three Difference Levels- Definitions

- Minor (**M**): Items that will not necessitate any significant change, or modifications to the system, allowing the registry to continue normal operation. No changes are required.
- Significant (**S**): Incur some change (e.g., mapping) and inconvenience on both the receiving and sending side. May cause conformance violations, but the registry can still perform functions, with difficulty.
- Critical (**C**): The LRI Guide (Draft Standard) is missing support for a registry required data item, and the registry cannot perform a function.

# Physical Representation of Three Difference Levels



# Example: Section from Summary Document

## Summary of Differences (Minor, Significant, Critical) between NAACCR Standard Volume V Ver. 4.0 and the LRI IG DSTU Specification DRAFT: May 26, 2015

**General Comments:** **1)** This document assumes the user to use the Public Health (PH) data type components, as defined in the LRI guide. **2)** The LRI IG does not define the data type whenever the Usage of a field is 'Optional'. This leaves the field underspecified if any system for any reason needs to populate it and may result in messages that are not HL7 compliant, much less LRI conformant. **3)** Any differences that have no impact on central registry messaging are not listed in this spreadsheet. Difference levels: **M**=minor; **S**=Significant; **C**=Critical **4)** Fields where Usage is 'Not Supported' in Vol. V are not addressed.

Element type	Element ID	Where the difference lies	Difference Description	Type of Difference (M, S, C)	Notes
Field	MSH-1 (Field Separator)	Field Description	LRI has 'SHALL' vs 'Recommended' in Vol V.	M	



# Summary Document Example Continued

## Summary of Differences (Minor, Significant, Critical) between NAACCR Standards Volume V Ver. 4.0 and the LRI IG DSTU Specification DRAFT: May 26, 2015

Element type	Element ID	Where the difference lies	Difference Description	Type of Difference (M, S, C)	Notes
Field	PID-19 (SSN)	Usage	This field is excluded from the LRI. Vol V has CE.	C	In the U.S., if field is not populated some central registries will not be able to obtain the SSN.
Field	PID-22 (Ethnicity)	Vocabulary	LRI uses HL7 single character codes; Vol V uses a more detailed set, the CDC Race/Ethnicity codes.	S	

# Next Steps

- Finish the Summary Document (assign levels of difference)
- Complete the “NAACCR style Comparison” document
- Submit completed documents to the NAACCR Standards and Registry Development Steering Committee (S&RD SC) for review
  - Submit Comments on the Draft Standard to the HL7 Organization to NAACCR’s S&RD SC for review
- Submit Comments on the Draft Standard to the HL7 organization by November 27th, 2015
- Inform the NAACCR community of the finished products.

# Conclusions

- Comparison of standards is a time-consuming endeavor, requiring attention to detail and dedication.
- Representation from various stakeholders is desirable, since they bring different expertise and points of view ‘from the field’. A seemingly ‘minor’ difference to one stakeholder (e.g., vendor, or laboratory), may constitute a ‘critical’ difference to another (e.g., a central cancer registry in need of SSNs, or race).
- This analysis will be of use to all users of the current standard; especially cancer registries in the U.S. operating within PHIN-supported systems.

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# The Gold-Panning Task Force at Work



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