

The HIT Standards Committee's Surveillance Implementation Guide Power Team (Power Team) is pleased to submit this report, concluding its deliberations from June to August. Members of the Team included: CG Chute (Lead), John Derr, Seth Foldy, Marty LaVenture, Ken Mandl, Anna Orlova, Walter Suarez, Sharon Terry, and assistance from Rita Altamore, Art Davidson, Bill Brand, David Ross, Warren Williams, Kathleen Gallagher, Taha Kass-Hout, Priya Rajamani and Sanjeev Tandon.

Our first point of deliberation was the scope of our assignment and recommendation. At the largest scale, there remains work to define Meaningful Use Standards that support messaging about detection of events and outbreaks in populations, including Syndromic Surveillance, vital statistics, reportable disease, outbreak detail, and Population Health metrics. For these purposes, ONC will eventually need to make determinations about completeness of existing standards, and appropriate circumstances for modifying or adding standards.

However, the Power Team rapidly converged on a more narrow scope, specifically the format and implementation of three public health messages:

- Immunization reporting using HL7 2.3.1 or 2.5.1.
- Electronic Laboratory Reporting (ELR) using HL7 2.5.1
- Syndromic surveillance reporting using HL7 2.3.1. or 2.5.1.

All of these standards require detailed interpretation and value set specification and corresponding implementation guides. We include in our recommendations specific or conditional recommendations, varying by the readiness of such guides.

We unanimously present recommendations on these questions, and raise a strategic issue for future consideration around a uniform public health reporting specification based on CDA (Clinical Document Architecture). We were significantly influenced by the HIT Policy Committee recommendation that a single specification should exist for public health reports, rather than optionality of more than one. The Power Team is making these recommendations based on the proposed start date for Stage 2 of FY 2014 (i.e., incorporating the delay in the onset of Stage 2 proposed by the HIT Policy Committee). If there is a shorter timeframe for the implementation of changes to report messaging standards, further consideration must be given to whether adequate lead time exists for EHR managers, providers and public health systems to prepare for the recommended changes.

1. Electronic Laboratory Reporting (ELR)

1. Reportable laboratory results

In 2009, the public health community created and successfully balloted *HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 (US Realm)*. In order to reduce the burden on submitting laboratories, the guide was designed to be consistent with the Health Information Technology Standards Panel (HITSP)-recognized *HL7 Version 2.5.1 Implementation Guide: Orders and Observations; Interoperable Laboratory Result Reporting to EHR, Release 1*. Among other differences, HL7 version 2.5.1 is distinguished from version 2.3.1 for reporting laboratory results by virtue of containing additional fields to specify the performing laboratory, which were added to version

2.5.1 to comply with CLIA requirements. This information affords substantial value for public health purposes.

Presently, the Stage 1 Meaningful Use objective applies only to eligible hospitals, and specifies only HL7 version 2.5.1, using the ELR implementation guide. A new Stage 2 metric recommended by the HIT Policy Committee requires hospitals to submit structured electronic clinical lab results to ambulatory providers. The ONC Standards and Interoperability Framework Lab Results Interface Initiative is in the process of defining specifications for transmission of laboratory results to EHRs in the ambulatory domain. This guide will also be HL7 version 2.5.1. An implementation guide for reporting laboratory results from ambulatory EHRs to public health may be created in a later stage.

Recommendation: The reportable laboratory results objective for eligible hospitals should continue to require HL7 version 2.5.1 only.

2. Immunization Reporting

The *HL7 2.5.1 Implementation Guide for Immunization Messaging Release 1.0* uses segments newly available in HL7 version 2.5.1 to support issues like vaccine inventory management. Furthermore, there is greater specification of field content in the 2.5.1 guide compared to the *Implementation Guide for Immunization Data Transactions using Version 2.3.1 of the HL7 Standard Protocol Implementation Guide Version 2.2* which improves the quality and reliability of the immunization data being exchanged. In addition, the Power Team believes that supporting HL7 version 2.3.1 messaging would be burdensome now that providers are already required to support 2.5.1 messages for other objectives, such as public health reporting of laboratory results.

We understand that a minority of immunization information systems accepted HL7 2.5.1 messages in 2010, but the number capable of doing so appears to be growing rapidly. There also continues to be substantial reliance on non-standardized interfaces in this domain. As more data providers switch to some version of HL7 2.x, we believe the 2.5.1 implementation is superior. These factors underlie the Power Team's recommendation.

Recommendation: The Standard for vaccination reporting to be adopted for Meaningful Use Stage 2 should be HL7 2.5.1. The current alternative standard HL7 2.3.1 should be deprecated. The corresponding Implementation Specification to be adopted for Meaningful Use Stage 2 should be the 2.5.1 Implementation Guide and Standard Code Sets specified in Stage 1 (unless updated versions of these are established in time for Stage 2 implementation).

3. Syndromic Surveillance

At a technical level, there are no material differences invoked by Syndromic Surveillance between HL7 2.3.1 and 2.5.1. However, consistent with our reasoning for Immunization reporting and the recommendations of the HIT Policy Committee, we believe that all parties would benefit from a focus on a single public health reporting specification.

There is a Syndromic Surveillance implementation guide intended for hospital and emergency room use, which will be finalized by summer's end (2011). It is therefore expected to become available approximately two years before Stage 2 implementation (assuming a one year delay in Stage 2 timing). A corresponding Syndromic Surveillance implementation guide for eligible providers is expected to be complete by winter of 2012, and thus will be ready for HIT Standards Committee review in early 2013.

In the absence of a reviewable implementation guide for eligible providers, it seems untenable that Syndromic Surveillance become a core requirement for Stage 2 Meaningful Use for Eligible Providers. We acknowledge that the HIT Policy Committee has recommended this as a core requirement, but it would seem prudent to constrain this to eligible hospitals. The outcome to this issue we acknowledge is a policy decision now in the hands of CMS. However, for those organizations which have elected to include Syndromic Surveillance as a menu option, we see no reason to remove the advantage of fulfilling a menu option in subsequent phases, assuming any menu options persist.

Recommendations: The Standard for Syndromic Surveillance reporting to be specified for Meaningful Use Stage 2 should be HL7 2.5.1. The current alternative standard HL7 2.3.1 should be deprecated.

The corresponding Implementation Specification to be adopted for Hospital Syndromic Surveillance reporting should be the Hospital Implementation Guide currently in final development. This Implementation Specification should be conditionally approved, with final review by the HIT Standards Committee around Sept, 2011.

Eligible Providers should not be required to include Syndromic Surveillance as a core item in Stage 2.

4. Strategic Considerations

The public health community is experimenting with HL7 CDA formats, to cover a broad spectrum of public health reporting requirements, including case reports, cancer reporting, reportable diseases, maternal and child health, and others. Additionally, virtually all Meaningful Use compliant providers will have the capacity for CDA generation, as a function of Health Information Exchange requirements. As such, the HIT Standards Committee will need to consider the timing and phasing of introducing CDA specifications into requirements. The largest inertia will lay with public health recipients, despite the current experimental activity on the part of many progressive public health organizations.

We are aware of the HIT Policy Committee recommendation that CMS consider Cancer Reporting as a component of Stage 2 Meaningful Use. Since this has been prototyped using CDA formats, this would imply an early adoption of CDA by public health organizations, which are struggling to embrace HL7 2.5.1.

Recommendation: The HIT Standards Committee should carefully follow the maturation of CDA for public health reporting, and encourage its rapid evolution and evaluation.