



## **Standards Insight Summary—February 2007**

**By Ed Larsen**

### **Why Interoperability Standards Aren't Enough Anymore**

One of the key premises of our national interoperability initiatives has been if we selected appropriate standards, our healthcare information systems could interoperate. We have learned another step is required: We must unambiguously constrain the selected standards so each is implemented in the “same” way. Thus in addition to the base standard, we need “standard constraints” defining the methods and content to be used in implementing a standard.

But even more is required in order for two different IT systems—whether within the same or between different healthcare organizations—to interoperate. We must define a complete end-to-end information interchange that includes business rules and a sequence of transactions based on constrained base standards. We require a series of transactions that are functionally complementary and technically compatible, that establish secure communications between correctly identified and authorized parties, and that exchange only authorized and semantically understood health information with each other. No one standard even tries to address such end-to-end interoperability. Instead we have turned to implementation guides that aggregate business functions and constrain sets of base technical standards, such as Health Level Seven (HL7) and Systematized Nomenclature of Human and Veterinary Medicine (SNOMED), into transactions often in combination with other standard infrastructure functions, such as record location, directory lookup, security, transmission, networking and wire protocols. A modular package of functions can be mixed, matched and reused in different real system implementations. Implementation guides that bundle functions to meet business requirements are emerging as the most necessary interoperability standards.

This month the online *Standards Insight* highlights five high-profile initiatives creating “standard” implementation guides. The two most prominent among these are Health Insurance Portability and Accountability Act of 1996 (HIPAA) Administrative Simplification Implementation Guides and Integrating the Healthcare Enterprise (IHE) Integration Profiles. The use of the former, of course, is mandated for HIPAA administrative and insurance transactions. IHE and its vendor members have produced an impressive series of integration profiles within the clinical domain. More recently, HL7, well known for its base clinical

messaging and document standards, has undertaken three implementation guide projects. The Healthcare Information Technology Standards Panel (HITSP) has recently released its first three interoperability specifications, essentially super implementation guides. Finally, we note the four Nationwide Health Information Network pilots are effectively developing competing implementation guides for regional and nationwide interoperability.

Two things should be apparent at this point: Base standards are necessary but not sufficient for interoperability. They address elements of semantic interoperability, transactions and documents within a restricted scope and domain, whereas implementation guides organize and constrain sets of base standards and other implementation guides to provide modular end-to-end interoperability.

To accelerate interoperability, HITSP and other initiatives seeking to meet business requirements must encourage and leverage implementation guides that can be modularly organized to produce interoperable systems. In this regard, HITSP will need to work with implementation guide developers on a harmonized, common framework for the modules, which in HITSP parlance are constructs. And so we come to a last, most thorny issue; whether or not implementation guides are standards. We leave this decision to the reader or at least to a future column.

Ed Larsen is an independent strategy consultant and tracks interoperability standards for HIMSS. For the full article, including the bright side, go to *Standards Insight* on the HIMSS Member start page. Comments or questions can be sent to [erlarsen@erlinc.com](mailto:erlarsen@erlinc.com).