The Future of Laboratory Implementation Guides

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Agenda

- High-level overview
- Message profiles
- Conformance driven at message level, segment to segment, within field, across fields and functional behavior at the edges
- Harmonized across all laboratory Implementation Guides (IG) providing full, closed-loop interoperability
- Public Health Reporting integrated with Laboratory Results IG through the use of message profile
High Level Overview

- Purpose driven IGs, Ambulatory Focused:
  - Test Compendium Message -> Electronic Directory of Services IG (eDOS IG)
  - Lab Order Message -> Laboratory Order Interface IG (LOI IG)
  - Lab Result Message -> Laboratory Result Interface IG (LRI IG)

- Conformance defined at message, segment and field levels
  - Ability to extract conformance statements into validation requirements to evaluate senders and receivers of messages

- Datatype flavors to help refine requirements based on the field the datatype is used

- Message profiles that drive variances in conformance and constraints

- Common Value Set definition

- Consistent behavior across all IGs by message, segment and field requirements
The end points are the functional systems, but the vendors can be vastly unique therefore the IG is not driven by unique end point system/design characteristics but by function. Therefore the vendors do not drive the IG, the community does with the vendors demonstrate their ability to comply based on meeting the conformance criteria.
The relationship between IGs

- **eDOS IG**
  - Provides the Lab Test Compendium to the EHR
  - Order code, specimen and test requirements in the eDOS IG drive the content in the LOI IG indicating what must be contained in the order message. Examples: data that must be collected: specimen quantity, time that

- **LOI IG**
  - Standardize lab order message

- **LRI IG**
  - Standardize lab Result message
  - The Order Message drives the relationship of the patient in both systems. The consistent format drive better delivery of lab results into the EHR.
Message Profiles: Lab Orders

Message profiles provide consistent methods to constrain components across Implementation Guides (IG)

IG specific profiles help refine specific issues and requirements

Each profile builds on the constraints created by the previous profile to create a consistent Incremental requirement of the IG.
Implementation Guides and Profiles attempt to reduce if not eliminate ambiguity for defined use cases.
Driving conformance from profile to component

Field level conformance requirements refine field requirements based on unique data type flavors, in this case driving date/time stamp requirements.

This message structure conformance statement indicates: Financial Information Profile Usage: C(R/O) Condition Predicate: PV1-20 (Financial Class) is valued T (Third Party) Effectively meaning the Insurance message structure is not necessary unless the billing is to a third party insurance payor.
LRI IG foundation for Public Health Reporting

The LRI IG provides basic, ambulatory lab result reporting capabilities. The message establishes the constraints that help partners define the requirements that they must adhere to to achieve near out-of-the-box lab results interoperability. Examples include:

• Minimum data set necessary to communicate a meaningful lab result
• Use of OIDs to create unique identifiers rather than locally defined identifiers.
• Requirement to send/receive minimum data set without requiring any further data (unless mutually agreed to)

Changing the assembled profiles changes the LRI IG requirements. The Electronic Laboratory Reporting to Public Health Release 2 (ELR IG) uses the base LRI IG and a specific assembly of message profiles to provide a lab results message that meets the Public Health Reporting requirements as designated by the CDC. This flexibility provides for one IG to meet many different requirements while maintaining consistency across the lab results reporting domain.
The TS data type has flavors from TS_0 to TS_6 and based on the field, the flavor drives component requirement.

New Born screening is an example where time stamps on results at times need to be specific down to the hours, in other cases specific down to the day and therefore the time stamp requirements would be drive first at a profile level, New Born profile that lists the fields that need to be specific down to hours and minutes. Examples are Date of Birth and time specimen was collected.
Next Steps

- Wide adoption
- Functional Edge Behavior for all guides
- Integrated test suite (NIST)
- Acute Care, Clinical Genomics, Anatomic Pathology
- Drive towards Normative