



2012 Lab Stakeholder Meeting

**Identifying Opportunities for Innovation with Health IT
Lab Result Information Exchange**

Agenda



- Why does electronic lab result exchange matter?
- What are the Meaningful Use requirements for delivering structured labs to eligible providers?
- National and State Statistics
- What are the technical hurdles and solutions
- Regulatory Update
- AeHN Update
- Discussion / Resources
- Q&A

Why does electronic lab result exchange matter?



- Lab results are a fundamental component of the patient record
- Without lab interoperability, many aspects of health care are hindered:
 - Decision support
 - Transitions of care
 - Quality reporting
- Unclear, non-standardized or missing lab data can result in:
 - Increased costs
 - The potential for harm
- Benefits of lab interoperability
 - Better/easier tracking for audit controls
 - Timely results delivery

Why does electronic lab result exchange matter?



- Research has suggested that some 70 to 80 percent of data contained in a medical record consists of laboratory results and records
 - Patients are not informed of 7 out of 100 adverse test results
 - 17 of 32 physicians lack a reliable system to ensure that all ordered lab results are reviewed

Source: http://www.premierinc.com/safety/safety-share/08-09-downloads/06_Casolino-Arch-Int-Med-Test-results.pdf

Arch Intern Med Vol 169 No 12 6/22/2009

"Frequency of Failure to Inform Patients of Clinically Significant Outpatient Test Results"

Results: The rate of apparent failures to inform or to document informing the patient was 7.1%

Why is this critical for clinical laboratories and the nation?



- Huge potential ROI for labs and hospitals if we can eliminate the need for :
 - physicians or office staff to send paper lab results,
 - manually enter lab data,
 - scan paper lab reports, or track down missing results.
- Faster delivery of laboratory results in a reliable and cost-effective method, to help prevent errors and reduces costs.

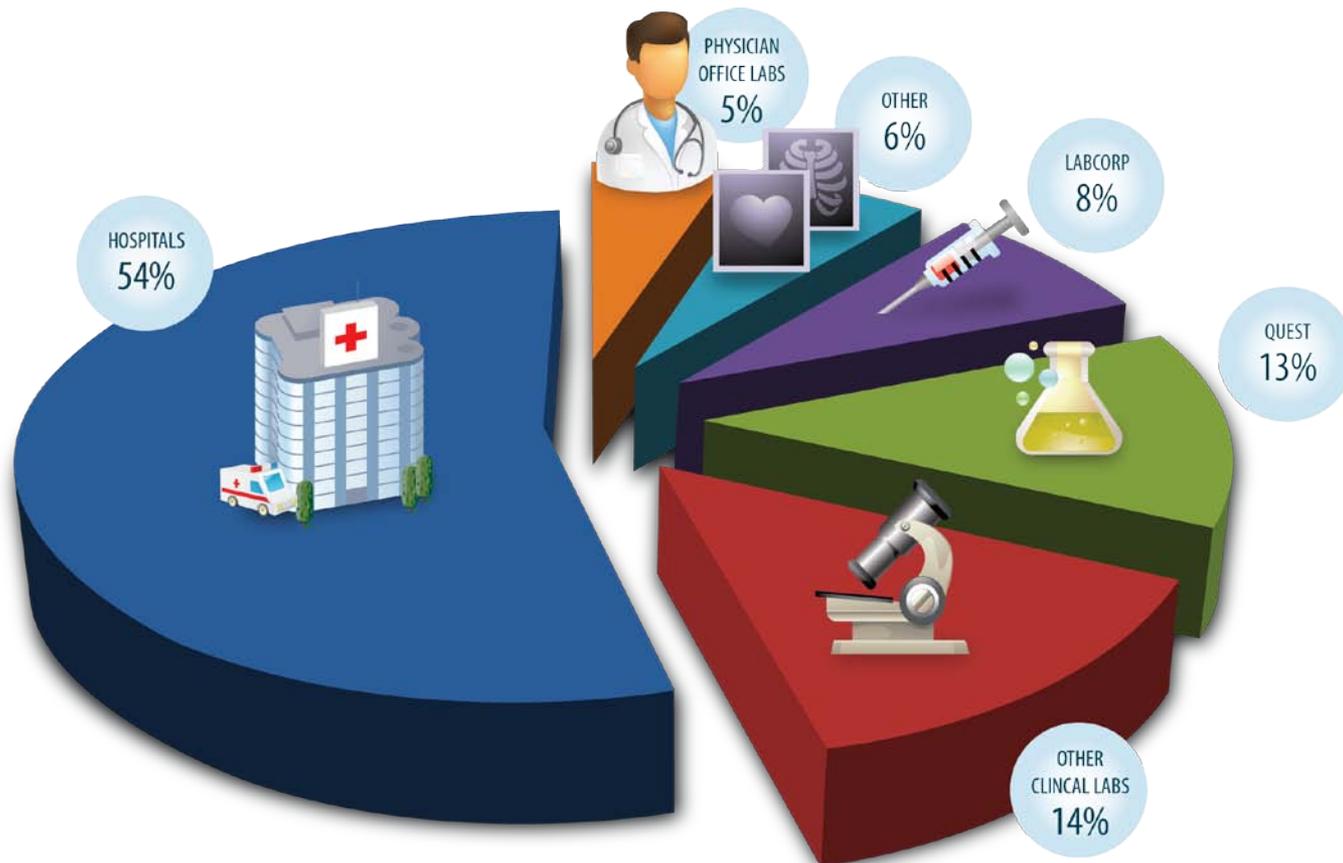
Eligible Professionals: MU Requirements



- Eligible professionals are not required to incorporate clinical lab test results into certified EHR technology as structured data for stage 1 meaningful use.
 - Eligible professionals could elect to incorporate clinical lab test results as one of their five (stage 1) menu set objectives.
 - Eligible professionals will likely be required to incorporate clinical lab results in Meaningful Use stage 2 and stage 3
- Meaningful Use (MU) requires that at least 40% of test results ordered by eligible or authorized professionals must be recorded as structured data in the provider EHR:
 - Applies to results that are either in a positive/negative or numerical format
 - Results must be in both machine and human-readable format.
 - Codes must be electronically displayed in human-readable format; if tests have been received with LOINC[®] codes.
 - Patient records must be updated in a timely manner, based on received lab results.

National Estimates

- Over 200,000 Certified Clinical Labs in the US



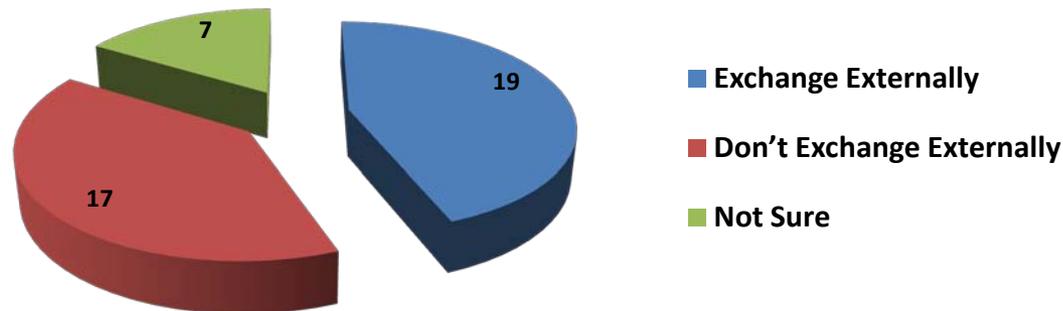
8 billion tests/Y by more than 10,000 hospital and independent labs: FRAGMENTED

Source: G-2 Lab Institute

Alaska 2011 Lab Survey



- Calls to 62 Alaska Labs in December 2011
 - Contacted 43 Labs, 91% conduct clinical diagnostic testing
- Electronic Capabilities of Alaska Labs
 - Most participants (79%) report using LIMS
 - “Electronic” exchange was confused with faxing results
- Labs Exchanging Results Electronically



- **Barriers to Electronic Exchange**
 - Incompatibilities between systems; difficulty interfacing between disparate systems
 - Lab doesn't perceive a need to communicate electronically or outsources their tests so does not need electronic communication
 - Lab either has no LIMS system in place, or their LIMS is old, so they don't have the capability
 - Concerns regarding patient safety and accuracy of electronically communicated information; ordering correct test, losing results, mis-identifying the patient

Additional hurdles for sending standardized structured lab results



- Too Many Options
 - Multiple mechanisms for transmitting results securely
 - Multiple message formats
 - Uneven usage of vocabulary & code sets, e.g., LOINC, SNOMED, UCUM, etc...
 - Differing clinical workflows and levels of EHR/LIS adoption

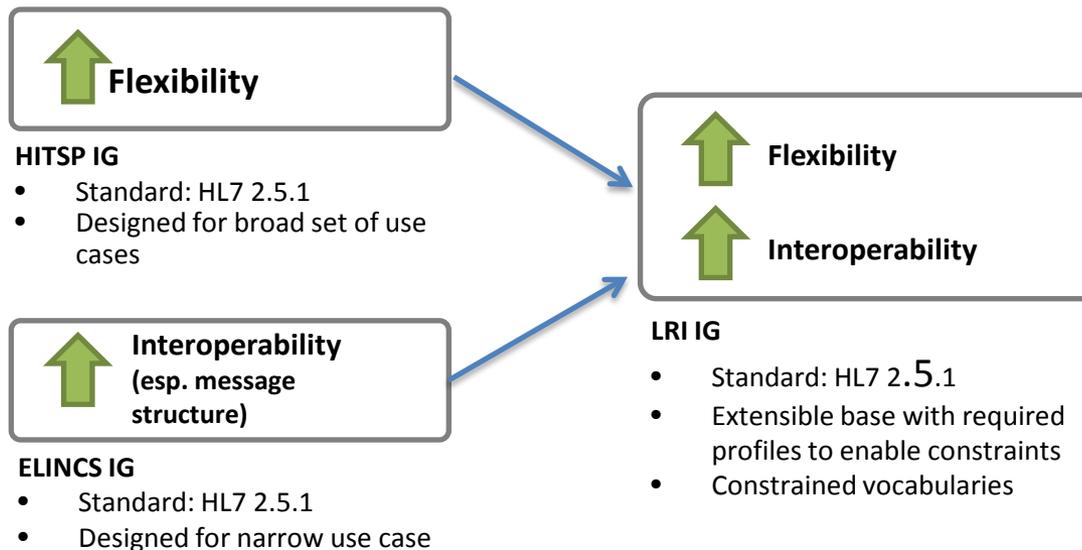
National (ONC) Initiatives to simplify Lab Exchange

- **S&I Framework – Lab Results Initiative (LRI) IG :**
 - Establish a nationwide Implementation Guide for electronic submission of Lab Results to Ambulatory EHRs
- **Direct Project:**
 - Standardizes transport and security mechanisms for secure directed messages between healthcare participants

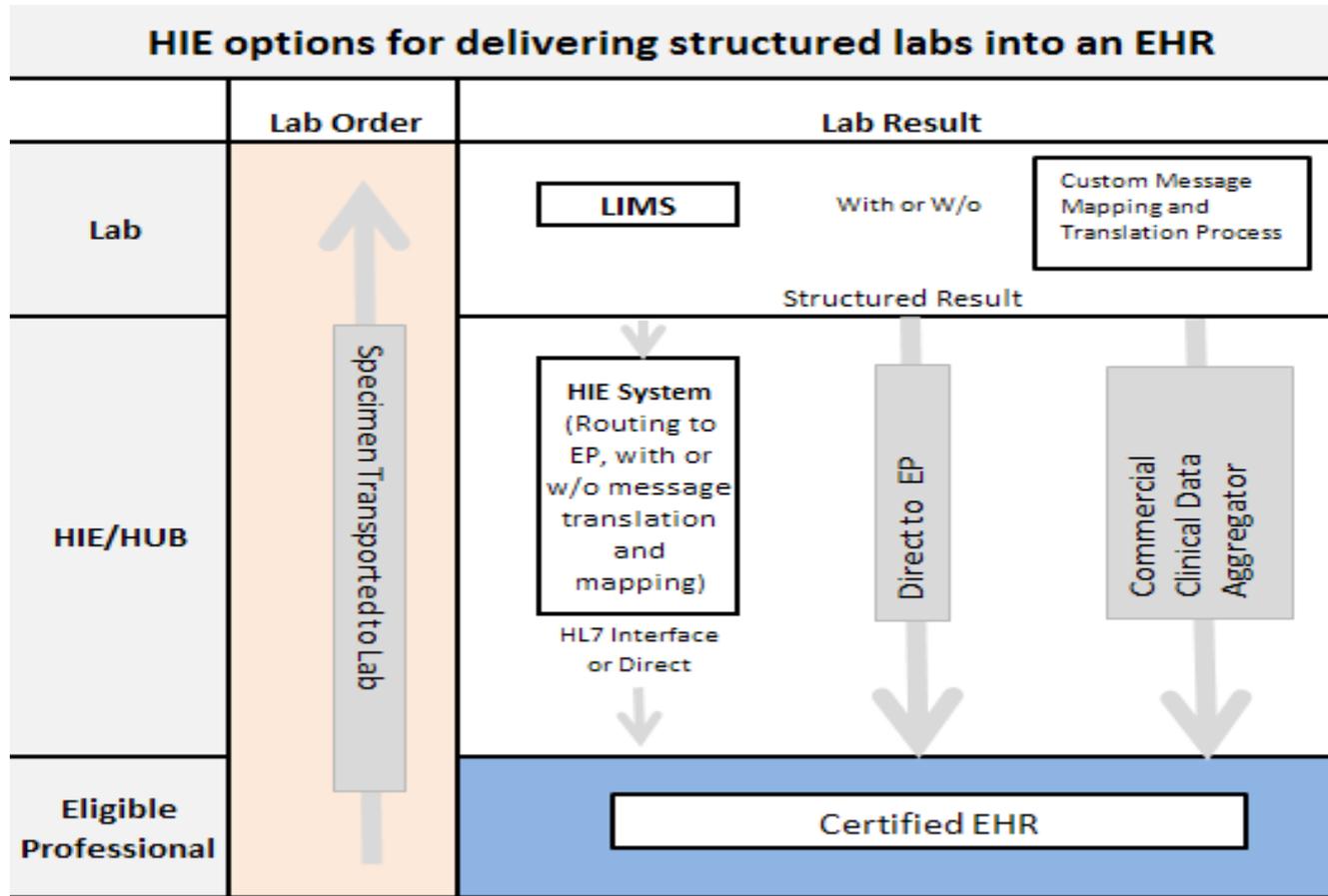
The S&I Framework created the Lab Result Initiative (LRI) – Implementation Guide (IG)



- **Consensus by broad and deep community of 90 active participants** that developed an implementation guide for Lab Interoperability
 - Based on a current standard with 200+ current deployments
 - Reviewed by vendors for clarity and implementer-friendliness
 - Has ability to pass standards organization review and testing
 - Being piloted now to obtain further feedback



Implementation Options

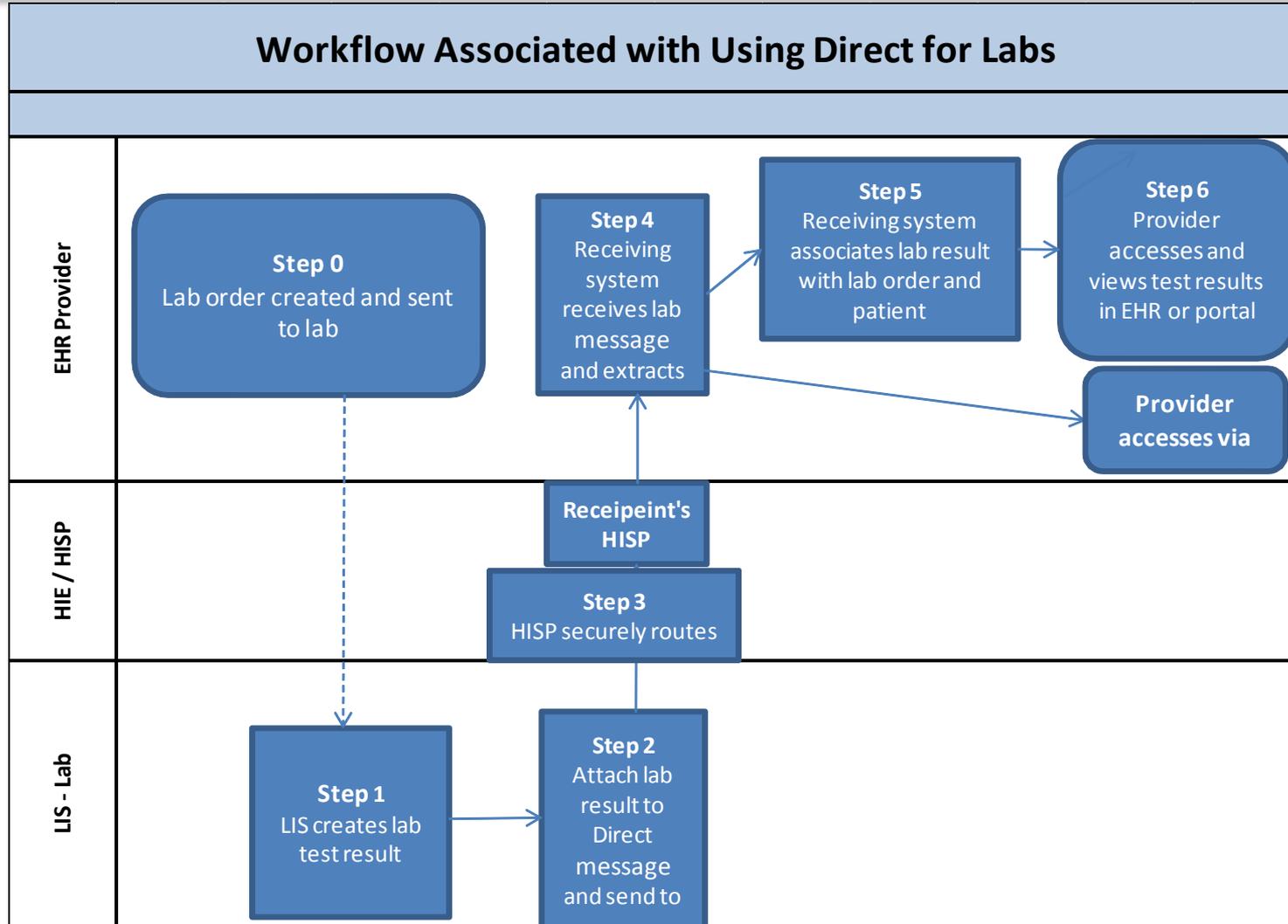


Direct vs Lab Hub Solution vs HIE

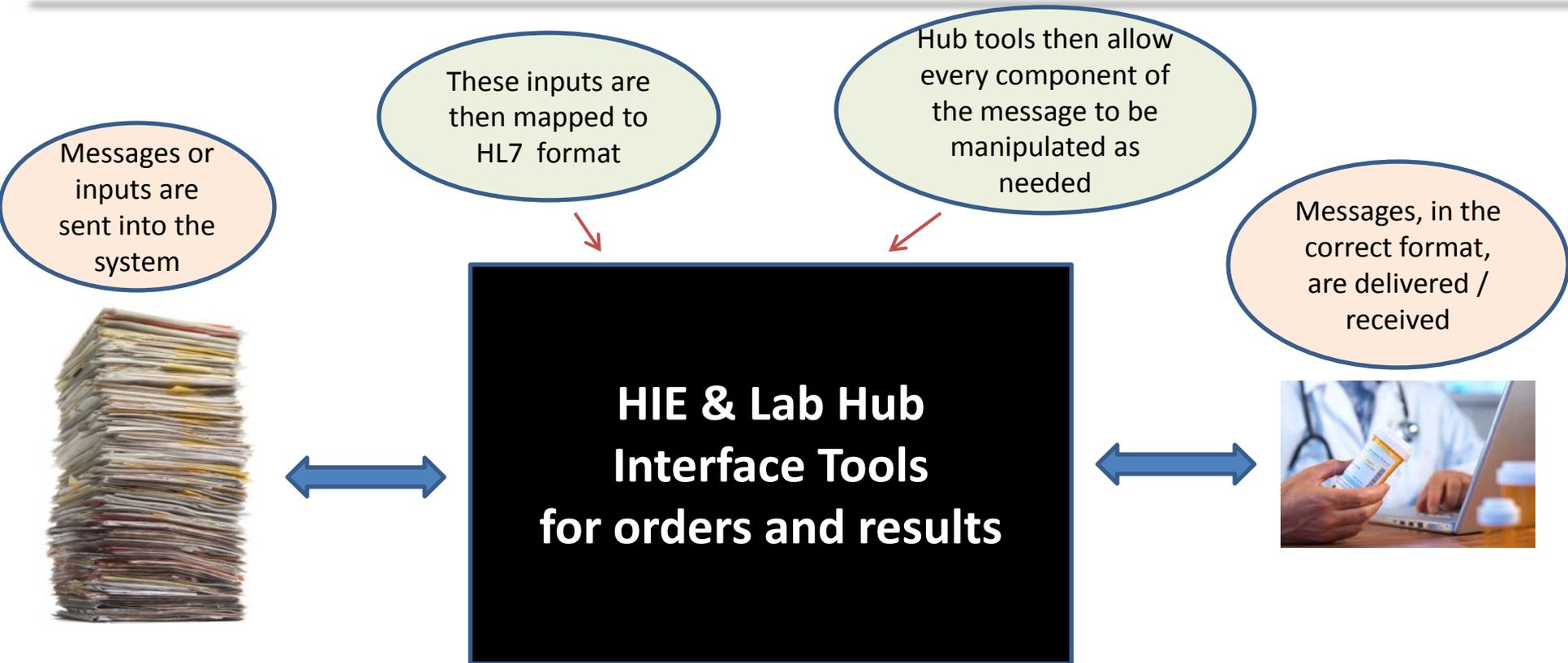


	Direct	Lab Hub Solution	Robust HIE Solutions
	Compliant security, transport, and messaging capabilities		
Ease of implementation, complexity of services	Simple push of orders or results from one point to another. Once HISPs are up and running, fastest implementation time	Flexible, fast tools that accelerate interfaces between labs, hospitals, and physician EHR systems	Longer implementation process, may take days or weeks (or even longer) to have system fully integrated
Depth of Functionality	Meets basic lab needs that will get providers to Stage 1,2 MU	Meets basic lab needs that will get providers to Stage 1,2 MU. Solution tends to be dedicated to labs only at this point	Can provide basic <i>and</i> more robust exchange requirements and will assist providers in meeting later stages of MU – other services may also be linked into lab data, allowing for more complete and comprehensive patient records
Lab Orders	Supports lab order transport	Supports lab transport and advanced support of lab order LIMS integration	Supports lab transport, but typically minimal lab order LIMS integration
Level of effort of Sender	Active - Sender formats and codes lab results	Passive - Specialized staff, advanced support of lab business logic, complete LOINC mapping services, and workflow optimization tools	Passive - Service provides basic support of lab business logic, LOINC mapping services (typically involves other vendors Health Language, 3m, etc..)
Cost	Lowest cost technology, but additional costs may be accrued in preparing messages for transport	Incremental increase in cost of overall HIE budget unless labs pay for service	Labs often included in overall HIE services

Direct Workflow



HIEs and Lab Hub Workflows...



Connectivity layer allows solution to achieve HIPAA-compliant connectivity, often with double encryption, without needing to establish VPNs with individual practices

CLIA Regulations: CMS Guidance



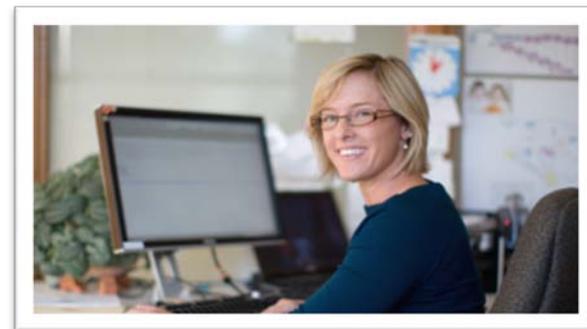
- Transmission of lab data through an HIE is acceptable under CLIA:
 - The key CLIA attribute is accuracy of information.
 - Electronic transmission of data need not be a barrier. Information transmitted from laboratories should be accurately, timely, and reliably sent to the final report destination.
- Encourages use of standards:
 - Does not require a particular standard.
 - CMS encourages the use of recognized standards such as HL7 as a data transmission standard and LOINC[®] & SNOMED for laboratory test vocabulary.
- Retention requirements are unchanged:
 - Laboratory records must be retained for at least two years.
 - CLIA does not specify the form in which records are to be retained, rather, CLIA specifies that reports must be retrievable upon request for defined periods of time.

- Direct Secure Message service is available for organizations now
- HIE ready to receive/present lab results data pending Go-Live
- Lab-Hub in early discussions with HIE vendor to determine development effort and timeline

Resources

Learn more at:

- ONC website: www.healthit.gov
- Direct Project website: www.directproject.org
- S&I Framework wiki: <http://wiki.siframework.org>
- S&I Lab Results Interface (LRI) Initiative: see the wiki, or contact Jitin Asnaani at jitin.asnaani@siframework.org
- Lab Interoperability CoP: contact Greg Farnum at gfarnum@hln.com



Thank You!

Questions?

Health Information Technologies Website: <http://dhss.alaska.gov/hit/Pages/Default.aspx>

Health Information Technologies Email: hss.hitinfo@alaska.gov

Alaska eHealth Network (AeHN) Website: <http://www.ak-ehealth.org/>