



What is Interoperability?

How Can the LRN LIMS Integration Project Help My Lab Achieve Interoperability?

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The findings and conclusions in this presentation are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention



Agenda



- My Story.....
- The Goal – *Improved* Interoperability
- The Many Facets of Interoperability
- Interoperability and the LIMS Integration (LIMSi) Project
- LIMSi – Where we are today and where we are going tomorrow



Objectives



□ Attendees will learn:

- The basic concepts of interoperability
- How the LIMS Integration Project (LIMS_i) is supporting LRN laboratories to achieve interoperability per PHIN standards
- The status of the LIMS Integration Project (LIMS_i)
- The future plans for the LIMS_i Project



My Story...





The Goal – *Improved Interoperability*



□ Definitions:

- The ability for different people and organizations to work together.
- When applied to informatics systems, interoperability is defined as:
 - "the ability of two or more systems or components to exchange information and
 - to use the information that has been exchanged" (IEEE).
- It is also defined as "the ability of a system or a product to work with other systems or products without special effort on the part of the customer"¹

¹[SearchSOA.com Definitions](http://SearchSOA.com/Definitions)



Two Examples of Interoperability



☐ Tech *support* phone call



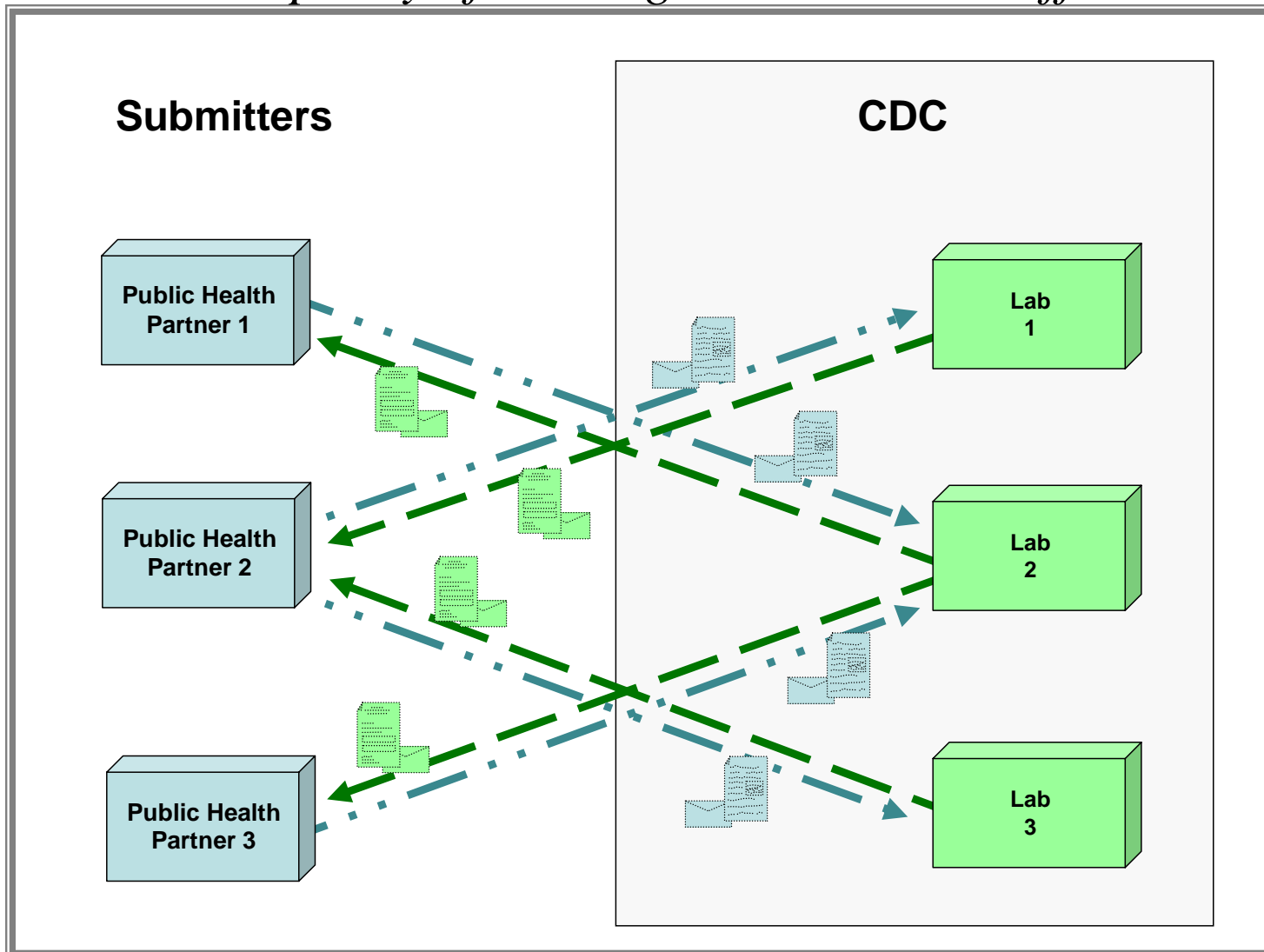
☐ Lab Interoperability





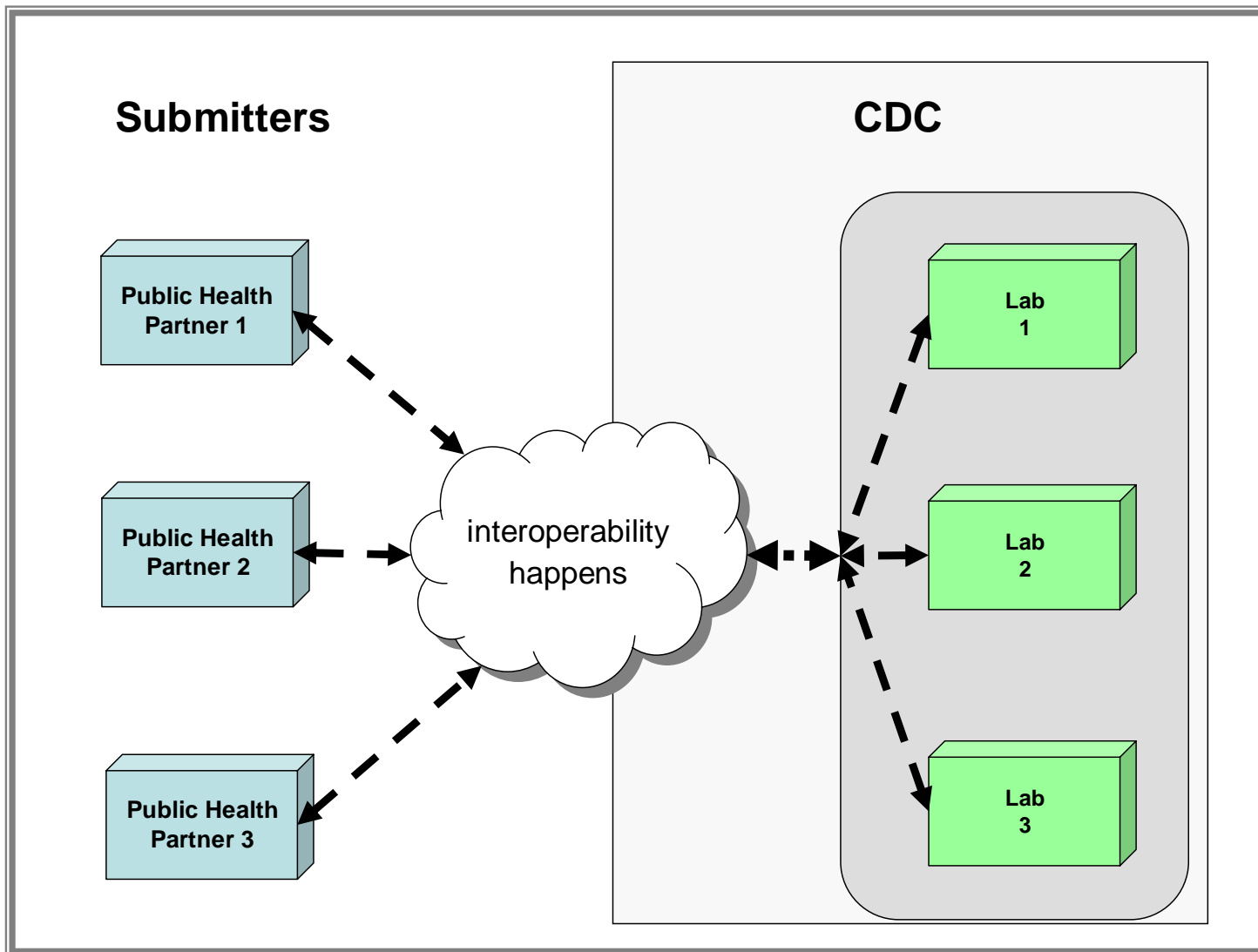
Manual Interoperability

.....with plenty of elbow grease & heroic efforts





Interoperability via Standards





What's in the "Interoperability Cloud"?

Interoperability

Liaison to Federal Policy and Regulatory Groups

Data / Message Transformation

Secure Access to CDC Network

Vocabulary Standards Expertise & Guidance

Vocabulary Management & Distribution

Sample Identification

Authentication & Credential Management

Liaison to Standard Development Organizations

Data Aggregation

Message Creation

Data Message Transport

Agency- Wide Sample Tracking

Messaging Standards Expertise & Guidance

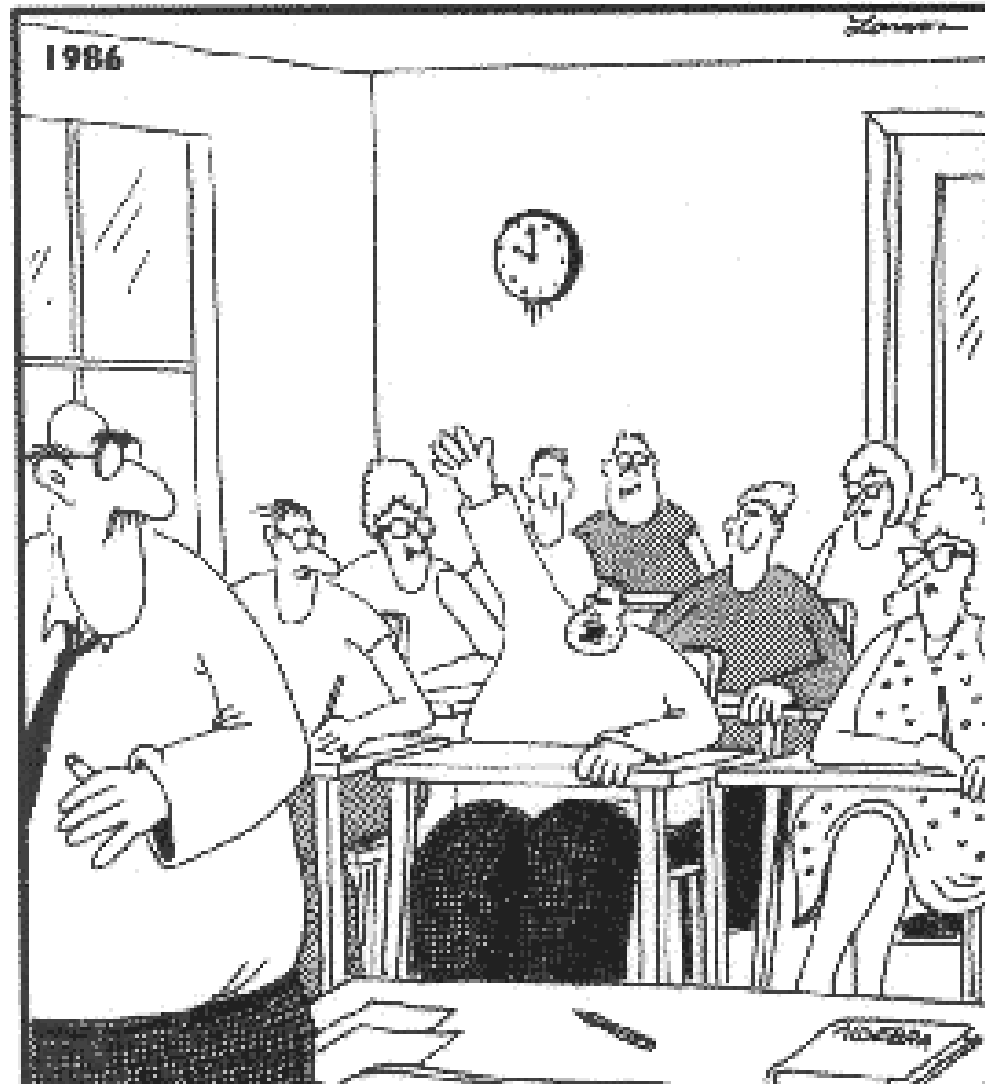
Vocabulary Translation

Directory Services

Data / Message Routing

Technical Services

Programmatic Services



"Mr. Osbourne, may I be excused? My brain is full."



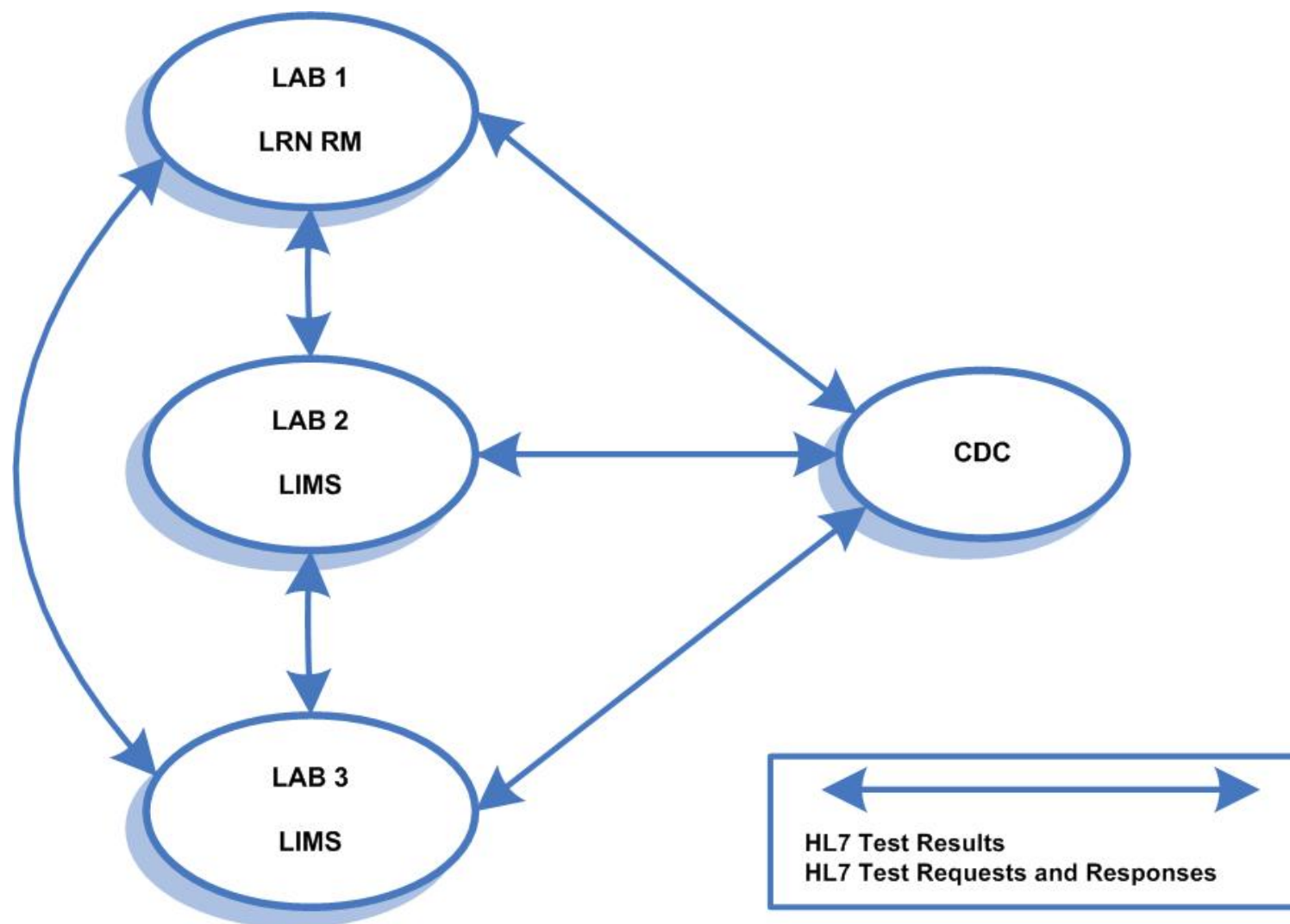
What is LIMSi?



- LIMSi grew out of 2 initiatives / projects:
 1. LRN Real-Time Data Exchange
 - LRN Results Messenger
 - The LIMS Integration Project (LIMSi)
 2. Public Health Information Network (PHIN)

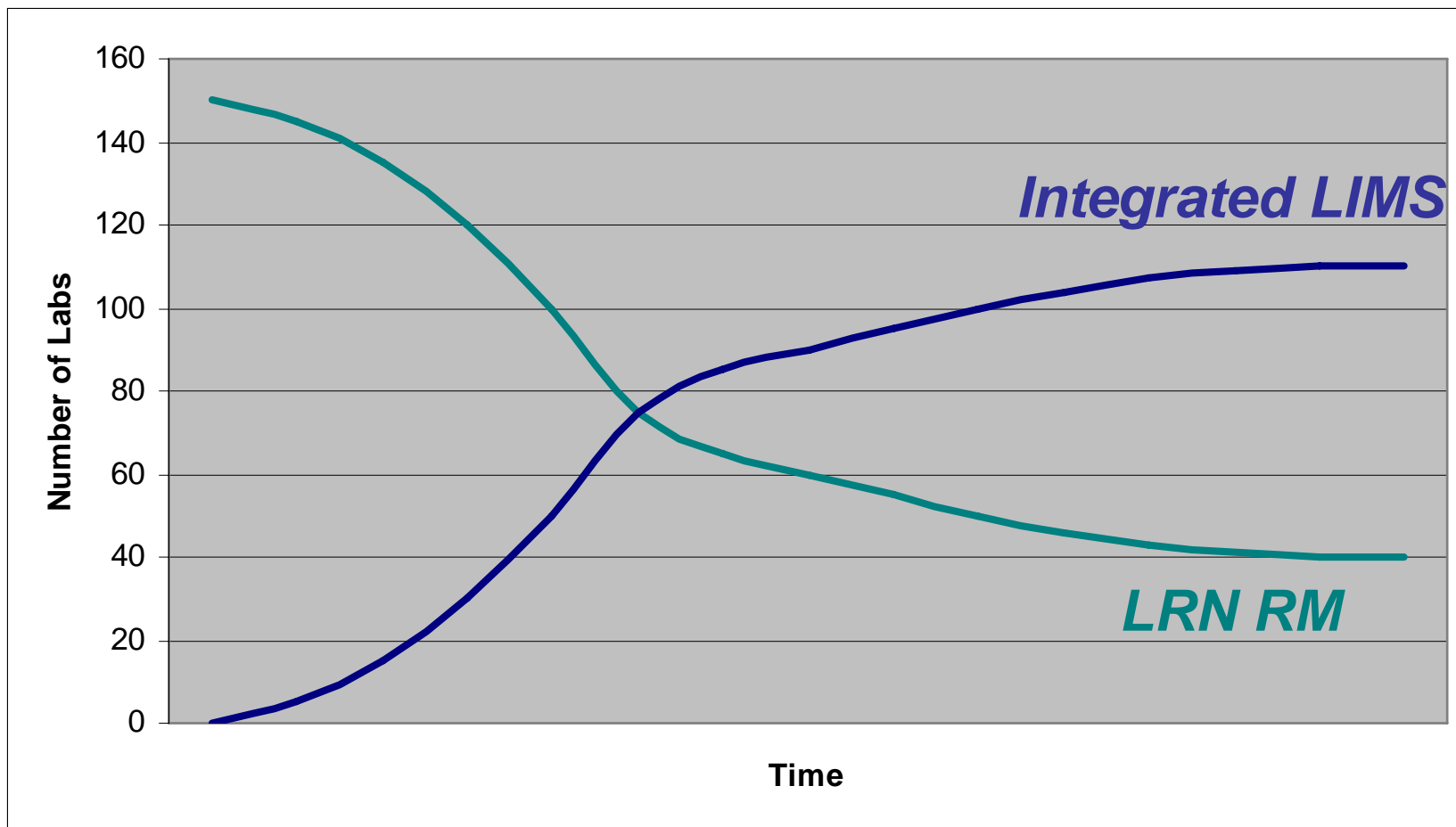


The Ultimate Goal of LIMS*i*





LRN RM and LIMSi





How Does LIMS_i Support Interoperability?



□ People

- Dedicated LIMS_i Team:
 - Business Analyst
 - Vocabulary Subject Matter Expert
 - HL7 Subject Matter Expert
- Access to other areas of expertise in CDC and beyond



How Does LIMS_i Support Interoperability?

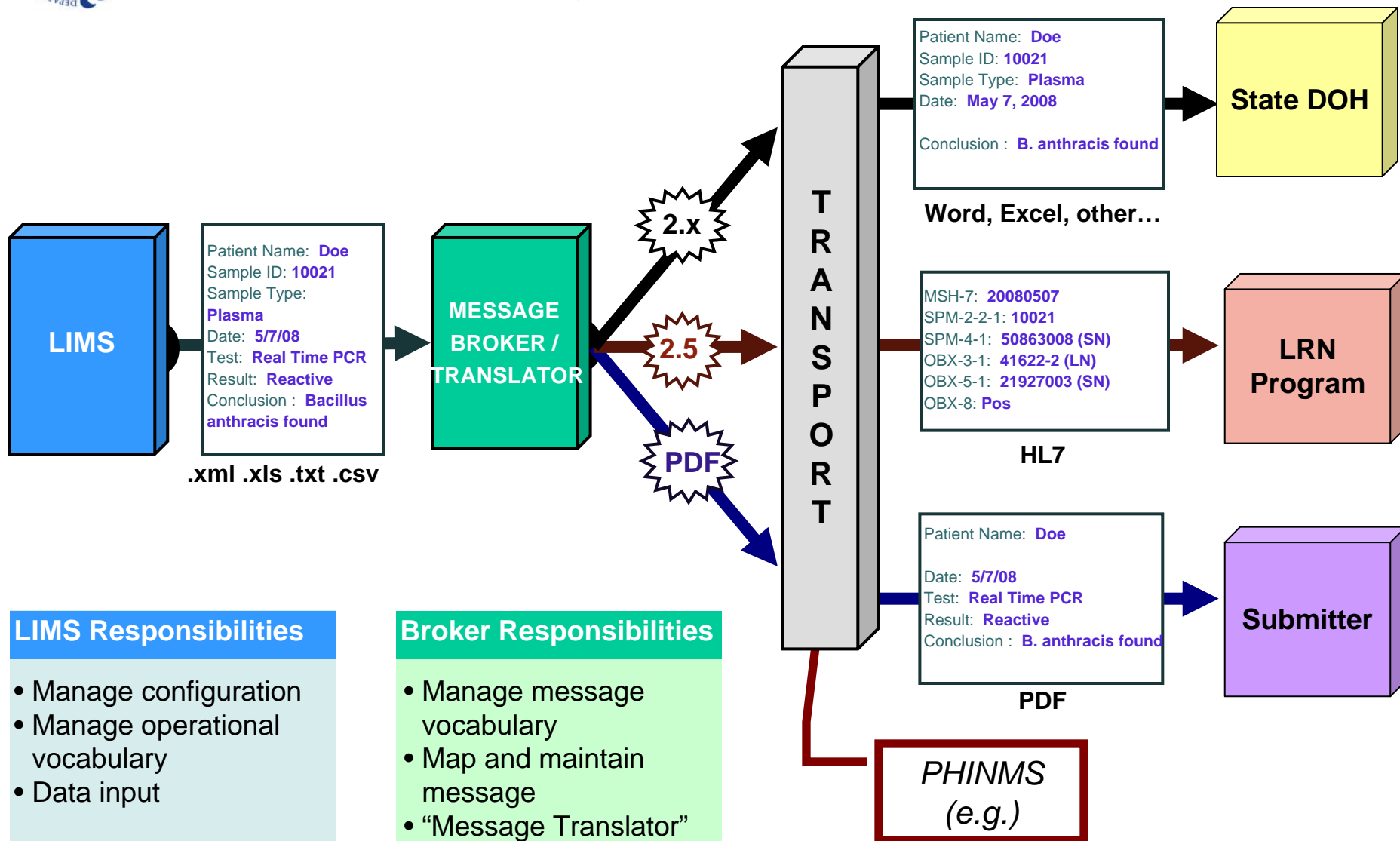


□ Tools

- *A specification that will not fit on one page of 8.5x11 inch paper cannot be understood.*
 - *Mark Ardis*
- Unfortunately, we are not there yet ☹️
- We provide documentation and tools to answer the following questions:
 - What information do I need to capture in my LIMS related to LRN testing?
 - How do I format the data to send it to CDC?
 - What codes do I use for my LRN tests and results?
 - How do I send the file?

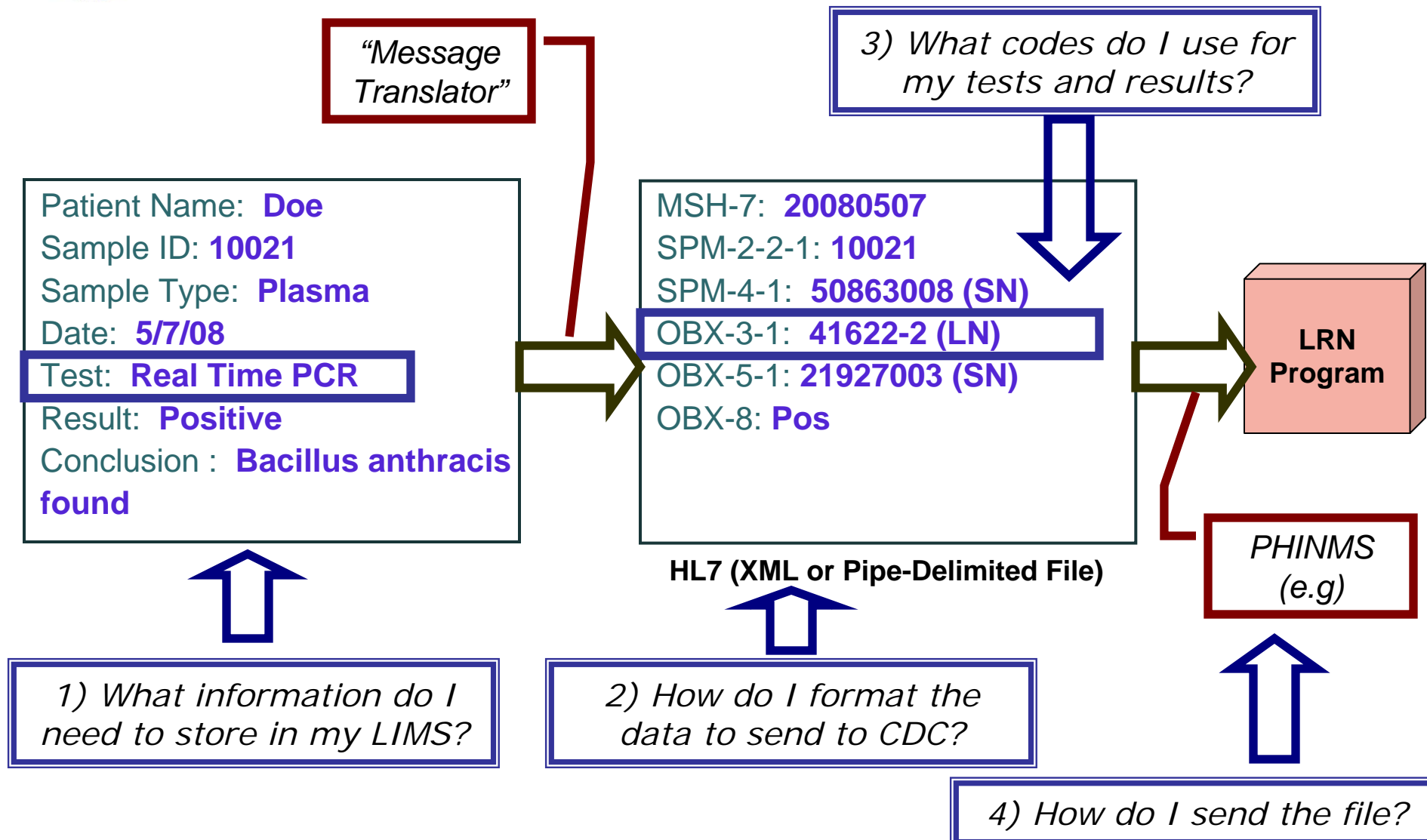


Interoperability and LIMSi, continued





Interoperability and LIMS_i, continued





Current Activities



LIMSi Work Group

- A group of state public health labs meet with the LIMSi project team on a bi-weekly basis

LIMS Vendors

- STARLIMS, LabWare, Epic Systems, others.....



Current Activities, continued



Progress towards LIMS Integration

– LRN-B

- Approximately 20 labs are engaged in various stages of this process

– LRN-C

- The LIMSi team worked directly with the team at West Virginia and STARLIMS on configuration of their LRN-C module

Integration with CDC Bio Terrorism (BT) Lab

- We are defining requirements to integrate data from the CDC BT lab with data obtained via LRN RM and local LIMS

Enhanced LIMSi “Playbook”

- The LIMSi Playbook is intended to provide an overall guide on implementing the LIMSi requirements.



Future Plans



- ❑ Enhance import functionality in the LRN-B and LRN-C modules and move towards a machine-to-machine interface
- ❑ Continue to work with PHIN and LRN-C subject matter experts to refine the standards for messaging and vocabulary for Chemical and Radiological testing
- ❑ Develop reusable components of functionality for use by LIMS-enabled labs



LIMS Integration Team

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Questions

