

A Program of The Robert Wood Johnson Foundation

A Public Health Laboratory
Collaborative for Laboratory
Information Management
Systems

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Public Health **INFORMATICS** *Institute*



Who We Are

- The Public Health Informatics Institute is a new program funded by The Robert Wood Johnson Foundation.
 - Our mission: Advancing public health practitioners' ability to strategically apply and manage information systems.
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A Critical Need

- Fall 2001
 - Public Health Laboratories (PHLs) overwhelmed
 - Inadequate LIMS
 - Inability to electronically exchange information
 - APHL's Strategic Plan (2002-2005)
 - Goal III: Improve the capability to capture, process, and communicate laboratory information and develop consensus on the essential elements of effective LIMS.
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Developing Requirements

Most important step in developing or acquiring any information system!

- Enables PHLs to develop or acquire a system that meets users' needs
- Enables PHLs to match system requirements to commercial vendors' software products



The Approach – A Collaboration

- Project Goal
 - Establish requirements to enable PHLs to meet their LIMS needs
- Project Partners
 - 15 State PHLs, one County PHL
 - APHL (MIS Committee)
 - The Institute



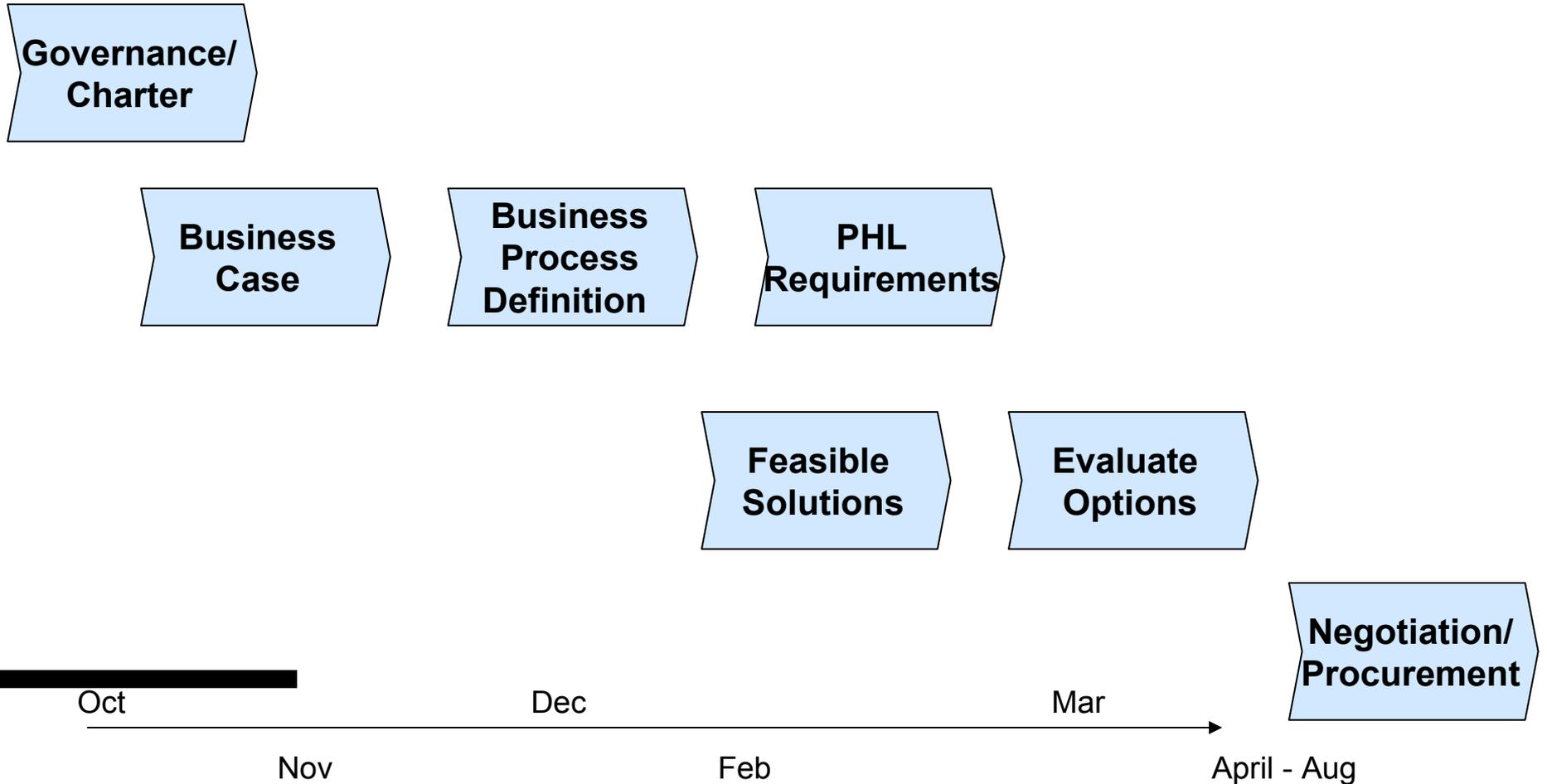
The End Result

A Collaboratively Defined Roadmap and Tool

- A roadmap for helping PHLs move in the direction of the overall vision expressed by the document
 - A tool for structuring specific implementation projects
 - A basis for the creation of comprehensive commercial vendor requests for proposals (RFPs)
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Methodology





Governance and Charter

- Answers the question, “What are we agreeing to do together and how will we do it?”
- Components
 - Governing body
 - Charter
 - Scope
 - Objectives
 - Methodology
 - Summary Budget
 - Summary Timeline
 - Project plan



Kickoff Meeting

- Getting off to a good start!
 - In-depth review of project charter and project plan by all project members prior to kickoff
 - Kickoff proved to be an effective way:
 - to review, discuss and modify project plan and timeline
 - to build social capital among project members
 - to engage all stakeholders meaningfully



Business Case

- Why is a public health LIMS necessary?
- Components
 - Unique role of public health labs
 - Urgency and need for LIMS upgrade
 - Quantify benefits (efficiency, effectiveness, quality)
- Deliverables
 - Basic Business Case – December 2002
 - Final Cost Analysis Business Case – May 2003



Business Process Definition

- How does a public health lab do its work?
- Components
 - Business process descriptions
 - Context diagrams
 - Workflow and output analysis
- Deliverables
 - Final Business Process Definitions – December 2002

Diversity within commonality!



16 PHL Business Processes

- 1) Laboratory Test Processing (Clinical and Environmental)
- 2) Test Scheduling
- 3) Proactive Specimen/Sample Collection (Prescheduled Tests)
- 4) Specimen and Sample Tracking/Chain of Custody
- 5) Media, Reagent, Stains, Controls, etc.
- 6) Manufacturing Inventory Control, Including Kits and Forms Management
- 7) General Laboratory Reporting
- 8) Statistical Analysis and Surveillance



16 PHL Business Processes, cont.

- 9) Billing for Laboratory Services
- 10) Contract and Grant Management
- 11) Training, Education, and Resource Management
- 12) Lab Certifications/Licensing
- 13) Customer Concerns/Suggestions
- 14) Quality Control (QC) and Quality Assurance (QA)
- 15) Laboratory Safety and Accident Investigation
- 16) Laboratory Mutual Assistance



PHL Requirements

- What does a LIMS do to support the work of a public health laboratory?
- Components
 - Site visits
 - Analyze current state based on business processes
 - Validate analysis with project members
- Deliverables
 - Site visits – February and March, 2003
 - Final requirements specifications – April 15, 2003



Requirements Specifications Document Contents

- A conceptual framework;
- The relationship of the business processes;
- Requirements specifications for each business process;



Requirements Specifications Document Contents, cont.

- Requirements specifications that span all 16 business processes;
 - Database interfaces between the LIMS and other relevant system databases; and
 - Vendor-related requirements specifications commonly found in requests for proposals.
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Requirements Specifications, An Example

Business Process #1: Test Processing

Receive and log test requests

- Ability to receive electronic test request transmissions formatted in NEDSS standard HL7 message structure utilizing agreed upon coding standards
- Ability to create test request records in the LIMS directly from the electronic test request records, including specimen package contents



Requirements Specifications, An Example, cont.

Business Process #1: Test Processing

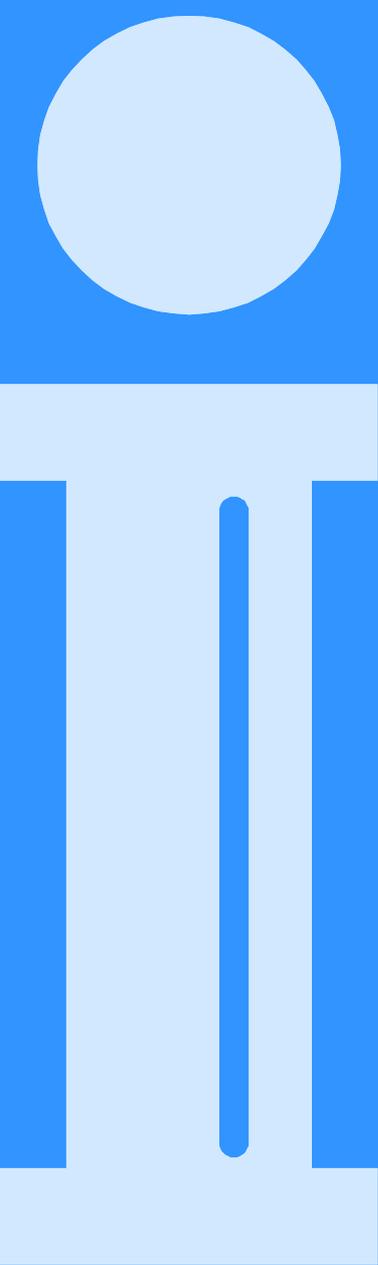
Receive and log test requests, cont.

- Ability to audit electronic test request records and return acknowledgement (ACK) messages to submitter verifying receipt and processing of the transmission
 - Ability to manually enter test request if received on paper form and perform independent verification on selected data fields by re-entry of the data in a second pass
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Feasible Solutions, Analysis of Best Options, and Procurement

- Which solution is best for each project partner?
 - Because each PHL has a unique set of environmental circumstances, each partner may choose a different solution.
- Components of commercial vendor purchase
 - Assess commercial vendor offerings
 - Assess needs vs. commercial vendor options
 - Negotiate vendor pricing
- Deliverables
 - Final recommendations – Summer 2003



Thank You!

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