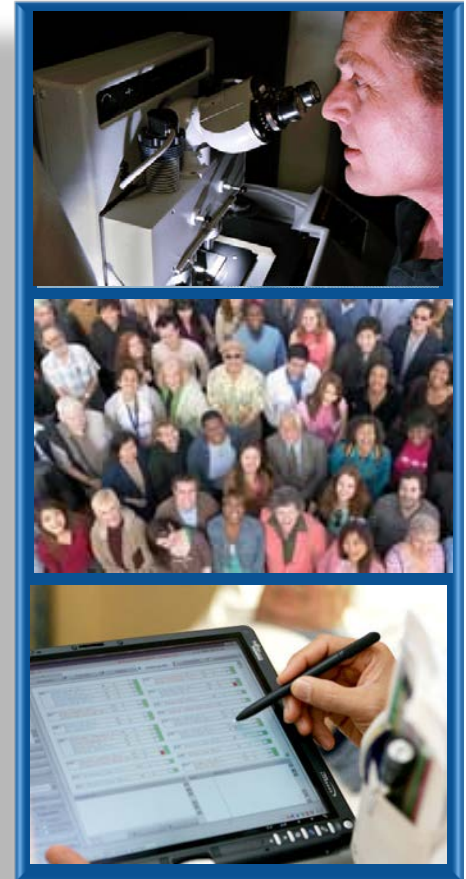# Collaboratively Defining IIS Functional Requirements for the e-Health Era

IIS Meeting 2012
Jenne McKibben
ALERT IIS Training Lead
Oregon Immunization Program

Overview

⇨The Challenge

⇨The Work

⇨The People

⇨The Process

⇨The Results

⇨The *So What?*

⇨The Addendum

⇨The Next Steps...

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The Challenge

To collectively and rigorously define the work of an IIS program

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The Work

- What is the work that we do (the business processes) ?
- Can it be described collectively?
- What do our IIS applications need to do?
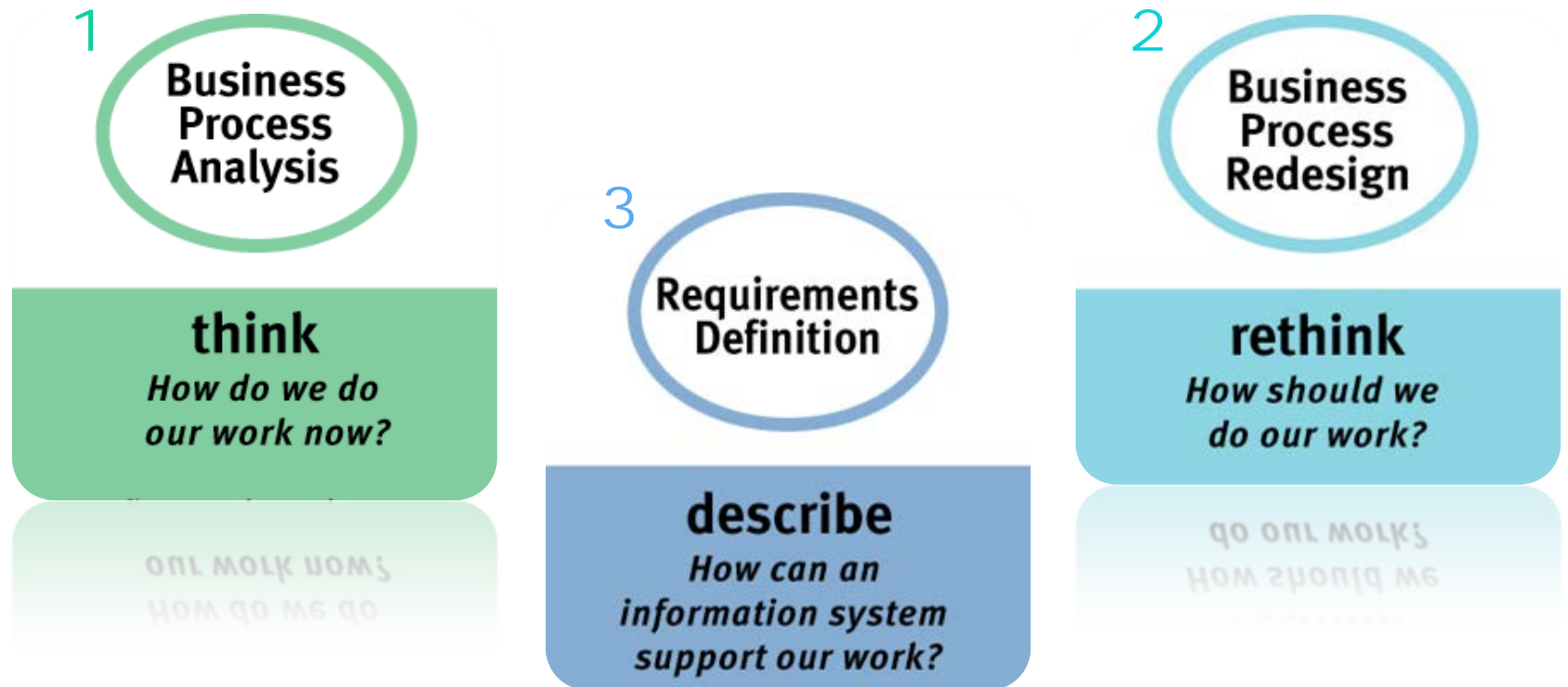- What can we learn from each other?

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The People

Workgroup Member	State/City
Amy Metroka, Kristen Forney	New York City
Beatrice Salada	Michigan
Belinda Baker	Washington
Cameron Minich	Indiana
Heather Gatewood	Kentucky
Jenne McKibben, Michelle Barber	Oregon
Lisa McKeown	Philadelphia
Mary Burmeister	Arkansas
Tammy LeBeau	South Dakota
Thomas Maerz	Wisconsin

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The Process

- Used the Institute's Collaborative Requirements Development Methodology™

1 Business Process Analysis — **think** How do we do our work now?

3 Requirements Definition — **describe** How can an information system support our work?

2 Business Process Redesign — **rethink** How should we do our work?

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Documented IIS Business Processes

- Create Newborn Record
- Vital Records Amendments
- Facility/ Organization Registration
- Administer Vaccine
- Query, Add, or Update Patient Record
- Patient De-Duplication
- Vaccine De-Duplication
- Manage Inventory (Lost, Expired, Borrowed)
- Public Purchase Vaccine Ordering
- Manage Forecasting Rules

- "Read Only" Data Exchange
- Data Exchange Response/ Output
- User Report Generation
- Patient Reminder/ Recall
- EHR Vendor/Data Submitter Approval, Re-approval, and Testing for Bidirectional IIS Data Exchange
- Provider Approval/ Re-approval for Bidirectional IIS Data Exchange
- Provider Ongoing Maintenance for Bidirectional IIS Data Exchange

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Business Process Matrix

Public Purchase Vaccine Ordering

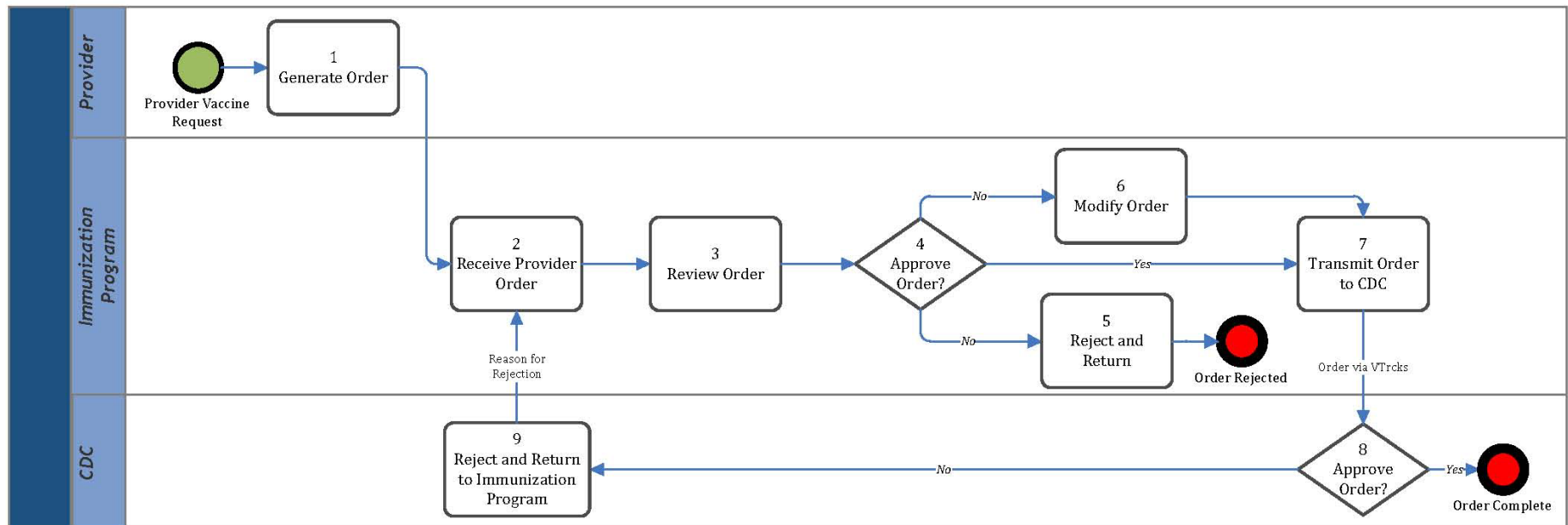| OBJECTIVES	BUSINESS RULES	TRIGGER	TASK SET	INPUTS	OUTPUTS	MEASURABLE OUTCOMES

• To enable publicly purchased vaccine ordering.	• Immunization program level rules and regulations
	• Publicly Purchased Vaccines protocol
	• CDC protocol
		• Public health event
		• Low inventory
		• New vaccine/ recommendations
		• Economic Order Quantity (EOQ)
		• Newly enrolled provider
		• Receipt of a grant
			1. Generate Order
			2. Receive Provider Order
			3. Review Order
			4. Approve Order?
			5. Reject and Return
			6. Modify Order
			7. Transmit Order to CDC
			8. Approve Order?
			9. Reject and Return Immunization Program
				• Usage reports
				  ○ Doses administered, expired, wasted
				• Inventory
				• Publicly Purchased Vaccines order forms.
				Possible fields:
				  ○ Storage capacity
				  ○ Shipping hours
				  ○ Shipping demographics (address, phone #, etc)
				• Temperature log
					• Completed Publicly Purchased Vaccines order form
					• Electronic packing slip
					• Vaccines shipped
					• Vaccine order Recommendations
					• Tracking number
					• Confirmation of order
					• State approval/ rejection of order
						• Order received by IIS
						• Number of successful orders sent to VTrcks
						• Reduction of transfer/ borrowing, expired and wasted of vaccines

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Task Flows
Capturing logic and requirements
through nontechnical modeling
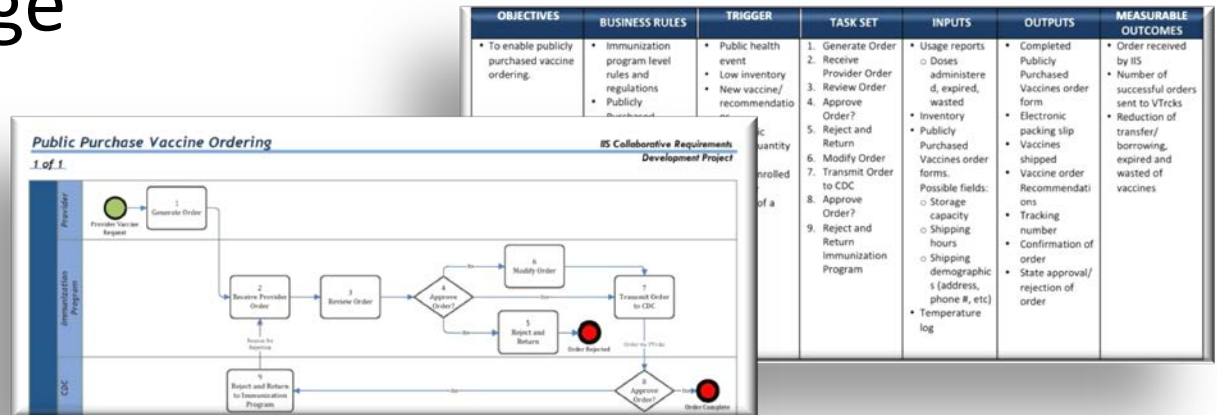
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Requirements
The language of users in plain nontechnical language

ACTIVITY	ENTITY / FUNCTIONAL ROLE	REQUIREMENT (The system must or should…)
Generate Order	Provider	have ability to display current provider inventory
Generate Order	Provider	have ability to display minimum order increments
Generate Order	Provider	have ability to calculate and display IIS recommended order quantities
Generate Order	Provider	support the use of an ordering system/module
Generate Order	Provider	have ability for provider to access and place order through the IIS system
Receive Provider Order	Immunization Program	allow provider to attach files of various formats to the vaccine order
Receive Provider Order	Immunization Program	allow only specific users to order vaccines, delete and edit orders, and view order…

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The Results

- Matrices, task flows with explanatory notes, and detailed functional requirements for 17 processes

- Task flow for EHR-HIE-IIS bi-directional exchange

The So What?

- The work products can be used by an IIS to:
  - Re-examine and improve current workflows
  - Identify possible enhancements for improved or new functionality
  - Evaluate whether it's more cost-effective to migrate to a new system
  - Compare the features of available systems
  - Craft an RFP for procuring a new system

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The Addendum

With extra time and money …

…documented provider and vendor on-boarding plus data quality processes

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The Next Steps

- Complete bi-directional exchange specifications
  - Standardize query protocols
  - Update HL7 2.5.1. IG
  - Support from HRSA
- Web-publish all work products
  - www.phii.org
- Add to PHII's Requirements Lab

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Acknowledgements

- Mary Kay Kenney, HRSA Maternal and Child Health Bureau

- The Workgroup members!

- CDC/IISSB staff and contractors

- Jim Daniel, ONC

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Questions

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