



# *Maximizing Your Health IT Investment*

Session #187

August 11, 2010

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# House Keeping



Cell Phones

Please turn off or change to vibrate

If you must answer a call or text message, please  
leave the room

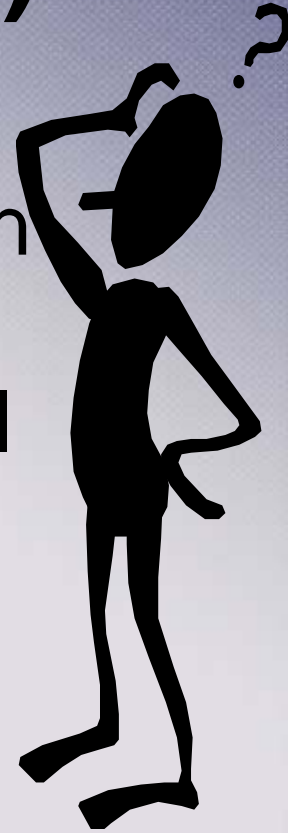
# House Keeping (Cont.)

Please,

No questions during the presentation

Questions written on a 3X5 card will be answered at the conclusion of the presentation, time permitting

All questions and answers will be posted on the web including those not answered during class





# How Do You Know...

- ...your IT product functions properly?
- ...that it yields the benefits you expect?
- ...that the users are using it effectively?
- ...that the systems are reliable?
- ...that you've maximized your investment?

# Why This Session?

- Health IT systems are everywhere
- We will invest in more Health IT systems in the future
- Health IT systems need to be effective
- Product and service effectiveness are important to your investment
- Proven methodologies in VHA can help you achieve your goals

# Principles

- Evidence-based decision-making
- Performance management
- Continuous process improvement

# Scenario: Tablet PC

- Tablet PC to assist the clinicians
- Focus is on the principles and best practices



# Technology is Integral to Health Care





# You've Been Selected to Lead...



- Fictitious pilot rollout of tablet computers at VISN 43
  - Assemble your team
  - Plan the project
  - Select and implement the technology
  - Support the product
  - Measure effectiveness
  - Support national rollout decision

# I've Never Done this Before...



# Initial Needs for Tablet PC

1. Clinician can use device to record changes to patient's status
2. Intuitive user interface – will not require significant training
3. Device can be taken throughout hospital, including bedside
4. Device can be easily carried by all personnel
5. Device can withstand drops without losing data
6. Product is a best value procurement decision
7. Wireless



# What They Wanted...

- ✓ Record patient changes
- ✓ Easy to use
- ✓ Portable
- ✓ Light weight
- ✓ Durable
- ✓ Best value
- ✓ Wireless



# What They Got...



- ① Record patient changes
- ① Easy to use
- ① Portable
- ① Light weight
- ① Durable
- ① Best value
- ① Wireless

# Product Effectiveness

- Maximize your technology investment by focusing on these goals
  - Meet the user's needs
  - Realize desired benefits
  - Support evidence-based decision making
  - Gather and leverage lessons learned



# Key Principles by Project Stage

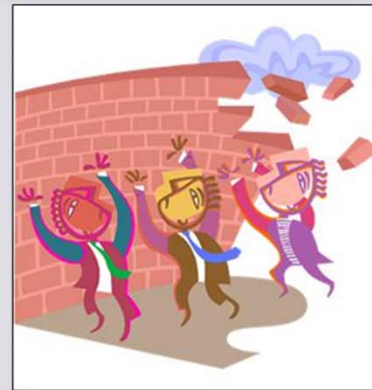
PLAN



EXECUTE



MAINTAIN



# “Planning” to Succeed



- Capture user needs and preferences
- Define expected benefits and measures
- Review lessons learned from similar projects

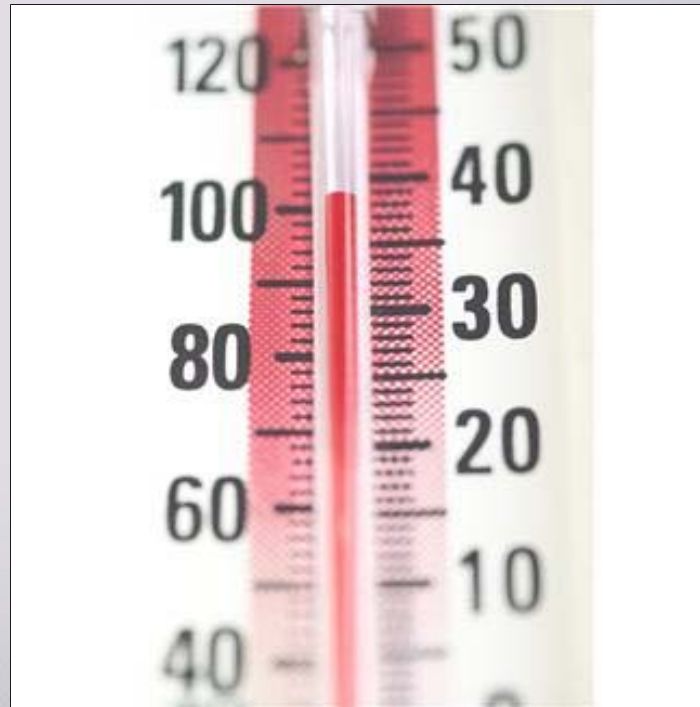
# Capture User Needs

- Identify user and stakeholder groups
- Gather user needs and preferences (survey)
- Plan for milestones and checkpoints



# Performance Management

- “If you cannot measure it, you cannot improve it.”  
– Lord Kelvin



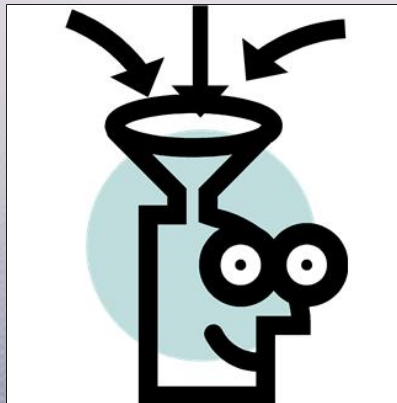
# Define Expected Benefits

- Build consensus on project benefits
  - Improved health outcomes
  - Improved satisfaction
- Agree on how to measure each benefit
  - Number of adverse events
  - Veteran and clinician satisfaction surveys



# Lessons Learned

- Reflect back on similar experiences
  - Determine if this has been done before (Yammer, conferences, research)
  - Meet with those that have “been there and done that”
  - Gather templates and example documents for project





# Plan the Tablet PC Project

- ① Understood user expectations for the technology
- ① Established consensus on the project benefits and measures
- ① Gathered information from similar projects

# “Executing” Effectively



- Hold checkpoints to confirm alignment with user needs and project goals
- Understand impact of changes to the project
- Measure the baseline (How are we doing now?)

# Alignment with User Needs

- Checkpoints to confirm technology meets user needs and workflow
- Verify ease-of-use
- Ensure product tests are based on user needs
- Confirm operational readiness and support



# Example: Operational Readiness and Support

Operational Readiness Checklist				
Project Name Project Description Planned Production Deployment Date				
<b>High Level Readiness Criteria:</b> <ul style="list-style-type: none"> <li>1. Hardware</li> <li>2. End user</li> <li>3. Performance</li> <li>4. Support</li> <li>5. Security</li> <li>6. Testing</li> <li>7. User Acceptance</li> <li>8. User Guide</li> <li>9. Helpdesk</li> <li>10. Installation</li> <li>11. Implementation</li> <li>12. Customization</li> <li>13. Operational</li> <li>14. Disaster Recovery</li> </ul>				
<b>Detailed Readiness Criteria:</b>				
<b>Readiness Criteria</b>		<b>Responsible Party</b>		
<b>1. Hardware</b>		<b>2. End user device</b>		
1.1 Hardware requirements including disk space requirement have been given to support groups for resource allocation.		2.1 Required hardware devices (PCs, printers, etc.) and software have been installed by End Device support groups and products adhere to product support plans.		
1.2 The installation and configuration requirements have been met based on requirements: <ul style="list-style-type: none"> <li>Unix OS</li> <li>Windows OS</li> <li>Network connectivity</li> <li>Redundancy system</li> <li>Backend printing</li> <li>Offline storage for reports and audit log</li> </ul>		<b>3. Performance</b>		
		3.1 Service Level Agreement (SLA) on application performance has been defined, documented, communicated, and accepted by the customers.		
		3.2 Performance requirements have been given to and reviewed by EIE for system configuration.		
		3.3 User load requirements have passed all load tests including maximum number of Users.		
		3.4 Performance data is being fed to performance dashboard system (EMF-Enterprise Management Framework)		
		3.5 Schedule maintenance milestone dates for application, system, database, and network tuning has been defined and communicated.		
		<b>4. Support</b>		
		4.1 On-going support has been adequately staffed. Roles and responsibilities have been defined, documented, communicated, and accepted by all parties involved: <ul style="list-style-type: none"> <li>Windows, DBA, Ops</li> <li>End device support</li> <li>Security Team</li> <li>Helpdesk</li> <li>Application support</li> <li>User support</li> </ul>		

# Impact of Project Changes

- Process to manage changes to projects
  - Communicate effectively
  - Incorporate changes into plan
- Understand “ripple effect”
- Identify risks
- Capture lessons learned  
(How would you do things differently next time?)



# Measure the Baseline

- Assess current performance
  - Key metrics to evaluate effectiveness of current state
  - Existing performance targets
  - Available reports and sources of information
  - Satisfaction
  - Support



# Execute the Tablet PC Project

- ① User needs and preferences accurately reflected in technology requirements
- ① Understood how changes to project impacted the technology product to be deployed
- ① Established comparative performance baseline

# “Maintaining” Success



- Confirm deployed technology in line with identified capabilities
- Measure the expected benefits
- Assess satisfaction
- Document and share lessons learned

# Verify Deployed Technology

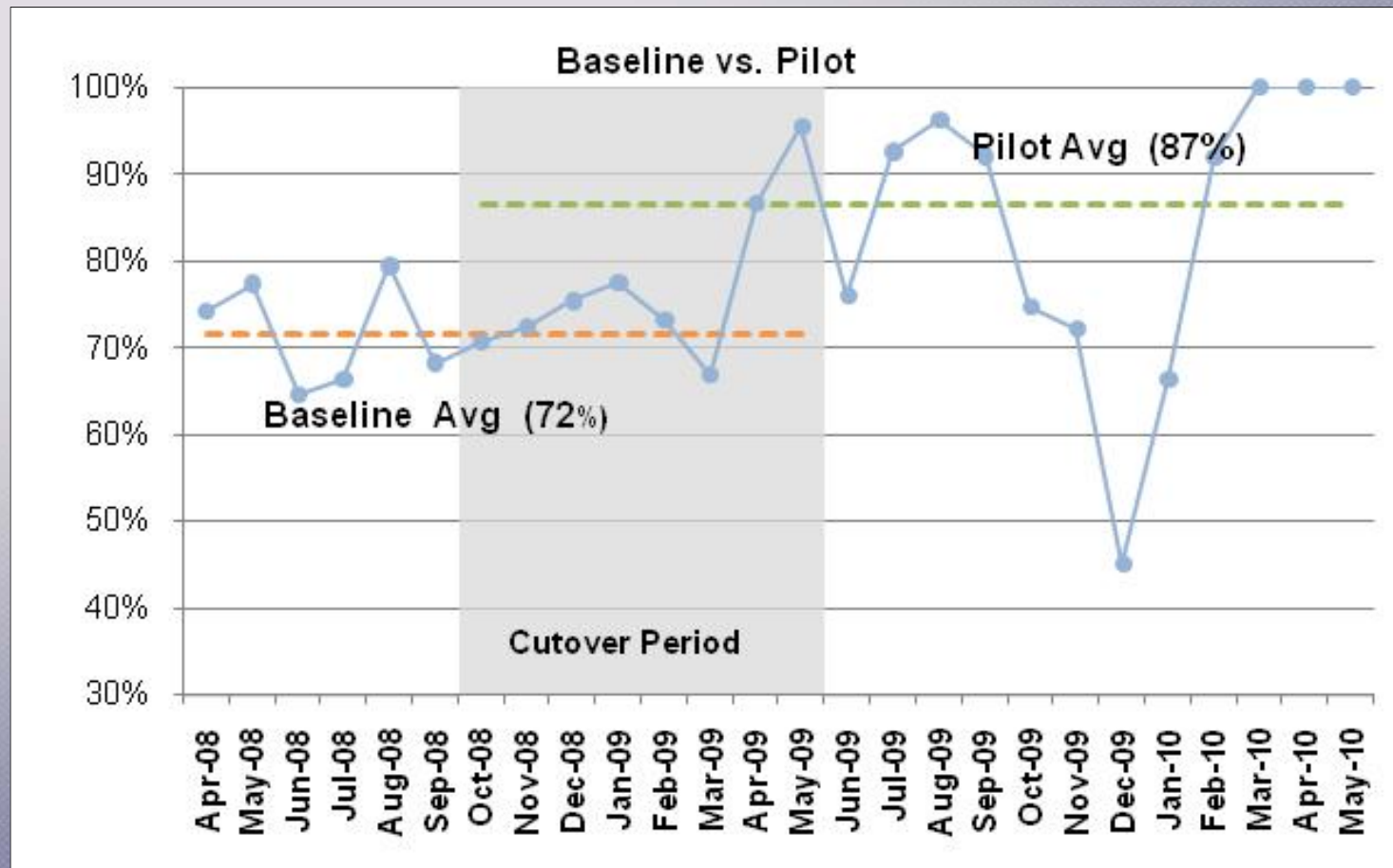
- Product operates the way users' require
- Support in place to ensure the product meets the user needs long-term
  - Unplanned problems
  - Planned upgrades and preventive maintenance



# Measure Expected Benefits

- Compare baseline measures to performance in the new environment
- Optimize the solution by setting goals and continuing to measure performance
- Gather evidence to facilitate the pilot expansion decision
- Identify any unexpected benefits or unintended consequences

# Example: Benefit Analysis



# Evaluate Satisfaction

- Understand impact of new technology on user satisfaction
- Survey user base to gather direct feedback on the product and demonstrate commitment to user community

What best represents your primary occupational role at the VA?

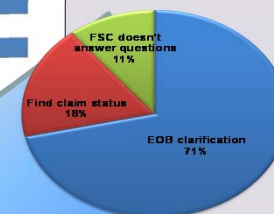
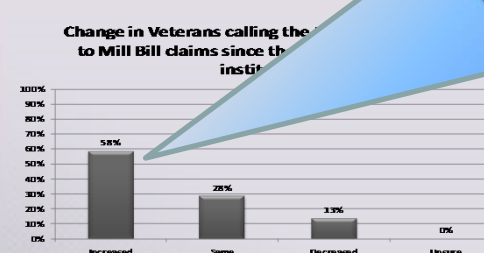
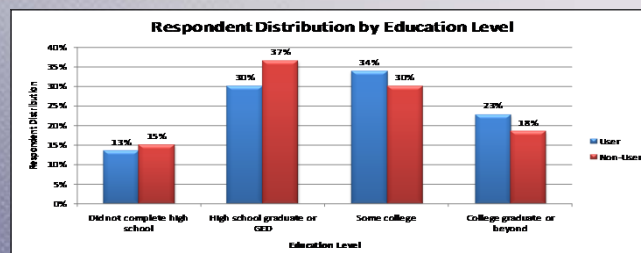
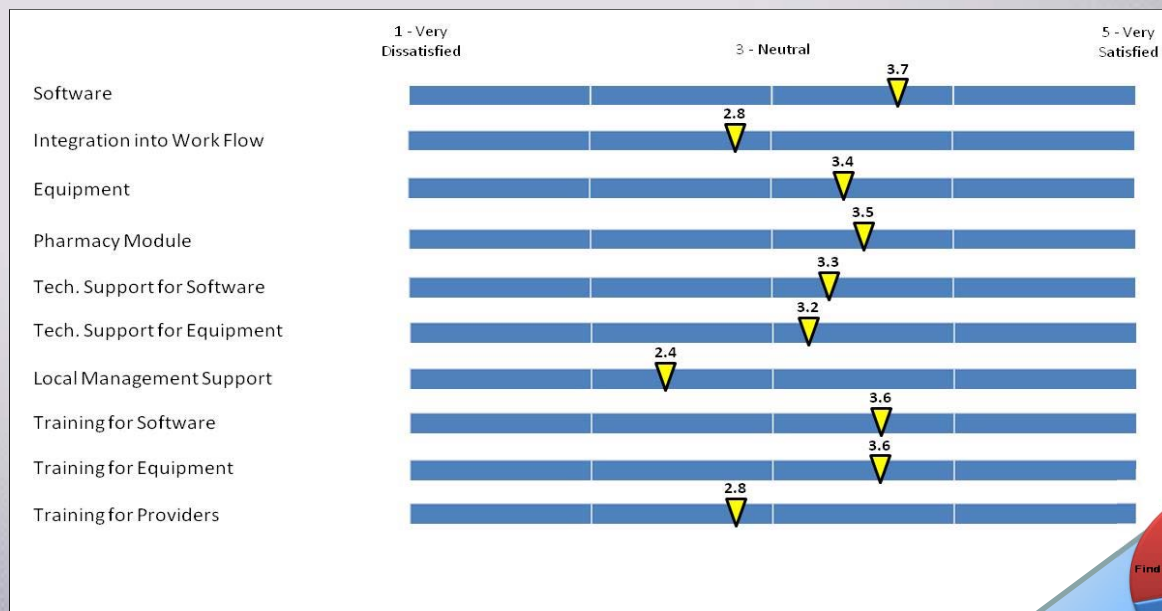
- ☐ Anesthesiology Provider (e.g., Anesthesiologist, CRNA)
- ☐ Nurse Manager
- ☐ Nurse (RN, LPN)
- ☐ Software/application support role (CA Representative)
- ☐ Other (please specify): \_\_\_\_\_

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know / NA
a) The system has improved our management of patient outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) The system has improved patient safety.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) The system has increased the efficiency of our clinical workflow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) The system has enhanced information sharing among staff members in different clinical care areas and roles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) It would be beneficial for us to return to the previous paper-based system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



# Evaluate Satisfaction (cont.)

- Provide empirical data to support decision making



# Lessons Learned

- Document project successes and challenges
  - What went well?
  - What could have gone better?
  - What should we do differently next time?

# The Retrospect: Learning *after* Doing

- What was the objective of the project?
- What did we achieve?
- What were the successes? Why? How can we repeat them?
- What were the disappointments? Why? How can we avoid them in the future?





# Lessons Learned

- Disseminate lessons learned
  - Share expertise with other project teams
  - Collaborate with colleagues for continued learning and improvements

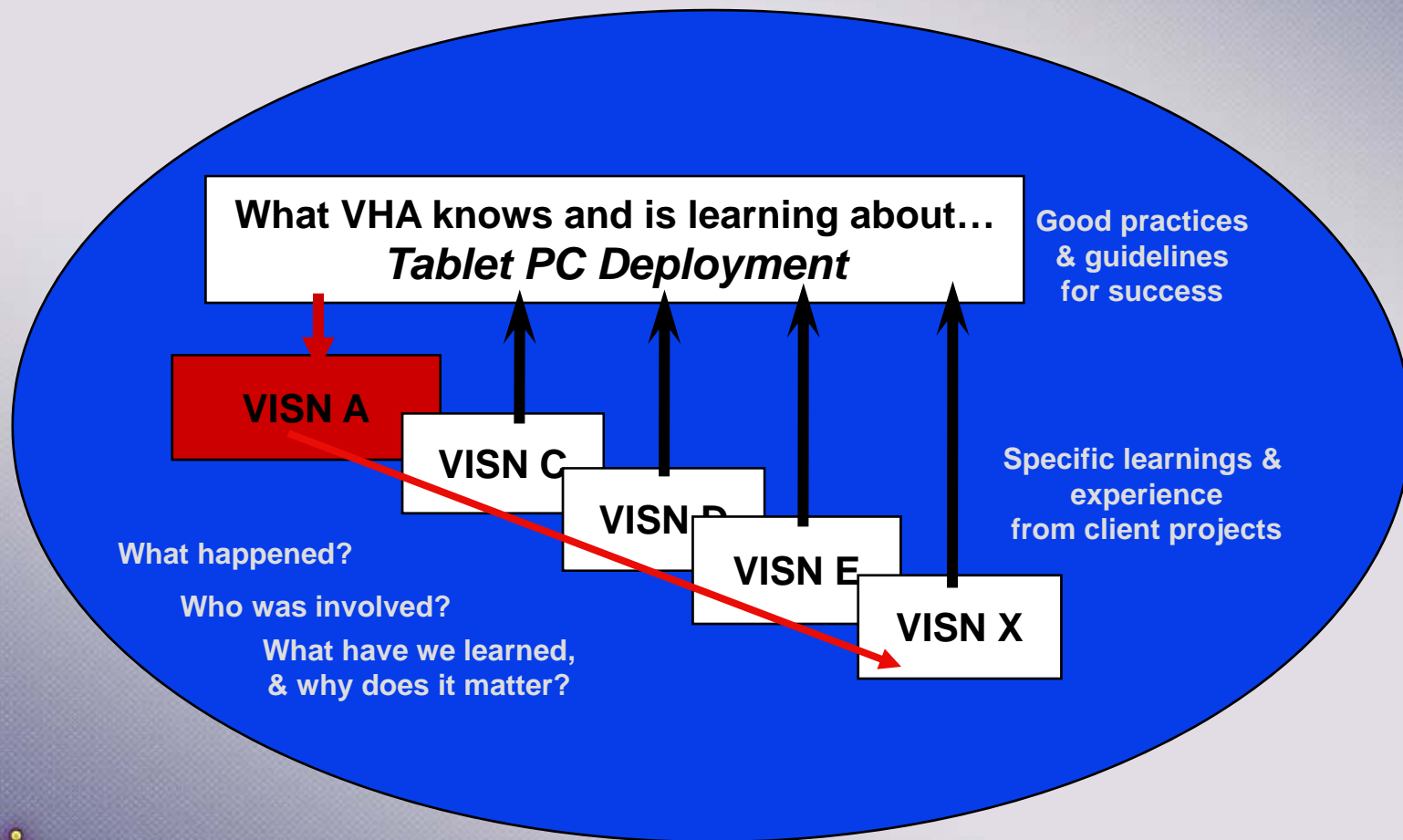
## Product Effectiveness VISN CIS Implementation Observations



continually had to seek approval to access workstations, make configuration changes, modify VistA code, etc.

- **Importance of a test or “lead” site.** One site was used as the test/lead site prior to implementing both ICU and ARK to other facilities. In each case the core team spent significant time with the vendor working configuration and interface issues, as well as system/interface testing. In addition, this time at the lead site assisted to building a Knowledge Base among the core team, which contributed to their ability to effectively implement CIS at other facilities.

# Building Knowledge Example



# Maintain the Tablet PC

- ① Confirmed that end product meets the user requirements
- ① Verified effectiveness of product support
- ① Compared actual project benefits to expected goals
- ① Captured user satisfaction with deployed product
- ① Identified project lessons learned and disseminated to other teams



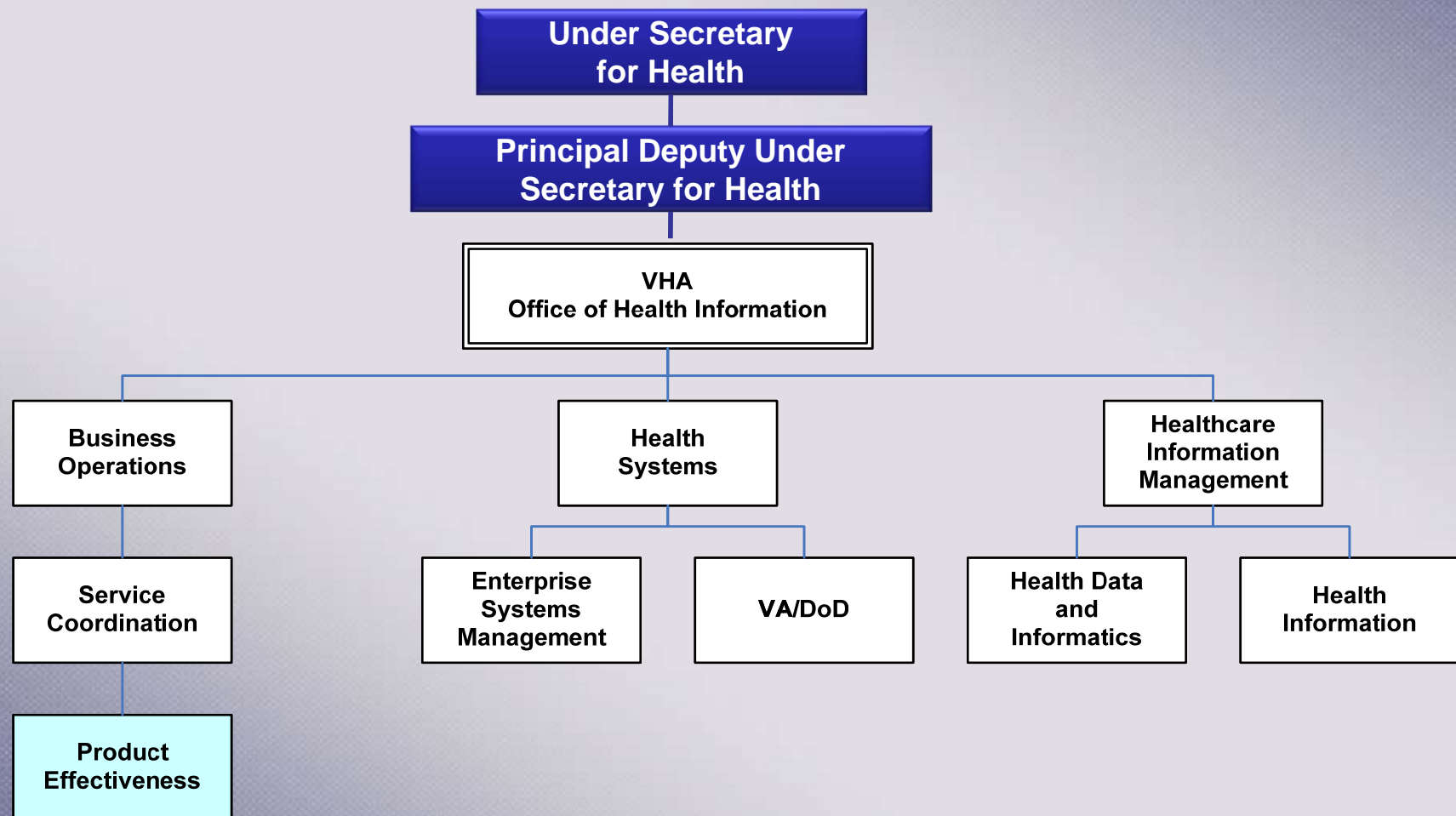
# What They Got This Time...



# The Product Effectiveness Mission

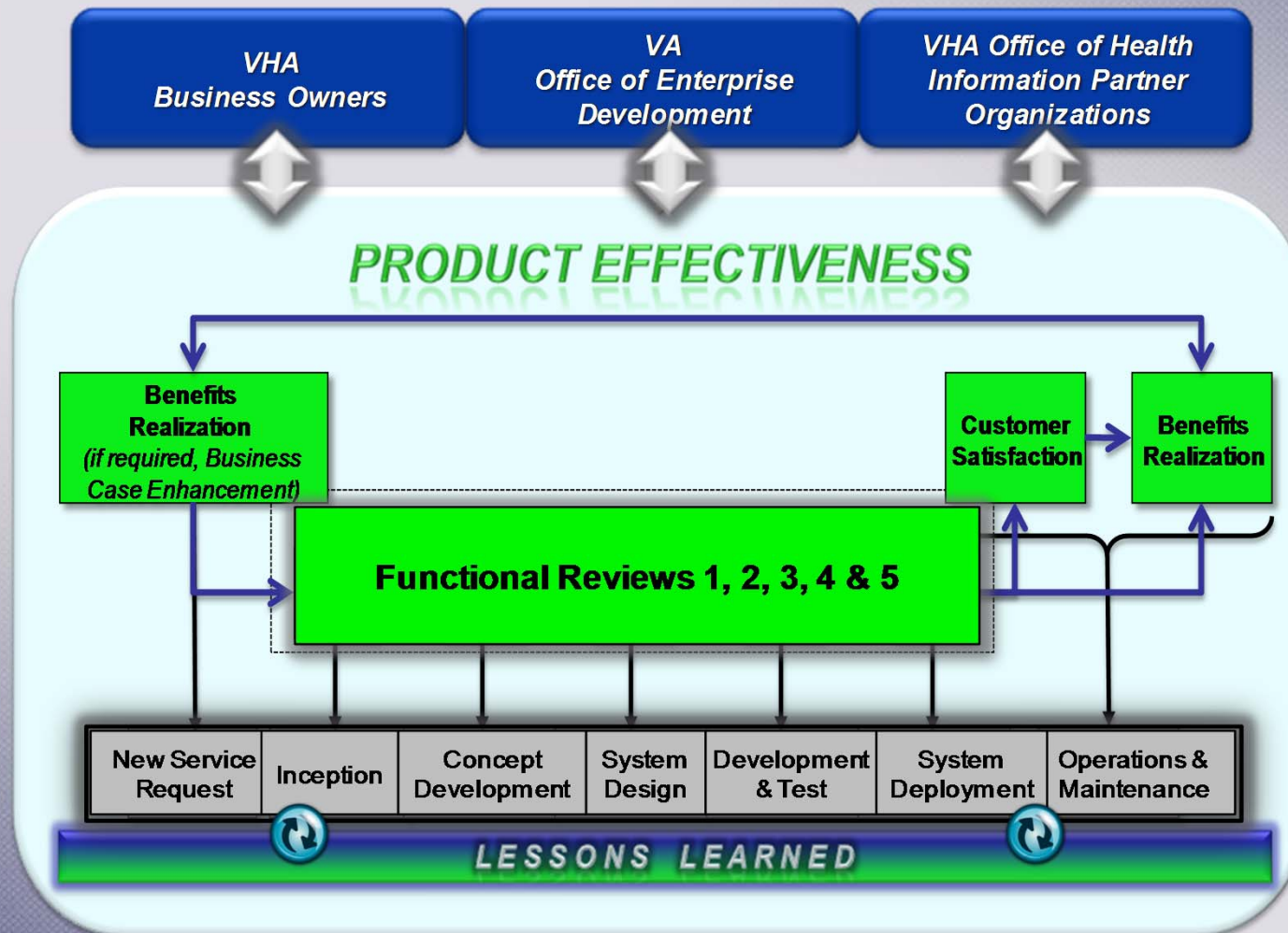
- Ensure your Health IT product is functional and operational
- Maximize the benefits of your IT investment
- Ensure end user satisfaction and usability
- Ensure continuous process improvement
- Obtain evidence-based information for decision support

# Product Effectiveness Alignment in VHA

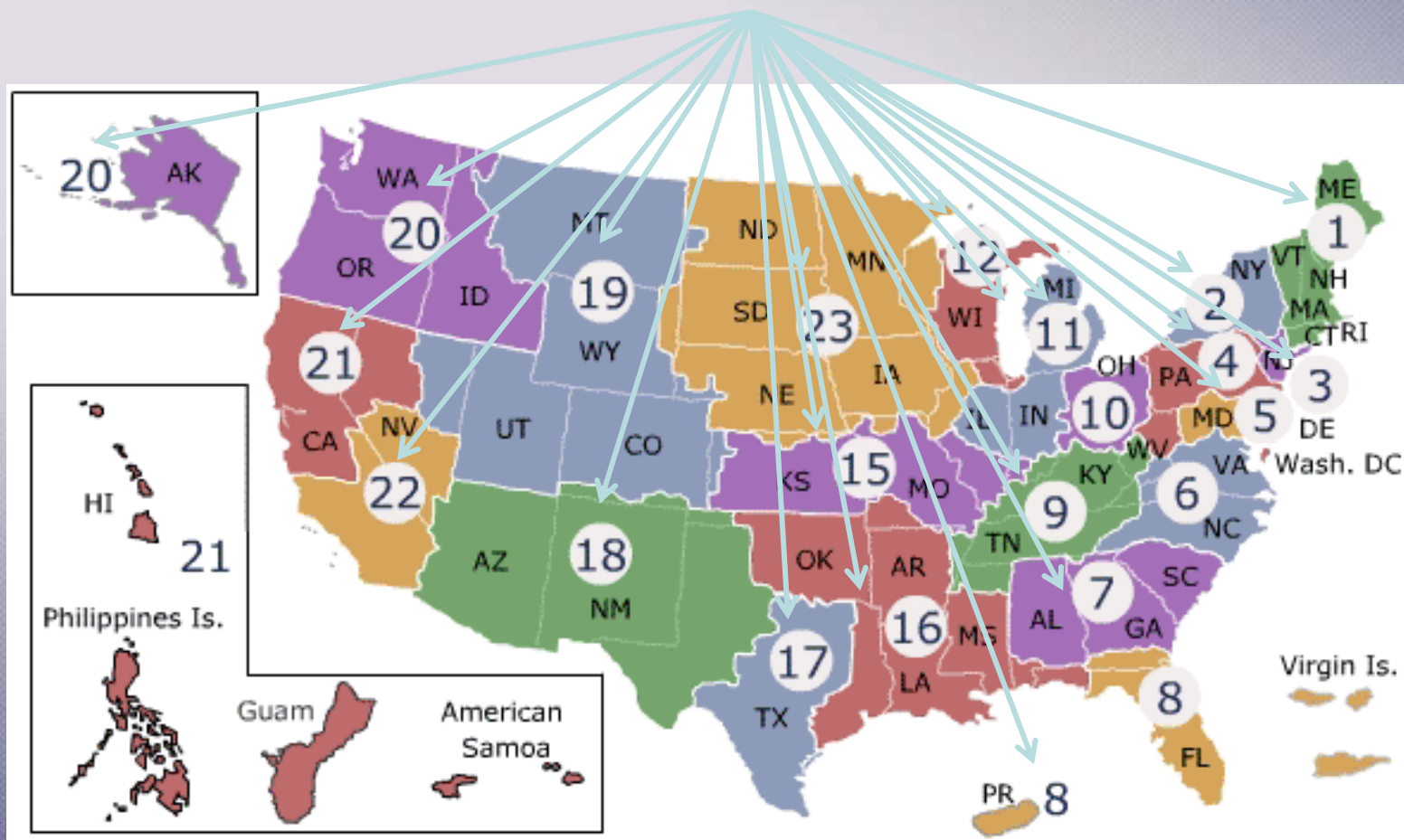




# The Product Effectiveness Continuum



# Product Effectiveness – Nationwide Reach



# Final Thought

*“Product Effectiveness is the critical bridge between what we have currently, its actual value, and what we need next.” C. Luigart, Dec 2009*

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# Questions?