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A Hybrid Approach to the Use of Agile in Health IT

Session 147 March 7, 2018

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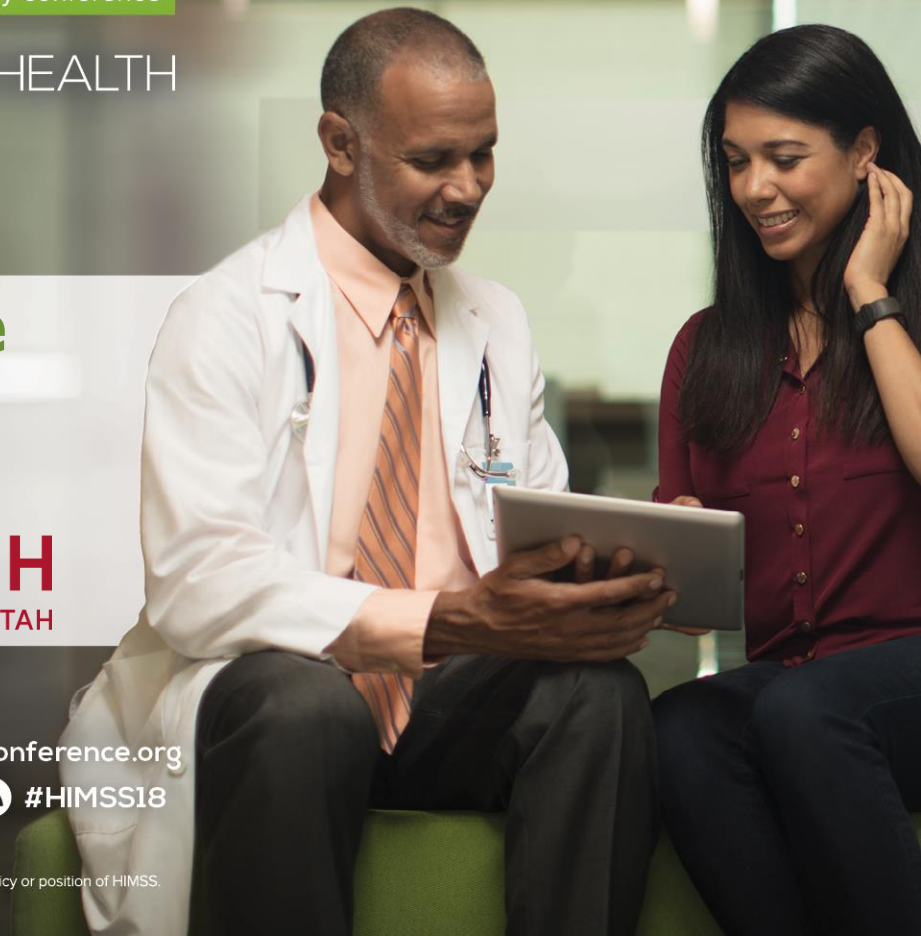
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Conflict of Interest

Spencer Reeser-Stout, CSM, MBA

Has no real or apparent conflicts of interest to report.

Agenda

- Introduction to University of Utah Health IT delivery process
- Overview of Agile
- Overview of Scrum process, roles, meetings, artifacts
- Agile as incorporated into a hybrid delivery process
- Example clinical project delivered using Scrum
- Role of project managers in our hybrid Program Management Office (PgMO)

Learning Objectives

- Discuss the key components of Agile and the Scrum framework
- Discuss ways in which Agile can be embedded into traditional Health IT delivery and benefits realized in doing so
- Describe the role and functions of the Project Management Office and project managers in traditional, Agile and hybrid Health IT delivery

Our Health Organization

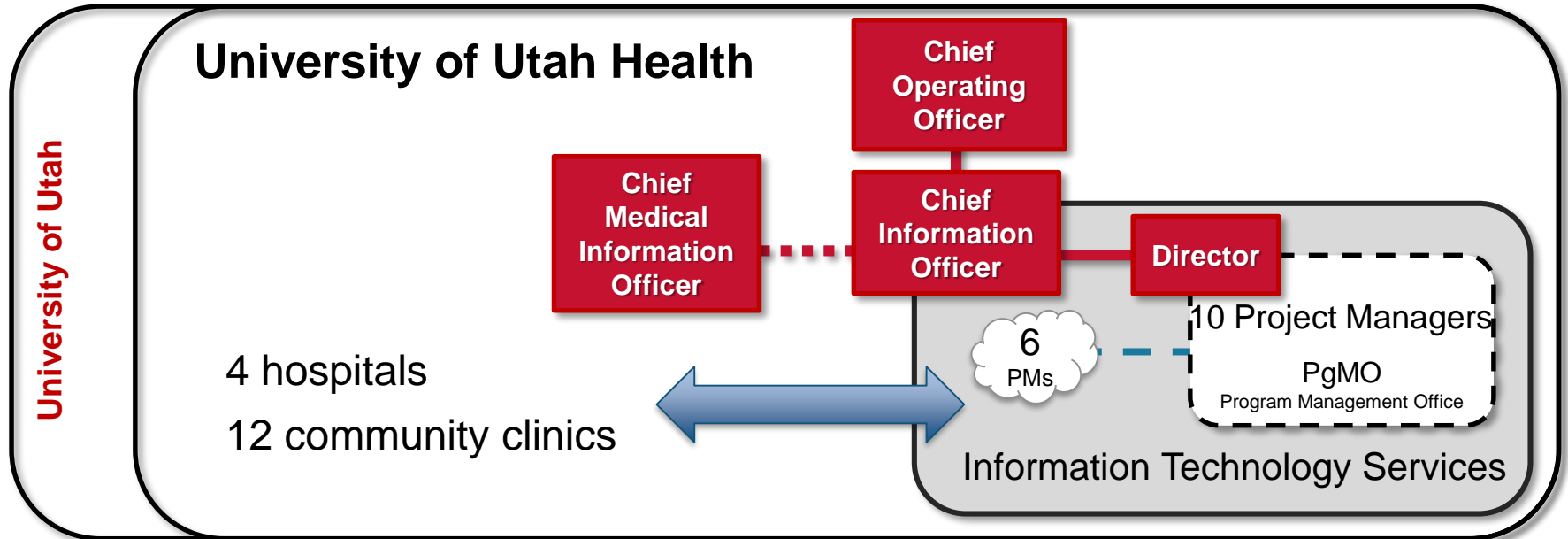
University of Utah Health

- Only academic medical health care system in Mountain-West region
- Provides care for Utahns and residents of 5 surrounding states

- 1,400+ board-certified physicians
- 5,000+ health care professionals
- 744 staffed beds
- 4 hospitals
- 12 community clinics



Where We Fit in Health IT

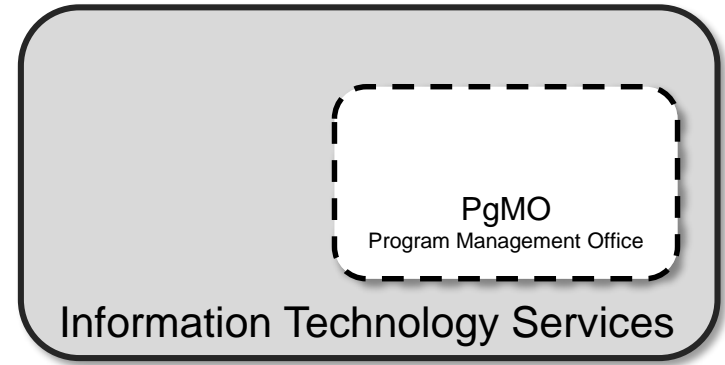


Where We Fit in Health IT

University of Utah Health

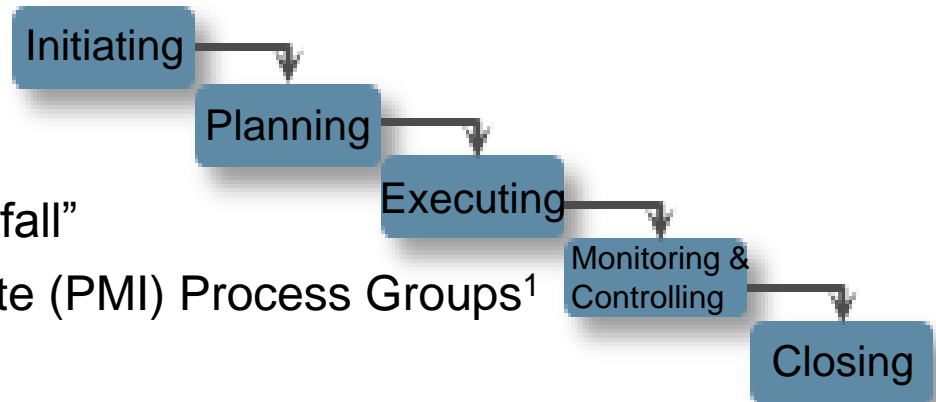
Program Management Office (PgMO) established 2008

- Standardized Project Management (PM) Methodology
- Standardized PM tools and processes
- Established IT portfolio governance
- Aligned with clinical and business operations



PgMO Delivery of Health IT

- Project work in IT
 - Predictive
- Traditional Methodology – “Waterfall”
 - Project Management Institute (PMI) Process Groups¹
- Proven industry standard, works well for *most* infrastructure and clinical projects



Process Groups & Knowledge Areas¹

Initiating

Planning

Executing

Monitoring &
Controlling

Closing

Integration
Management

Scope
Management

Schedule
Management

Cost
Management

Quality
Management

Resource
Management

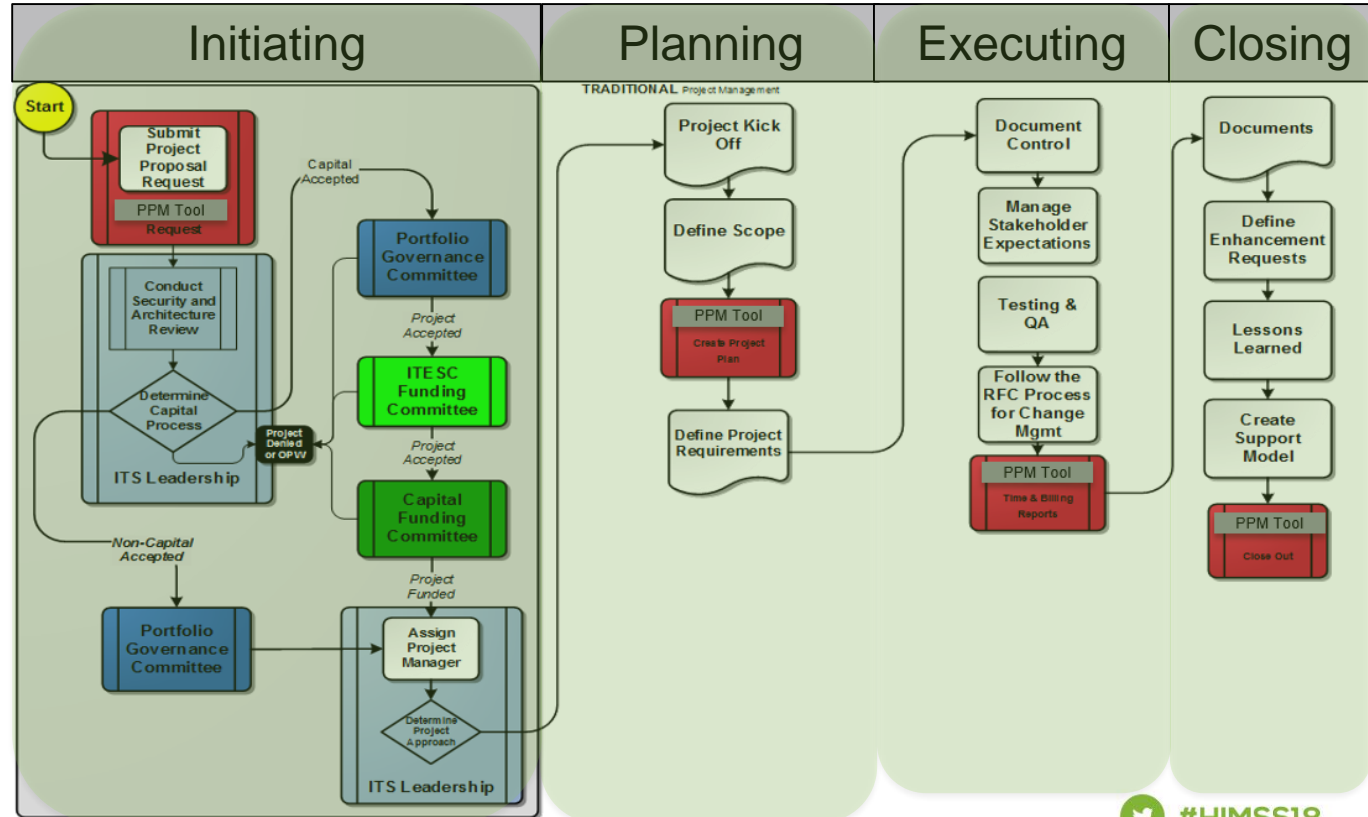
Communications
Management

Risk
Management

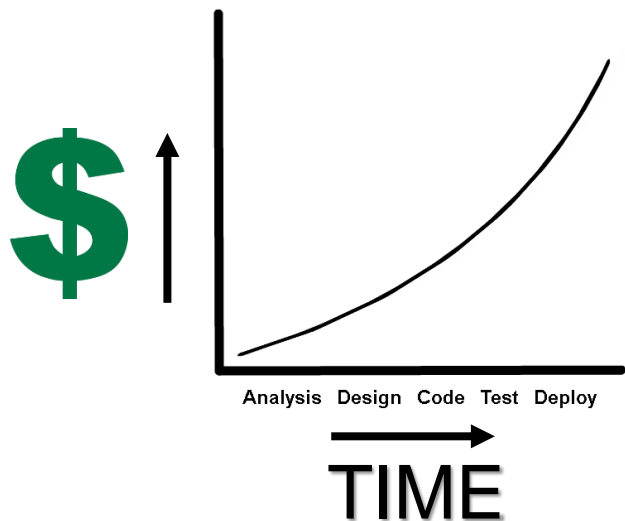
Procurement
Management

Stakeholder
Management

U of U Health
 IT Project Process Map



Core Challenges of Traditional Delivery



- Not all requirements can be planned upfront for some services. Customers are non-technical and don't understand capabilities of EHR
- Changes in clinical requirements— “scope creep”
- Quick deployment turnaround required for patient care workflows and compliance audit findings
- Communication with customers and stakeholders

Introduction to Agile

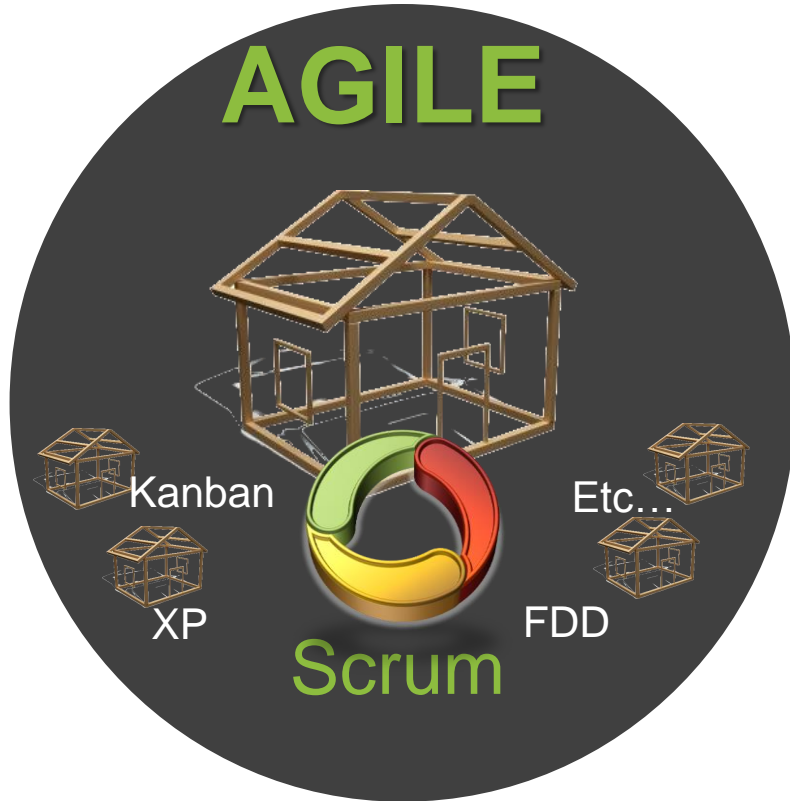
- Formalized by industry thought leaders in 2001 (in Utah!)
- Agile is a ***set of values and principles***
- The Agile Manifesto² <http://agilemanifesto.org/>

Individuals and interactions over Processes and tools

Working software over Comprehensive documentation

Customer collaboration over Contract negotiation

Responding to change over Following a plan



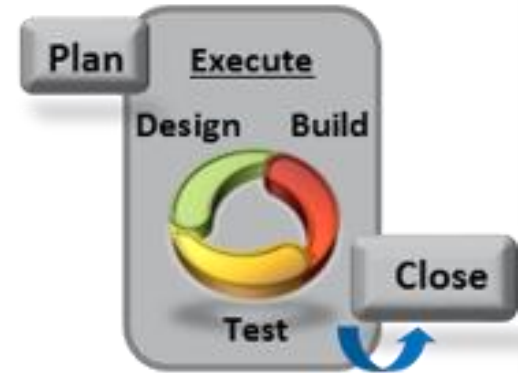
A few agile principles²:

- Customer satisfaction through continuous delivery in shorter timeframes is priority
- Changing requirements are welcomed
- Collaboration and communication with customers is integral and required
- Iterative, adaptive approaches to IT delivery are preferred

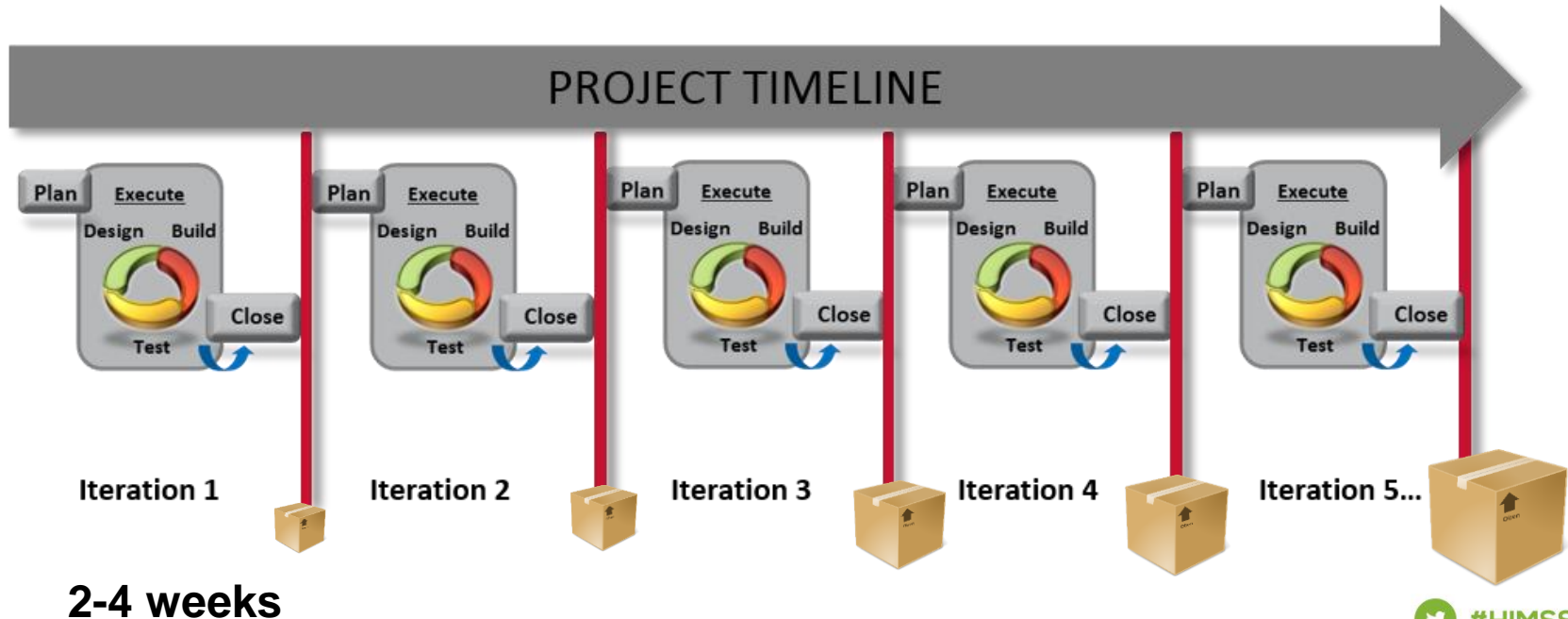
Several **frameworks** provide structure for agile

Introduction to Scrum

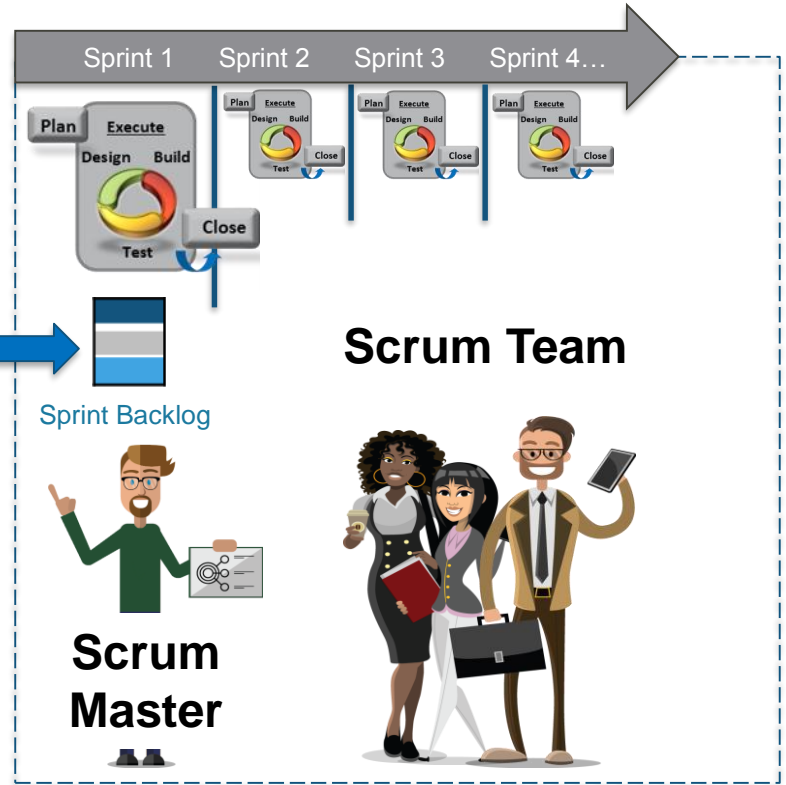
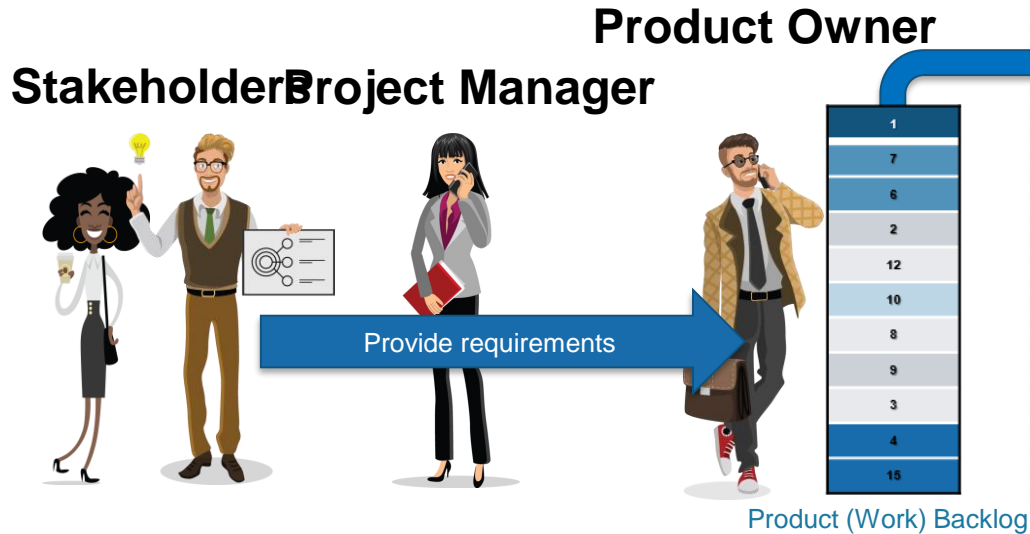
- Scrum is an Agile *framework*
 - Uses incremental, iterative approach to IT delivery
 - Structured and time-boxed using “sprints”
- Sprints follow basic PMI process in condensed iterations
- Scrum objective: deliver production-ready tasks, features, deliverables at sprint-end; gather feedback



Agile Projects Using Scrum



Product Owner provides requirements during the sprint. Stakeholder executes design, build and test functions



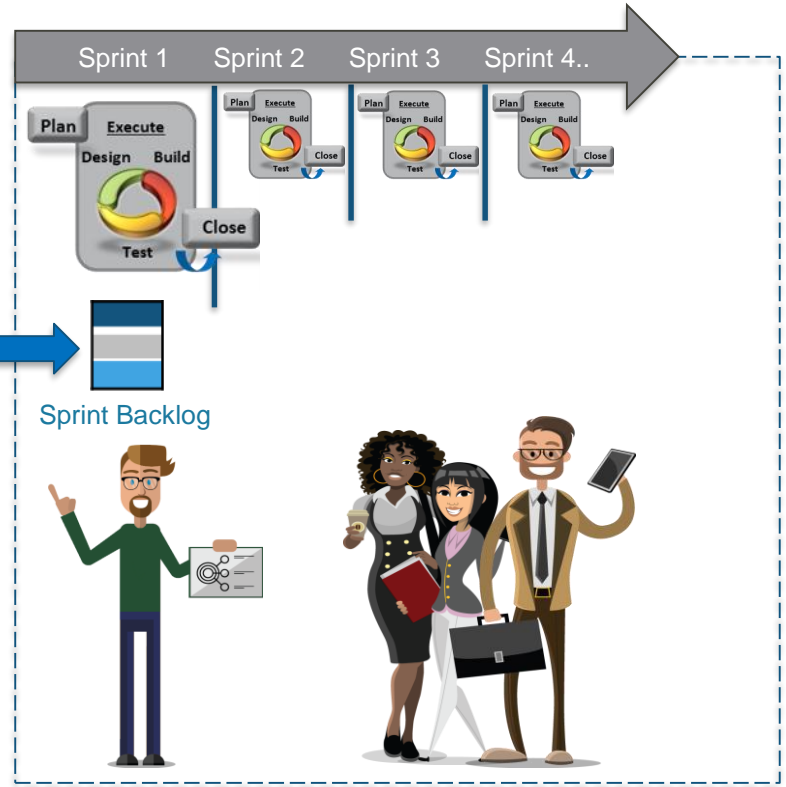
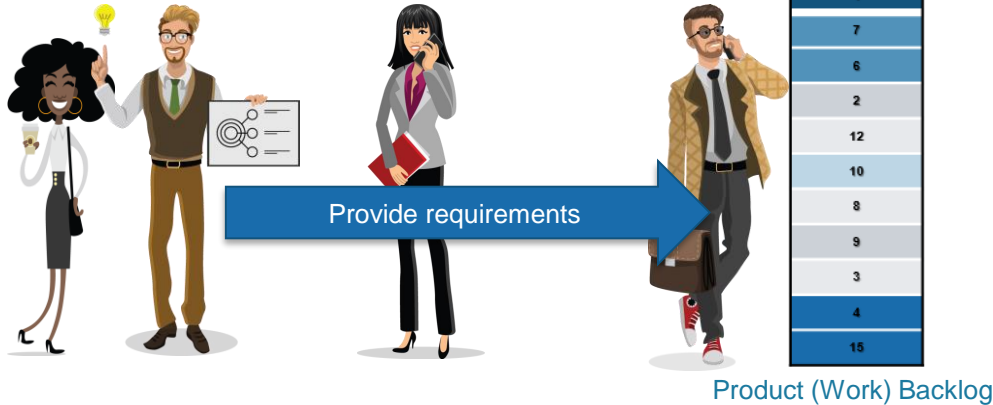
Stakeholders provide requirements

Product Owner collects and prioritizes tasks in the **Product (Work) Backlog**

Project Manager oversees project management and provides project status

Scrum Master facilitates Scrum process during each sprint

Scrum Team pulls tasks from **Sprint Backlog** during each sprint. Executes design, build and test functions



Agile at U of U Health IT

- Projects and programs governed by capital budget / fiscal year cycles
- Some scoping / planning required upfront
- Governance committees approve and prioritize work
 - Budgets, procurement/purchasing regulations, deadlines dictated by facilities, upgrades, environment management
- Project managers are still needed

Agile at U of U Health IT

Categories of IT projects

1. Predictable / structured

- Infrastructure, upgrades, vendor-driven implementations

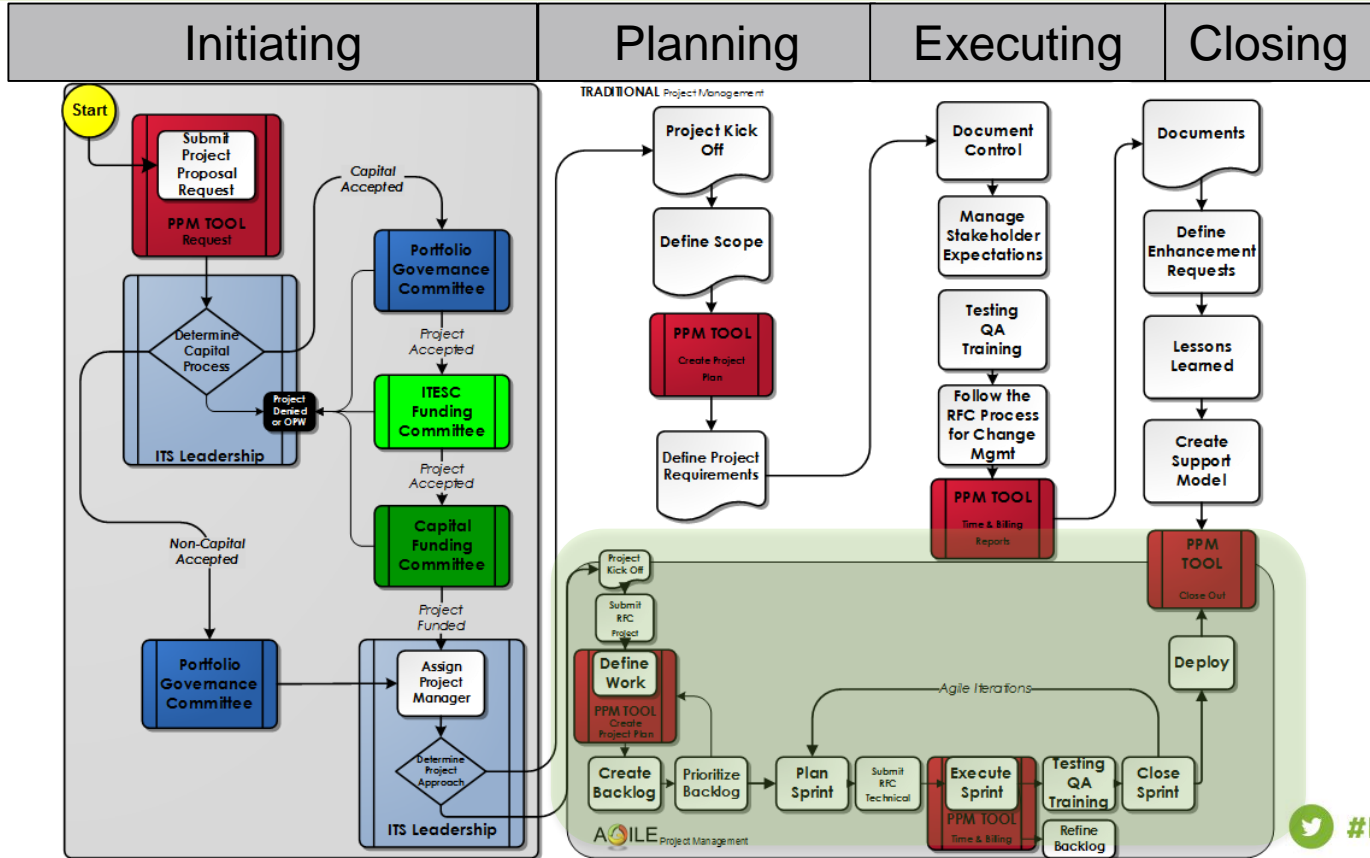
2. Uncertain / need flexibility

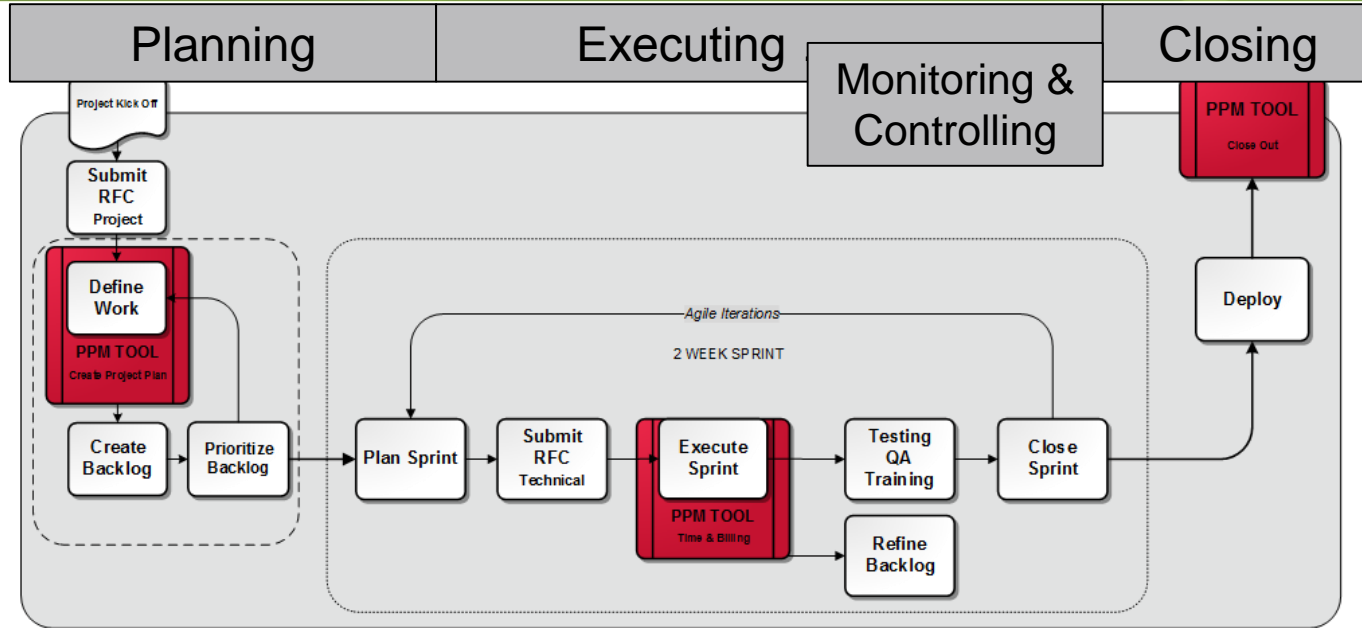
- App development, clinical “work packages”
- Projects and work where it makes sense

3. Hybrid programs / projects

- Parent program run waterfall with agile subprojects / teams







Project Kickoff Meeting

Requirements Gathering Meetings

Sprint Planning Meeting

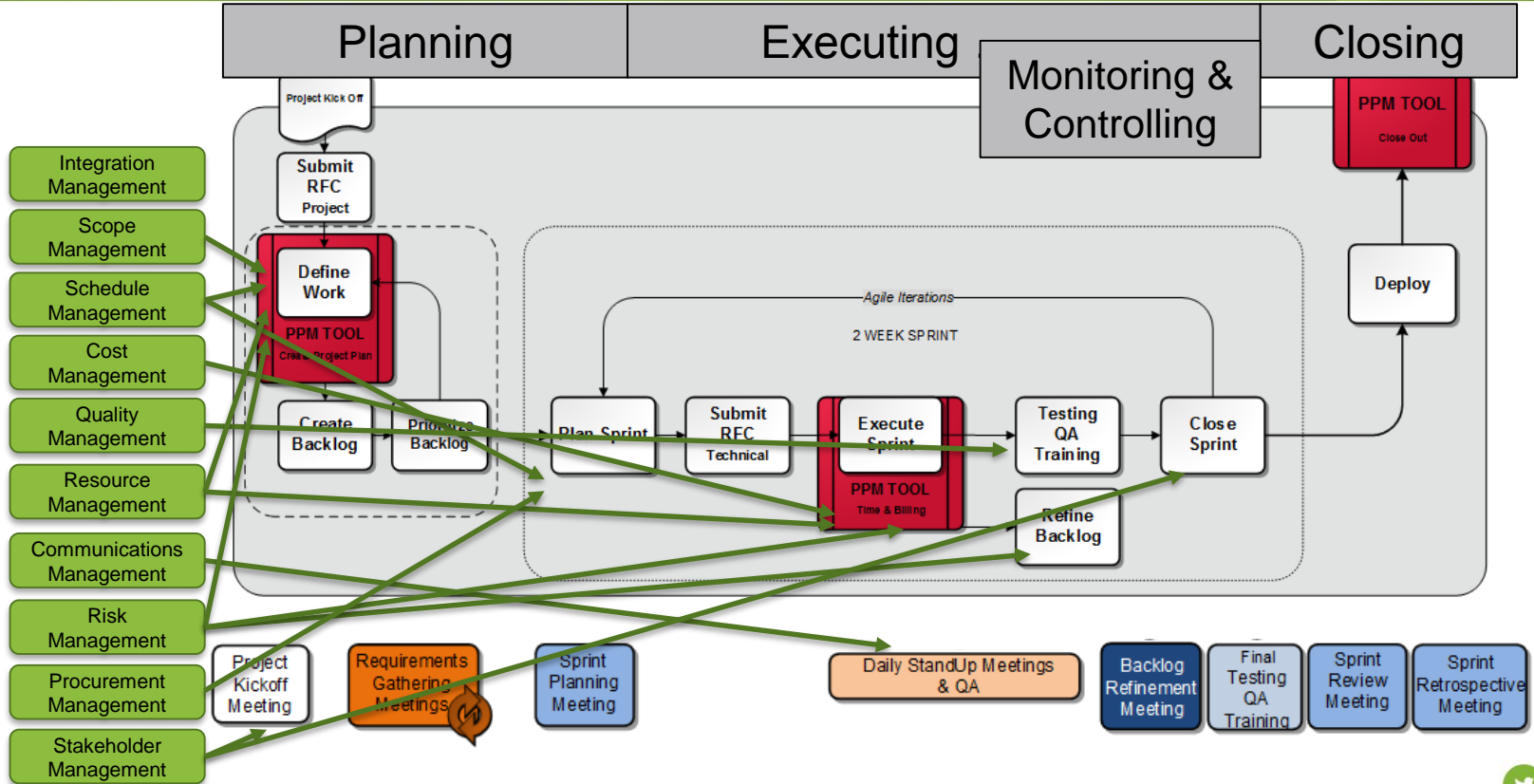
Daily StandUp Meetings & QA

Backlog Refinement Meeting

Final Testing QA Training

Sprint Review Meeting

Sprint Retrospective Meeting



The Hybrid PMO at U of U Health

- Provides IT project managers for clinical, business, infrastructure, construction projects
- Provides standardization
 - Process/methodology, tools, templates, artifacts, training
- Plays integral role in
 - Governance, procurement activities, scope definition, reporting and executive dashboards
- Provides direction on project approach (waterfall, Agile, hybrid)

The Agile Project Manager at U of U Health

- Is accountable for sprint and project deliverables
- Monitors milestones
- Reports project status
- Tracks project resource time, billing, project financials
- Fills Agile roles (like Product Owner and others) as needed
- Interacts with clinical customers frequently



Clinical Provider Packaged Delivery

Example of Scrum at U of U Health

- “The Surge” - large backlog of enhancements to system workflows in EHR system, new modules, reports, etc.
- Identified “Provider Leads” by specialty area to play Product Owner roles – collected, prioritized and approved work items
- Divided EHR support teams into 2 larger scrum teams
- Project Manager / team members played scrum master
- 18 month duration
- Time-boxed each clinical specialty area into 2-4 months, sprints

Benefits Realized

- Selected the “right” work for specialty areas
- Received attention and availability of busy stakeholders because of sprint time-boxes / deadlines and scheduling coordination
- Increased energy within teams doing the work because of the enhanced customer interaction and collaboration
- Completed a significant amount of work
- CMIO went from having complaints to not have any

The Ripple Effect to Operations

- Web Development team and Service Management teams exclusively use scrum / agile now for most all work (project and operational)
- Other individual teams now organize non-project and other planned work using scrum, backlogs, sprints
 - Ambulatory team
 - Inpatient team
 - Cardiovascular team
 - IT Training team
 - Pharmacy team

Benefits of Scrum

- Scrum can work at team, department, organizational levels
- Scrum can be applied at the project or scaled to a program level
- Scrum can be applied in “hybrid” waterfall/agile projects or programs
- Promotes collaboration, adaptability, quick turnaround of deliverables

Strategies to Become Agile³

- Agile and agile frameworks can be scalable
 - Implement a formal agile framework and associated cultural changes, through “agile transformation” *at the team, department or organizational level*
 - Incorporate agile frameworks and cultural components (or pieces of them) at the project or program level that make sense for the effort

References

- 1 - Project Management Institute. (2017). *A guide to the project management body of knowledge (PMBOK guide)*. Newtown Square, Pa: Project Management Institute.
- 2 - Beck, K. and Beedle, M. (2001). *Manifesto for Agile Software Development*. [online] Agilemanifesto.org. Available at: <http://agilemanifesto.org> [Accessed 12 Dec. 2017].
- 3- Project Management Institute (2017). *Agile practice guide*. Newtown Square, Pa: Project Management Institute.

Character use:

<http://vectorcharacters.net/set/free-vector-business-characters>

Questions

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THANK YOU!

