

UTILIZING LEAN MANAGEMENT PRINCIPLES DURING A MEDITECH 6.1 IMPLEMENTATION

GUIDING PRINCIPLES

“Lean is not just how we did this project; it’s how we do everything. It’s part of our culture and who we are.”



-Jim Papadakos, CFO of Signature and project executive for the MEDITECH 6.1 implementation

During the implementation, the organization aimed to focus on three overriding Lean principles that it applies every day:

1. Continuous improvement:

Never settling for the status quo

2. Eliminate waste:

Recognizing that eliminating waste and cost from the system is necessary for survival

3. Respect for people:

Maintaining a respectful and considerate attitude toward others and their ideas, even when there is disagreement



PRE-IMPLEMENTATION ACTIVITIES

Approximately six months prior to the start of the 6.1 implementation, Signature leadership and Santa Rosa Consulting worked to create a governance structure to oversee the implementation project. During this pre-implementation phase, 18 Kaizen (or continuous improvement) teams were established to identify the most troublesome and least efficient workflows in the hospital, and value stream maps were created for the identified process areas to get the organization ready for change. At this point, implementation project team members, including some of the Santa Rosa Consulting staff, also received additional Lean training.

The Core Team

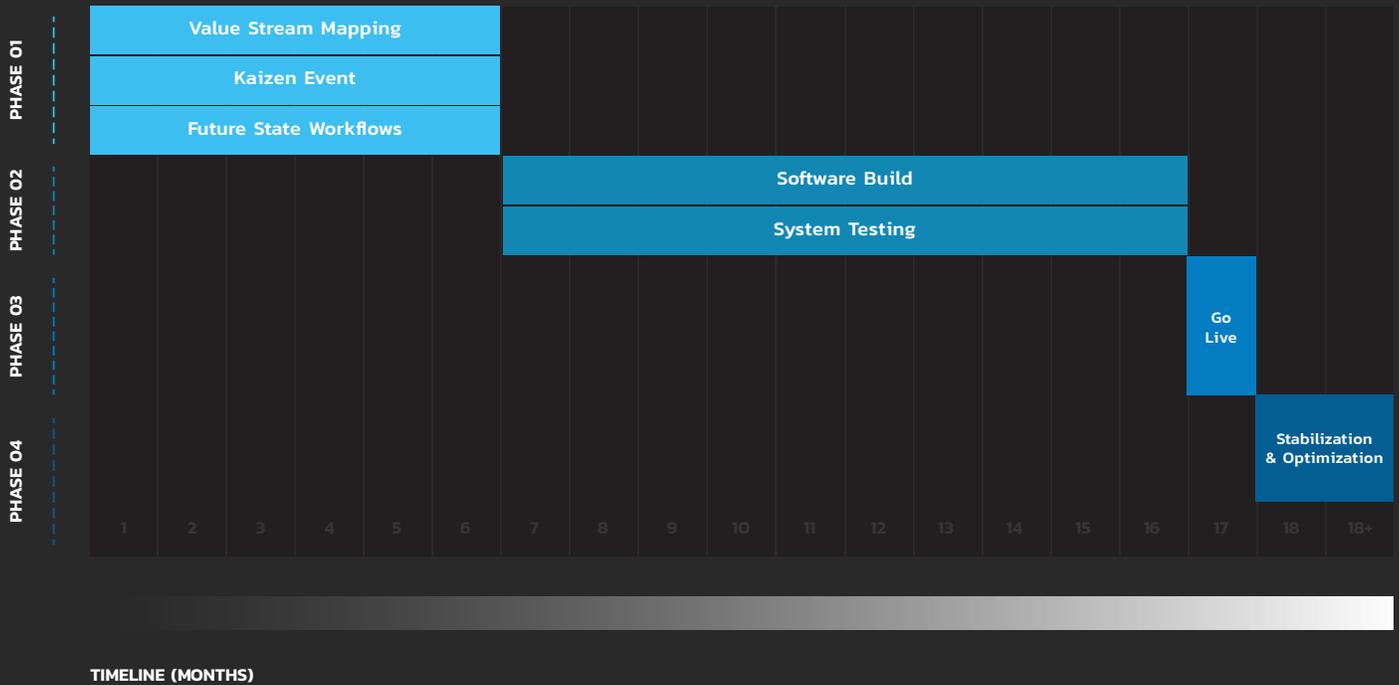
The Kaizen teams, also called core teams under the traditional MEDITECH implementation methodology, were made up of staff from across the organization (nursing, lab, registration, etc.). The teams included:

1. Team leaders with advanced Lean training to ensure the team was properly using Lean management principles
2. A Santa Rosa consultant who served as the subject matter expert on the software's capabilities, as well as MEDITECH and industry-defined best practices
3. A team leader from the operational area most impacted by this project
4. Staff most familiar with the details of the operation who would lead the build of the new system

During the pre-implementation phase, the teams began by “Going to the Gemba,” a foundational Lean principle. Members from across the organization focused on thoroughly understanding the current workflow and process. This included walking the floors of the hospital, sitting in the billing and claims process departments, and standing with patient access staff so team members could see first-hand how each department used the system. By observing hospital staff engaged in their daily work, the team was able to design future state workflows that were more accurate and easier for hospital staff to understand and utilize following the new MEDITECH system implementation.

In all healthcare organizations “workarounds” are created organically over time and become ingrained in hospital staff to the point where they are no longer identified as issues. Utilizing value stream mapping during current state workflow analysis helped the team pull these workarounds so that they could be part of the problem-solving process to be completed as a precursor to designing future state workflows.

IMPLEMENTATION TIMELINE



MONTHS 1-6

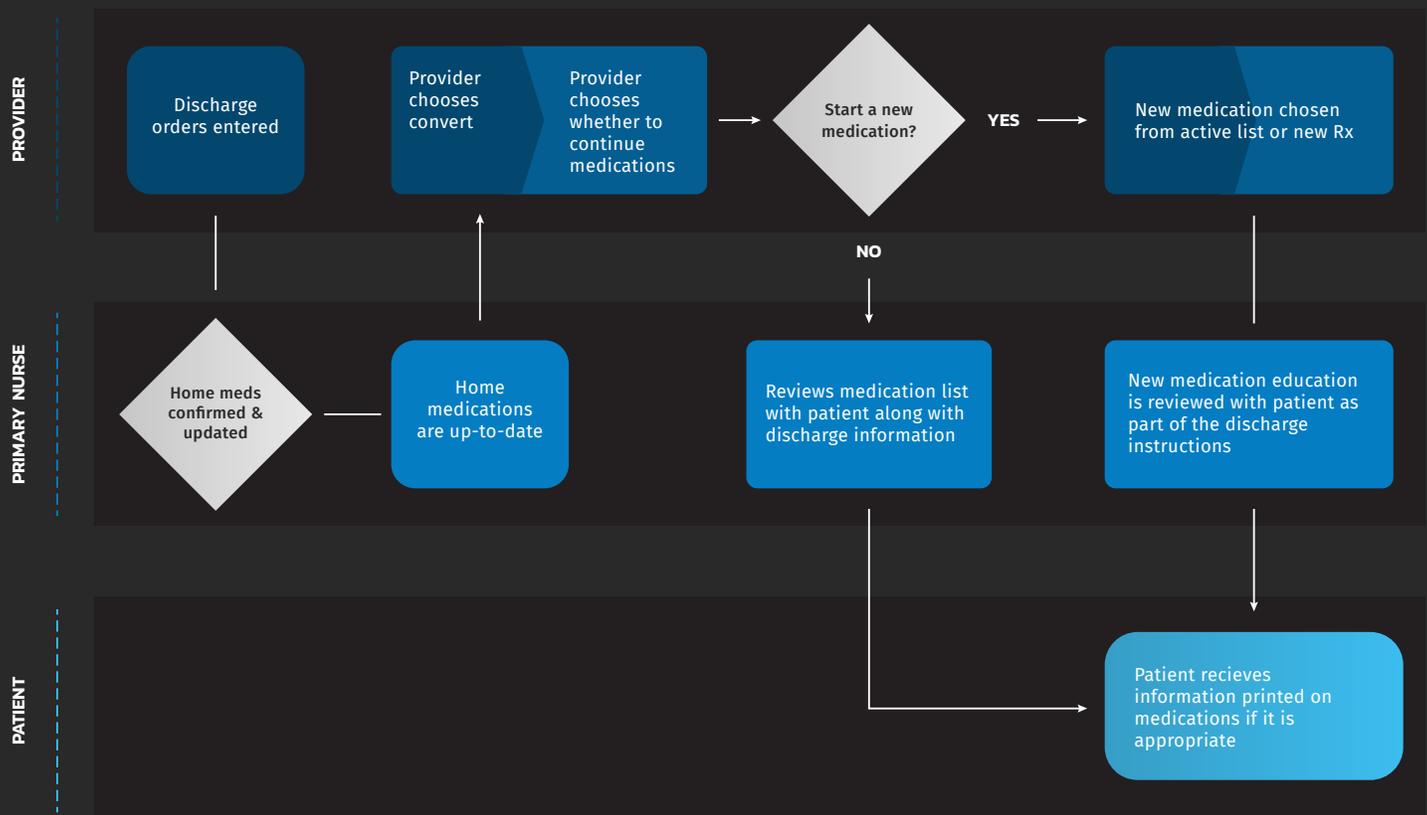
DESIGN PHASE

Prior to the introduction of the READY implementation methodology, MEDITECH implementations began with training on the software and build process. The READY approach identifies the need for a 4-6-month period to review workflows and define a desired future state, keeping in mind the capabilities of the MEDITECH software and defined best practices.

Led by the Santa Rosa Consulting team and MEDITECH implementation specialists, Signature started with the areas identified in the pre-implementation phase and began creating future state value stream maps. Lean principles, tools, and methods were then applied to goal creation and documentation during the design phase.

Once all current state assessments were completed, the team executed a modified Kaizen event. This event allowed key department decision makers and the MEDITECH project team members to come together to review the findings of the current state analysis and collaborate on the best design for the future state of the organization’s workflows. The decision makers prioritized the pain points for their departments, which provided guidance for the project team as they moved forward in the implementation. The project team also shared its system expertise with the department decision makers to help develop new future state workflows where necessary. This collaboration fostered cooperation between the project team and the decision makers while setting the team up for success during the implementation/build phase.

DISCHARGE MEDICATION RECONCILIATION



MONTHS 7-16

IMPLEMENTATION PHASE

Following the design phase, Signature began the implementation phase for MEDITECH 6.1, which included both the software build and system testing.

Software Build

During this phase, core teams began to build out the software according to the future state value stream maps. Because all workflows and processes may not have been reviewed, teams quickly met to ensure that all of these were in unison. As the MEDITECH product is an integrated product, it was essential that the teams not only focused on their areas, but worked with other teams and across traditional department boundaries.

Balanced Scorecard

Throughout the project, but especially during the implementation phase, the balanced scorecard was used continuously to track and measure progress and success. Each team created issue-specific scorecards, as well as an overriding scorecard that was updated weekly. See below a scorecard example.

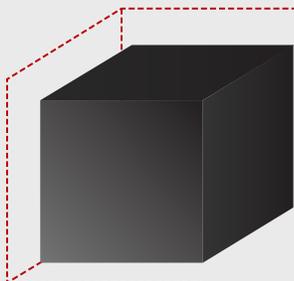
SOURCE	METRIC	STATUS	ACTUAL VS. TARGET	WEEK 1	WEEK 2	WEEK 3	WEEK 4
Finance	Work Flows Complete	Actual Target	Actual	12	14	16	18
			Green	18	18	20	20
Finance	Future State Complete	Actual Target	Actual	7	7	9	12
			Green	5	6	8	10
Actual	Staff Build Training	Actual Target	Actual	26	26	26	26
			Green	26	26	26	26
Finance	Third Party Apps Reviewed	Actual Target	Actual	4	7	8	13
			Green	7	9	11	13
Finance	Interfaces Documented	Actual Target	Actual	5	6	7	8
			Green	5	6	7	8
Finance	Reports Identified	Actual Target	Actual	25	25	30	32
			Green	20	25	30	35
Finance	Conversions	Actual Target	Actual	4	4	4	4
			Green	4	4	4	4

The balanced scorecard was a visual reminder to address problems and opportunities that had been identified and keep teams on track. With milestones and completion measures defined for each team each week, project leadership could quickly identify problem areas and teams that might not be on track. This constant reminder was key to keeping the teams on time and on budget.

System Testing

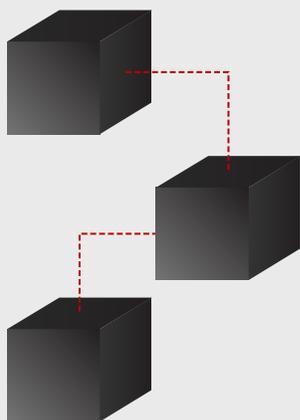
The testing phase of a READY implementation had three separate components within it, and they each needed to be executed with a focus on success metrics. These success metrics had to be defined before the formal start of the testing phase and needed to support the Key Performance Indicators (KPIs) identified by the organization prior to the start of the READY implementation. The team focused testing on the Kaizen principle, and then used the Plan-Do-Check-Act (PDCA) cycle to address issues encountered during testing.

THREE PHASES OF SYSTEM TESTING



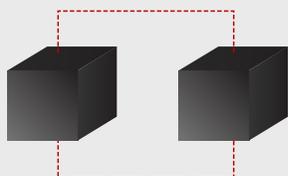
1. UNIT TESTING:

This is the initial phase of testing in a READY implementation, and must occur at least once during the implementation process. The MEDITECH unit testing was focused on each individual application, and the newly-built content and functionality was thoroughly tested to eliminate as many issues as possible before advancing to the next phase of testing. Because issues tend to be straightforward in this phase, the team was able to record them in issue logs and address them with a PDCA cycle in which they tested the resolutions to ensure they met the needs of the organization. This helped set up the project team and MEDITECH system for the next round of testing.



2. INTEGRATED TESTING:

The second part of the READY implementation's testing phase is integrated testing, and it's the first opportunity to test the new system build and workflows between applications. During this time, information flows through all parts of the system, and issues are typically more complex than those identified during the unit testing phase. The MEDITECH team used the PDCA cycle during issue resolution, and involved relevant team members to ensure the issues were truly resolved and that unnecessary workarounds were not incorporated into the workflows for the new system. At this point during a Lean implementation, depending on the extent of the issues and required changes, an organization may want to schedule another Kaizen event to review the planned future state and discuss any substantial modifications that need to be made as a result of testing. This will allow the team to work in a structured, collaborative fashion, and to ensure that resolutions to issues are not crafted in a vacuum.



3. PARALLEL TESTING:

By the time parallel testing was executed, the majority of issues had been identified and addressed, but there was still the possibility for additional issues. In the event that complex issues occur, the PDCA cycle should be employed again to ensure the issue resolutions truly support the goals of the system implementation.

MONTH 17**GO-LIVE**

The implementation teams had begun to use balance scorecard pillars to track KPIs and their supporting metrics over the course of the project, but this activity intensified post-go-live. This allowed the teams to track and monitor appropriate process and outcome metrics so they could quickly identify potential problems, such as missing charges.

At any go-live, the number of issues coming into the command center can be overwhelming. Strong communication and calm leadership helped the organization quickly identify and classify software, workflow, and training issues. Problem Solving Sheets were used to address issues that crossed multiple hospital departments. This facilitated open communication between departments and provided a written record for tracking issue origins, which facilitated closed-loop communication.

MONTHS 18 AND BEYOND**STABILIZATION AND OPTIMIZATION**

In very few cases, the defined workflows and processes did not work as hoped. Kaizen teams were quickly formed, value stream maps were created, and software modifications were made utilizing the Lean principle of PDCA. The organization made changes in small increments, being careful not to make radical change so that new workflows and processes had enough time to be understood and accepted.

RESULTS

Due to the Lean implementation, Signature successfully went live on MEDITECH 6.1 in April 2016, and the organization is now evaluating and planning a Lean implementation of the MEDITECH ambulatory system for its employed physician practice offices. This will result in a fully integrated record across the organization and further enhance Signature's population health position.

1. Quality improvements around most Centers for Medicare and Medicaid Services (CMS) quality measures and Meaningful Use statistics
2. An increased number of engaged medical staff due to the improved user interface, including a 98 percent adoption rate for orders and documentation
3. A launch pad for creating future operational improvements and efficiencies
4. Elimination of multiple niche vendors, including moving the emergency department (ED) and surgery systems to a single EHR for the acute setting. The result was better workflows, fewer Interfaces, vastly improved medication management, better medication tracking and integration with drug dispensing system, improved ordering process, improved patient flow from the ED to inpatient and from inpatient to surgery, a simplified nursing process and elimination of duplicate work.

AUTHORS

Mike Reel

Santa Rosa Consulting
MEDITECH Practice Leader

Nicole Desjarlais Paulick

Santa Rosa Consulting
Project Manager

Signature Healthcare
Implementation Team Member

Gerald Greeley

Signature Healthcare
Chief Information Officer



About Signature Healthcare

Signature Healthcare is a multi-specialty, not for profit hospital and physician group comprised of Brockton Hospital and Signature Medical Group, which is made up of more than 150 physicians practicing in 18 ambulatory locations. Signature Medical Group acts as a patient's medical home, working with them to coordinate all their healthcare needs, as well as provide access to evidence based patient care and education and self management support. We are one of the only not-for-profit community based healthcare delivery systems in Southeastern MA providing the full range of high quality primary care, specialty care, hospital care and related ancillary services on a coordinated basis delivered at a low cost. We are an affiliate of Beth Israel Deaconess Medical Center, Harvard Medical Faculty Physicians at BIDMC and the Floating Hospital for Children at Tufts Medical Center. Signature Healthcare is continuously recognized for the quality care patients experience when visiting with our doctors and nurses. Some of our most recent awards include being named a Top Performer on Key Quality Measures® by The Joint Commission, receiving a national hospital safety score "A" rating as well as a Top Teaching Hospital by The Leapfrog Group, being noted as a Top Hospital by US News & World Report, as well as winning a Women's Choice Award for America's Best Breast Centers.

Visit: MySignatureCare.org



About Santa Rosa Consulting

Santa Rosa Consulting provides management advisory services and technical consulting expertise across the full range of IT vendor products and systems, and empowering better healthcare by designing, creating, staffing and sustaining IT solutions that help make healing happen. Founded in 2008, Santa Rosa Consulting is managed by industry veterans with an average of 20 years of healthcare information technology experience. Santa Rosa is recognized for delivering world-class services and solutions and is a regular recipient of Modern Healthcare's Best Places to Work in Healthcare award.

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