

Anatomic Pathology Labs Sustain Lean Gains



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Lured by the promise of improved efficiency and patient safety, AP labs invest significant resources to implement automation and lean workflow principles. Yet, for many labs, the ability to sustain these gains remains elusive.

At Ventana Medical Systems, Inc. (Ventana), our workflow specialists recognize that without business process change, the implementation of lean tools and automation does not generate sustainable results.

This is why Ventana workflow specialists visit their customers approximately 90 days after implementation of Ventana strategies and software systems. They conduct pinpoint analyses over a 16-hour period to resolve potential patient safety-related errors, reinforce new behaviors, and keep lab professionals' energy focused on lean business practices.

A random review of Ventana revisit assessments revealed that post-implementation errors are often the result of staff members taking shortcuts or not precisely following methodologies prescribed during implementation. "Automation introduces significant change to workflow processes," says Kelsi Currier, MPH, Director, Ventana Workflow Consulting. "Old habits die hard. As an example, we occasionally observe staff batching, rather than following the standard single-piece flow protocols established during implementation," explains Currier.

During the two-day revisit assessment period, workflow specialists redirect staff and document high, medium, and low priorities for future follow-up. The revisits also spawn a continuous flow of improvement opportunities to Ventana product development and software engineers.

Top Five Lean Lessons Learned

I. Reduce case mix-ups and slide misidentification

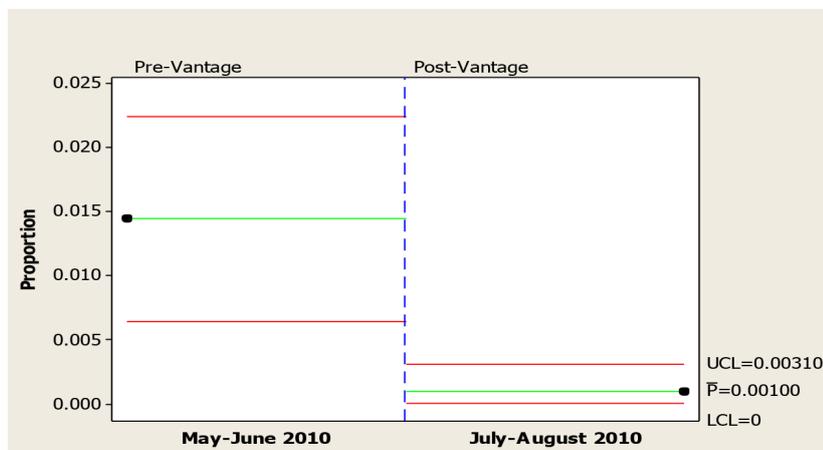
Barcoding alone will not eliminate the potential for error. However, automation combined with continuous reinforcement of workflow improvements that support a standard protocol for single-piece flow will accomplish what barcoding alone cannot.

“A pathologist pre-scanned cassettes in batch prior to grossing. An embedder pre-scanned cassettes in batch prior to embedding the tissue. And a histotech pre-scanned and pre-labeled slides prior to cutting” explains Debbie Hillsdon-Smith, MBA, SCT (ASCP) CT, Ventana Manager of Workflow Consulting. Ventana workflow specialists retrained staff during the revisit and prescribed a 1-2 day follow-up training session on single-piece flow protocol. In addition, the lab manager agreed to do routine spot checks to reinforce the new behaviors.

“On a recent revisit, we observed three instances of batching,”

**CLINTON YIP, MBA, LSSBB, VENTANA
MANAGER OF WORKFLOW CONSULTING.**

Patient Safety Issues: Total Mislabeled Slides



Able to reduce the total number of mislabeled slides by 93% in the first 2 months post go live.

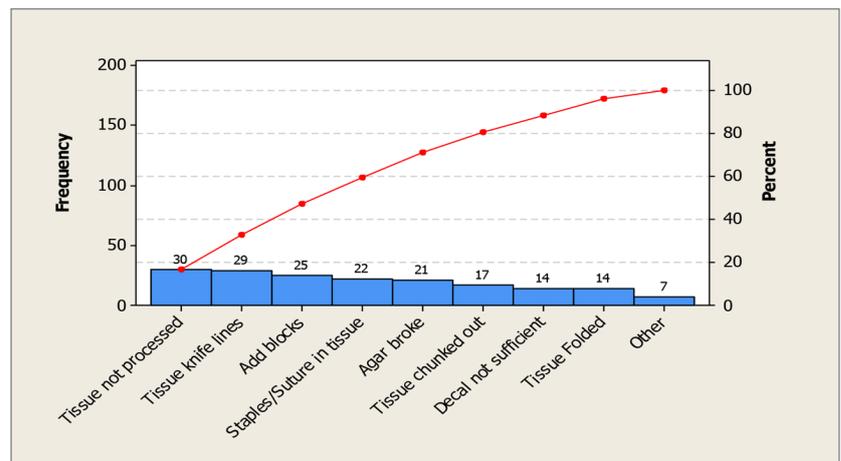
“VANTAGE is a good system, particularly from a laboratory operations point of view. It has definitely improved our organization, and the histotechs are more confident in accountability than in the past.”

— DAVID WITTE, MD, CHIEF PATHOLOGIST,
CINCINNATI CHILDREN'S HOSPITAL
MEDICAL CENTER

II. Identify and correct quality issues in real time.

The majority of Ventana customers say visibility into quality is among the top five factors they look at to determine if VENTANA VANTAGE workflow solution implementation achieved their goals. Labs use the VANTAGE Workflow Solution to track specimen quality issues in real time, such as knife lines, staples or sutures in tissue, or folded tissue. “Before automation, we observed staff at one lab leaving their workstations to document handwritten notes in a central log,” explains Debbie Hillsdon-Smith, MBA, SCT (ASCP) CT, Ventana Manager of Workflow Consulting. “This interrupted and slowed workflow, which can lead to errors.” With the barcoding software, labs have chain-of-custody tracking that allows them to identify – by person – where errors and/or bottlenecks occur.

Quality Issues



VANTAGE software provided visibility to quality issues in the lab. Quality issues were not tracked prior to the implementation of the VANTAGE Workflow solution. The data can be used to develop a baseline for lab improvements.

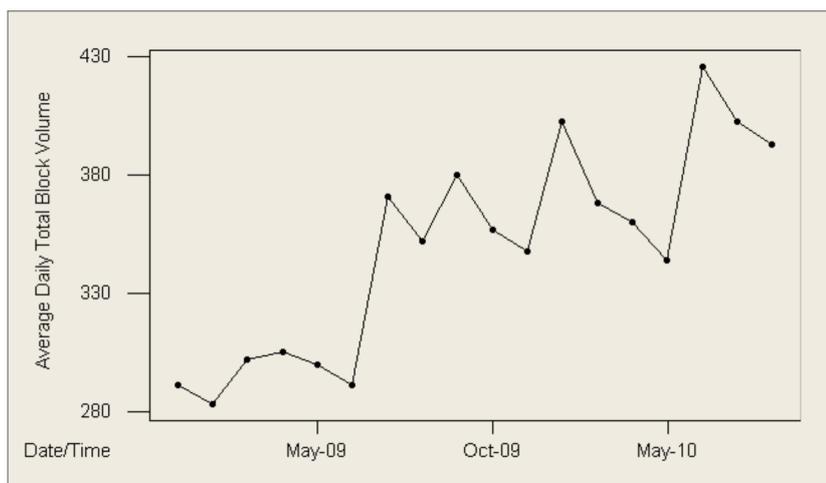
III. Sustain gains in productivity.

A lean lab achieves significant productivity gains over time; some labs realize improvement in turnaround times (TAT) and volume immediately. Ventana revisit data pointed to the following examples of immediate TAT improvement:

1. Lab A gained four hours per day in histotech time
2. Lab B saved two hours per day in troubleshooting
3. Lab C eliminated 1,100 manual steps per day, saving five hours per day
4. Lab D redeployed two full-time employees (FTEs) into new positions
5. Lab E increased test volume per FTE histotech by eight percent

Productivity Gains

Average Daily Total Monthly Volume



Total Daily Block Volume (Hospital and Lab) by month has increased by over 40% since January 2009!

Ventana revisit assessments offer labs the opportunity to identify – by workstation – where additional productivity gains exist. For example, during a revisit histotechs reported TAT gains in microtomy and embedding workstations, but limited improvement in case assembly, so workflow specialists conducted a Kaizen event to streamline distribution processes. “I really thought new workflow and automation would slow me down, but it hasn’t at all,” said one histotech from a large reference lab following a revisit. Instead, Ventana interventions offered staff a unique opportunity to deploy best practices from other labs to realize immediate and long-term productivity gains, explains Yip.

“Our ability to answer the phone and tell physicians exactly where their specimens are in the process builds confidence.”

— **MATT BROOKS, HISTOLOGY
SUPERVISOR, INCYTE PATHOLOGY**

IV. Engage pathologists early and often.

Perhaps the most difficult laboratory staff group to engage is the pathologist, as demonstrated by the fact that most revisit assessments recommend additional training for these laboratory leaders. “While a truly lean lab is a result of collaboration and creativity at all levels, top-down leadership is essential to sustaining lean methodology in the lab,” says Currier. When workflow specialists engage pathologists early and often, the pathologists become champions of lean principles. “Pathologists help us underscore the role the AP lab plays in maintaining the flow of patients and information throughout the hospital. They emphasize to the staff that multiple daily clinical decisions depend on the AP lab delivering timely, high-quality results,” states Currier.

V. Improve workflow with best practices

Ventana workflow specialists develop customized strategies for each lab, implementing lean practices that have proven successful at AP labs of similar size and scope. Even small interventions – such as eliminating handwritten block summary sheets in grossing or using visual signals and intercom to notify accessioning staff when additional cassettes are needed – pay off in large blocks of time savings, explains Hillsdon-Smith. “It’s not usual for us to implement ten or more new workflow practices at a revisit,” she says, which makes the revisit invaluable to sustaining lean gains. multiple daily clinical decisions depend on the AP lab delivering timely, high-quality results,” states Currier.

At the foundation of every revisit assessment is a culture of patient safety, driven by the top echelons of the AP lab. Leaders arm their teams with field-tested Ventana tools and resources, and build upon the lessons learned from large-scale implementations to continually embed Lean principles into workflow practices. For Ventana customers, the ability to sustain efficiency and safety gains is no longer elusive.

Solutions Provided During Revisit

Workbench	Solution	Note/Benefits=
Accessioning	Eliminated need to manually enter the case ID when ordering cassettes in LIS	Patient safety risk mitigation
Grossing	Recommend the VANTAGE workflow solution to eliminate use of the block summary sheet to track added/deleted cassettes	Began the use of the "Unused Cassette" special instruction for tracking on the "CV to Embedding Variance" report
Grossing	Recommend a visual signal and intercom at grossing station to notify accessioning staff when additional cassettes are needed	Eliminates the need for the PA/resident to take off gloves and walk to accessioning room to request additional cassettes. PA/resident can continue to gross while waiting for cassettes to be brought to them.
Case Assembly	Eliminated current paper-dependent process of tracking "reprocess" orders	Lab assistant at case assembly will begin to input "reprocess" ordered by Pathologists in the Quality Management function in the VANTAGE web portal
Case Assembly	Added user name "deactivated" to eliminate users in the drop-down list who are no longer working in the facility	Lab assistant will no longer have to scroll through lists of several prior user speeding up the case assembly process
Reports	Provided additional training on reporting functions currently available in VANTAGE	Trained on how to generate reports by time periods so she would not have to pull reports on last day of the month. Reviewed exporting function using Excel and showed how to manipulate the data
Case Review	Pathologists are able to scan the VANTAGE slide label to bring up the case in the LIS	Slide will be scanned prior to reviewing the slide on the microscope to help eliminate patient/slide mix-up when bar code scanners are installed

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