

THREE STEPS TO STREAMLINE LABORATORY OPERATIONS

A GUIDE FOR IMPROVING PERFORMANCE AND QUALITY

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The evolving healthcare environment is creating unique challenges for laboratory operations. As Medicare charges penalties for high readmissions and private payers reduce reimbursements, labs to find themselves in a difficult position. The subsequent steady shift to outpatient services means that labs are experiencing a reduction in the number of inpatient tests ordered — with less money available per patient. As a result hospitals continue to cut their medical laboratory budgets.¹

INDUSTRY CHALLENGES

As hospitals alter professional and non-professional staff schedules, use lower cost items and get vendor price concessions, labs often try cost-cutting strategies as well. However, for labs these tactics can have negative implications for service delivery.

Improving laboratory operations is a critical component of any healthcare system's transition to value-driven growth. Laboratory managers must think more strategically to pursue lasting benefits that include:

- Improving throughput efficiency by eliminating duplication, improving staffing and scheduling of personnel, using real-time analytics to maximize space and equipment utilization, and improving supply management.
- Improving workflow and maintaining quality using Lean principles.
- Optimizing budget dollars.

IMPROVING EFFICIENCY IN CLINICAL LABORATORIES AT HOUSTON HEALTHCARE

Houston Healthcare is made up of two acute care medical facilities, with a combined capacity of 282 beds, as well as outpatient clinics and urgent care centers.

Committed to improving operations and effecting change for the future, Houston Healthcare executives engaged Huron in a comprehensive effort to improve

the efficiency of its clinical laboratory operations without impacting service quality. Together, they implemented a three-step process, which took approximately six months to complete, and resulted in more than \$1.1 million in annual recurring savings.

OUR APPROACH

STEP ONE: CONDUCT A COMPREHENSIVE ASSESSMENT

A comprehensive assessment of hospital pharmacy and laboratory operations helps set the right strategic goals. Houston Healthcare's assessment collected and reviewed observational data, 12-month past performance data and benchmarks from outside institutions.

Observational data included on-site workflow, staffing utilization and an overview of the physical plant. The following data was accessed:

- Span-of-control analysis: Activity area, or number of functions, people or things for which an individual or organization is responsible
- Staffing-to-demand analysis: Current and future staffing needs
- Workflow review of current operations in conjunction with laboratory staff

Twelve month past performance data included a review of costs, performance and financial performance metrics. The following data was accessed:

- Overtime costs, work schedules and cross-training of all staff
- Existing medical directorship contract
- Supply chain contracts such as laboratory supplies, services and equipment, including reference lab contracts and blood products

Benchmarks from outside institutions allowed Houston Healthcare to compare data related to overall costs. The following data was accessed:

- Review of current test consolidation activity
- Examination of the recently updated Quality Management Plan and the response from a recent College of American Pathologists (CAP) inspection

Based on the assessment data, Houston Healthcare decided to focus improvement efforts on these areas:

- Organizational structure
- Labor expenses and productivity
- Supply chain expenses
- Patient blood management
- Test utilization
- Consolidation opportunities
- Quality management and regulatory compliance
- Workflow
- Facilities and space planning

STEP TWO: LAY THE GROUNDWORK FOR CHANGE

Every successful change effort relies on leadership and communication. To begin the project, Houston Healthcare and Huron established an Executive Steering Committee (ESC). The ESC included senior leadership, operational leads from the laboratory and each facility, and Huron's interim manager. The team made decisions, addressed barriers and approved operational improvements.

The Project Management Office (PMO), staffed by a Huron manager and an associate, was responsible for project oversight and coordination. PMO staff integrated themselves into Houston Healthcare's structure, thereby creating close, daily interaction with both hospital leadership and laboratory staff. This promoted trust, communication and positive working relationships. The PMO also developed a communication plan that identified appropriate audiences and communication requirements for all project activities.

“In partnership with Huron, Houston Healthcare has obtained substantial savings and quality improvements in laboratory operations. Some savings were one time but the majority are recurring. As to quality improvements, the operational efficiencies and quality gains are ongoing. The improvements continue to impact daily operations in the hospital laboratories and system.”

Stephen J. Machen
Administrator, MBA, FACHE,
Houston Medical Center

STEP THREE: IMPLEMENT WORK PLANS AND MONITOR PROCESS IMPROVEMENT

By developing and implementing the work plan by value streams, the organization had the tools for process improvement. Under PMO direction, and in collaboration with Huron, Houston Healthcare implemented new processes and procedures in each area of focus.

CLINICAL OPERATIONS/COMPLIANCE

Quality Management and Regulatory Compliance

- Reviewed the recently updated Quality Management Plan and response from the recent CAP inspection
- Updated the Quality Management Plan and gained support for it at the hospital level
- Integrated quality management into the hospital quality program

CLINICAL OPERATIONS/EXPENSE MANAGEMENT

Patient Blood Management Committee

- Evaluated opportunities for clinical improvement and cost reductions
- Developed a measurement and monitoring process
- Developed a committee which included hospital physicians, blood bank representatives, nursing, senior leadership and others.

Test Utilization Committee

- Developed a committee and strategy to reduce inappropriate laboratory test utilization

Laboratory Supply Chain Expense Reduction

- Reviewed and recommended improvements to laboratory supplies, services and equipment contracts, including reference lab and blood products

Test Menu Consolidation

- Reviewed current test consolidation activities and identified new opportunities for improvement related to system consolidation
- Developed a measurement and monitoring process

LABOR/PRODUCTIVITY

Facilities/Space Planning

- Utilized Lean principles for a new laboratory design that supported improved workflow and eliminated silos
- Conducted additional space and square footage review and determined the new laboratory design space required for current and future needs
- Developed a strategic plan for a Core Lab and assisted with its implementation

Laboratory Labor Expense Reduction

- Developed plans for overtime costs, work schedules and cross-training of all staff
- Established new staffing levels that correlated to work demand

Labor Productivity

- Developed and implemented metrics for labor productivity standards
- Completed a comprehensive span of control review and assisted with addressing management to non-management positions and responsibilities

- Enhanced the consolidation and integration of phlebotomists and laboratory assistants into their new responsibilities per new job descriptions

Organizational Structure

- Designed and implemented a proposed laboratory organizational structure for Houston Medical Center
- Assisted with recruitment of a laboratory director
- Defined the role of the medical director
- Implemented recommendations and worked with the ESC to develop strategic plans and implement improvements and savings initiatives

Workflow Improvements

- Removed silos
- Standardized practices
- Automated complex laboratory decision making to increase human capital utilization by further implementing automated instrumentation and information systems that facilitate:
 - Accession and other pre- and post-analytical testing tasks
 - Data entry
 - Dashboard metrics that measure performance

THREE-STEP PROCESS FOR IMPROVING EFFICIENCY IN CLINICAL LABORATORIES

1. **Conduct a Comprehensive Assessment**
2. **Lay the Groundwork for Change**
3. **Implement Plans and Monitor**



RESULTS & BENEFITS

- More than \$1.1 million in annual recurring savings
- Increased communication between hospital leadership and the laboratory
- Improved workflow and labor productivity
- Established Blood Management and Test Utilization Committees
- Updated QA training, monitoring and reporting processes
- New organizational structure that included a new laboratory director position and a redefined medical directorship

KEY AREAS OF LABORATORY SAVINGS

INITIATIVE	SAVINGS	DAYS TO COMPLETION	PERCENTAGE IMPROVEMENT
Labor Productivity	\$584,143	81	51.2% improvement
Implement Patient Blood Management	\$233,519	188	20.5% reduced cost
Reduce Spend on Reference Lab Services	\$217,889	91	19.1% reduced spending
Reduce Spend on Cardiac Markers	\$95,901	170	8.4% reduced spending
Reduce Lab Test Utilization	\$7,226	226	0.6% reduction
Eliminate Cost of AABB Accreditation	\$2,665	81	0.6% eliminated cost
Consolidate Laboratory Testing	>\$29,347	64	
Total Savings	\$1,141,344		

HOUSTON HEALTHCARE CLINICAL OPERATIONS PROJECT SAVINGS SUSTAINING IMPROVEMENTS



KEY TAKEAWAYS

It is important to consider the ongoing governance and communication needed to sustain the gains of any improvement initiative as well as the method for ongoing monitoring and reporting of progress.

This approach to laboratory cost reductions was comprehensive. Going beyond the standard supply chain focus to encompass most lab operational expenses allowed Huron to uncover more opportunities for cost savings and efficiencies, and then to work collaboratively with Houston Healthcare to implement them quickly. By applying this three-step framework, healthcare organizations can make improvements in operations in almost any department and sustain these improvements.

Learn more at www.huronconsultinggroup.com/healthcare or follow us on **Twitter: @Huron**.

1. <https://www.darkdaily.com/press-releases/medical-laboratories-and-pathology-groups-face-greater-risks-when-cutting-costs-to-balance-budgets-one-solution-is-to-identify-and-correct-recurring-sources-of-bad-quality-in-clinical-lab-testing>

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