



Setting the Stage for Financial Improvement in the Lab: Doing More with Less and Driving Results

G2 Lab Institute

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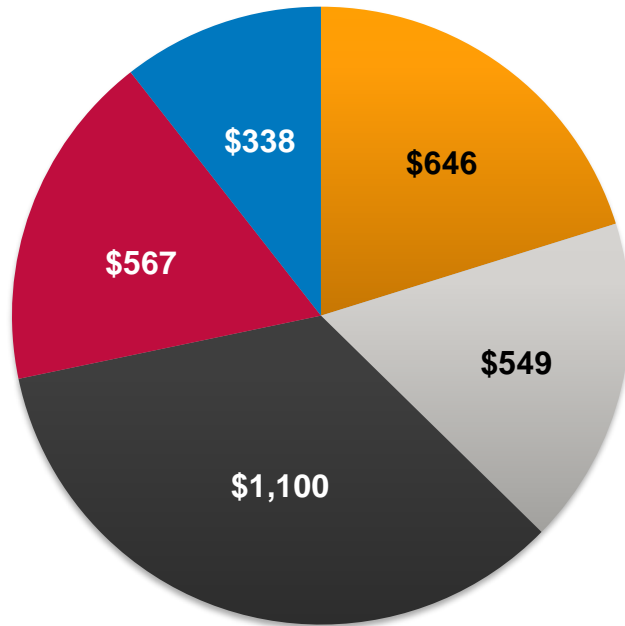


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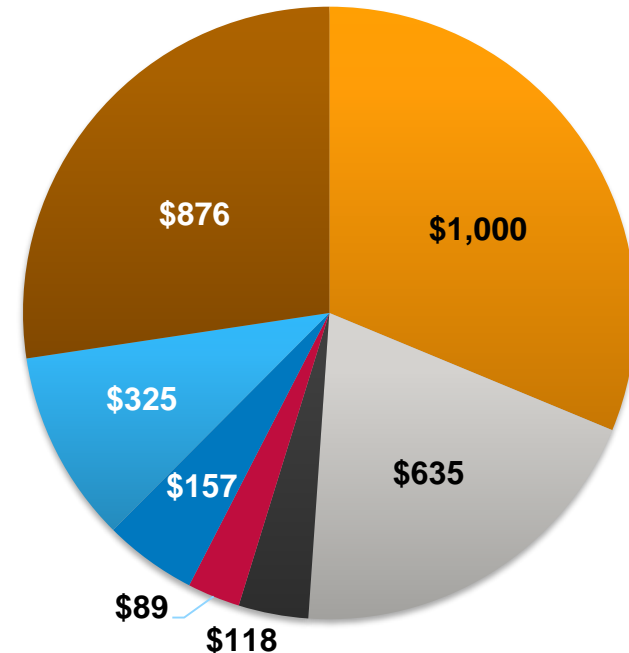
Participants of this session will be able to:

1. Recognize how to position the clinical laboratory for sustainability and growth in today's extremely competitive market for laboratory services.
2. Apply industry-specific benchmarks to realize margin improvement through optimizing labor, non-labor, and other core laboratory costs.
3. Identify proven industry best practices that enable their labs to do more with less while maintaining the highest quality for patient care.
4. Determine how a forward-looking laboratory strategy can improve expense performance and drive revenue and profitability growth.

Healthcare Spending in the United States (in millions)



- Medicare
- Medicaid
- Private Health Insurance
- Other
- Out of Pocket

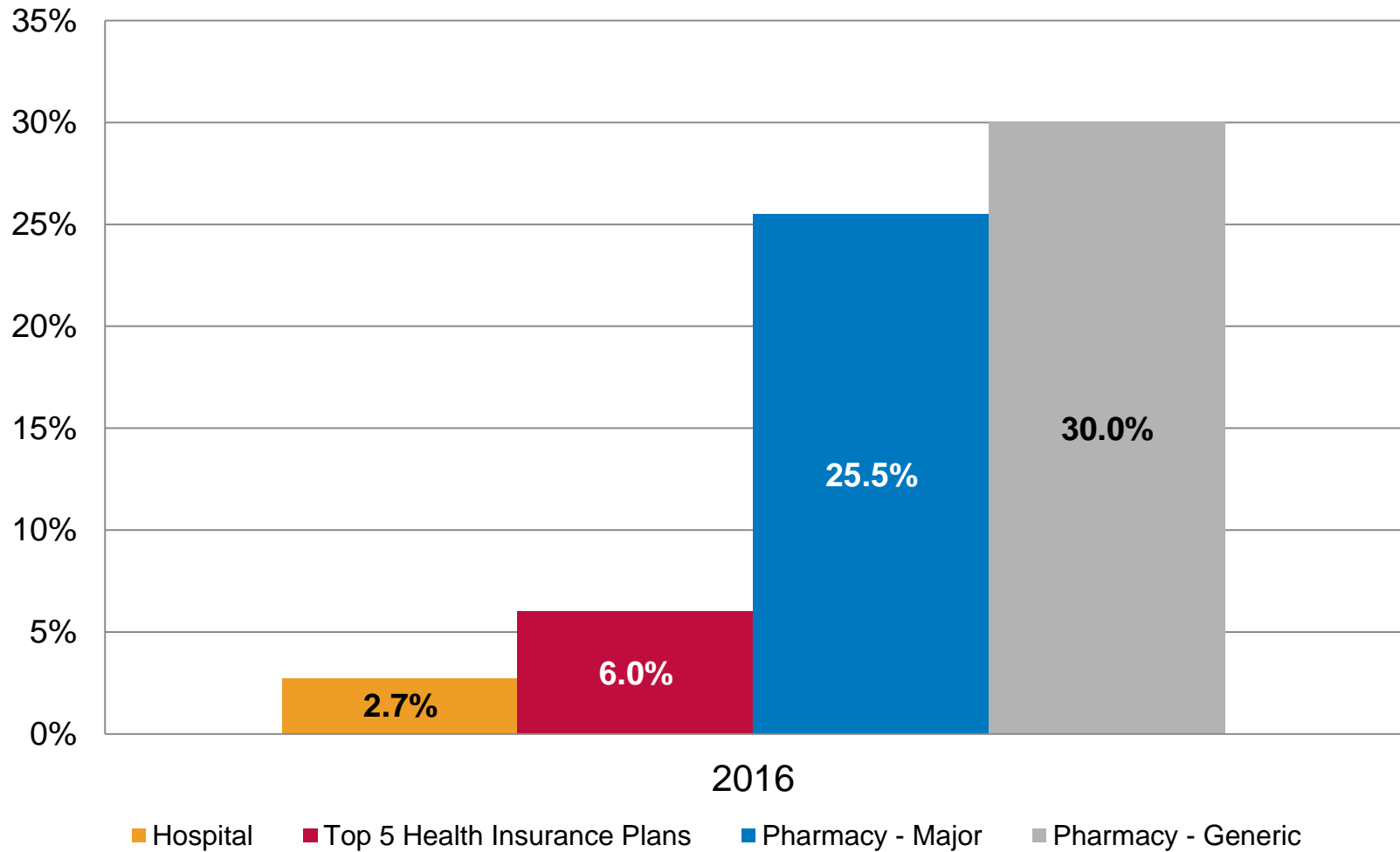


- Hospital Services
- Physician and Clinical
- Dental
- Home Healthcare
- Other
- Nursing Home
- Prescription Drugs

National Health Expenditures 2015: \$3.2 Trillion

Source: Centers for Medicare and Medicaid Services (CMS.gov) <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nhe-fact-sheet.html>

Average Operating Margin for Selected Healthcare Markets



Source: Modern Healthcare, Morning Star Investment Research, Forbes.

Are Laboratory Services a Strategic Asset?

Strategic Asset = Something of value that an entity owns, receives benefits from, or uses in the generation of income.



Ownership



Benefits

- Clinical:
 - Patient diagnosis, treatment, admissions and discharges are heavily dependent on laboratory test results.
 - Outpatient/outreach lab testing provides for a continuous health record.
- Community:
 - Offers employment.
 - Local provider.



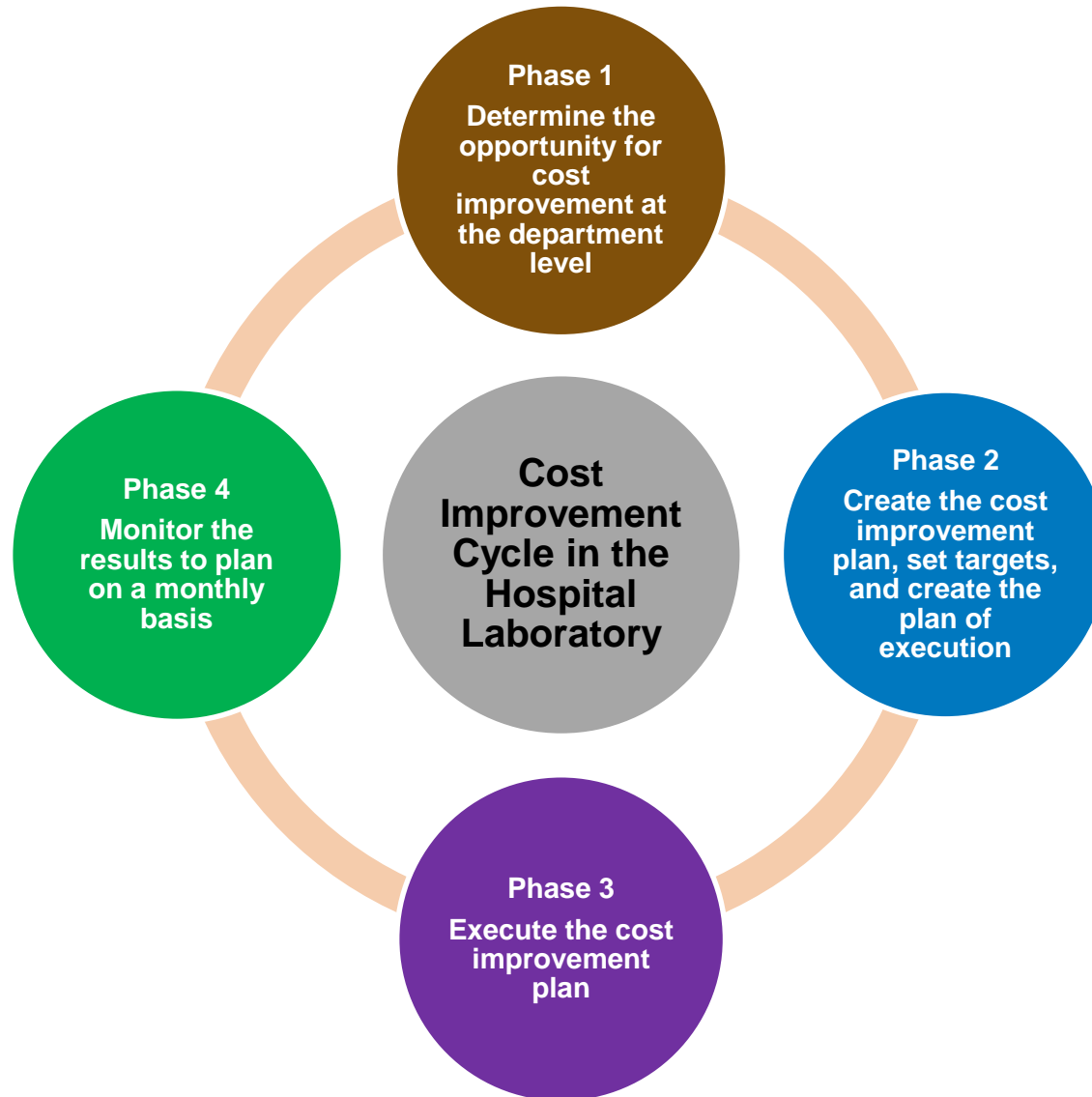
Income

- Outpatient laboratory revenue per test averages \$19.50.
- Average fully-loaded cost per test ranges from \$13-\$16 per test.
- Outpatient/outreach laboratory testing leverages hospital prior investments in equipment, facilities, and labor. The incremental cost of performing an additional outpatient/outreach test can be as much as 50-75% lower than the fully-loaded cost.

So Why Are Hospital Laboratories Minimized as a Strategic Asset?

- Financial value misunderstood and complex.
- Transactional business.
- Small part of the hospital operating budget (3%).
- Short-term cash flow gains.
 - Outsourcing of hospital laboratory operations.
 - Sale of outreach asset.
- Not seen as a top critical initiative.
- Bandwidth of laboratory team and pathologists.

Setting the Stage for Cost Improvement: Four Phases



Setting the Stage for Cost Improvement: Key Laboratory Operating Statistics

Average Benchmarking Summary	Low Volume	Medium Volume	High Volume
Performed Testing Volume	< 500,000 Tests/Year	500,000-1,000,000 Tests/Year	>1,000,000 Tests/Year
Operating Expenses:			
Salary and Benefits ¹	\$1,817,170	\$4,084,082	\$12,506,592
Supply Expense	\$648,737	\$1,822,011	\$6,997,499
All Other Expense	\$238,500	\$516,969	\$2,172,611
Total Performed Expense	\$2,704,407	\$6,423,062	\$21,676,701
Reference Testing Expense	\$309,650	\$862,954	\$3,126,247
Total Direct Expenses	\$3,014,057	\$7,286,016	\$24,802,948
Expense Per Test - Average	\$16.13	\$12.74	\$13.04
Total FTEs	27.6	62.9	188.2
Outpatient %	~49%	~49%	~49%
Average Hospital Reimbursement Per Test	\$19.50	\$19.50	\$19.50
Salary and Benefits as a Percentage of Direct Expense	60%	56%	50%

¹Benefits applied at a rate of 30% of labor costs when actual cost was not available.

Setting the Stage for Cost Improvement: Financial Analysis – Direct Expense

Laboratory Direct Expense		Peer Group Rankings ¹		
		25%	50%	75%
Low Volume: <500,000 Tests/Year	Total Expense/Test	\$21.75	\$16.13	\$11.90
Medium Volume: 500,000-1,000,000 Tests/Year	Total Expense/Test	\$17.02	\$12.74	\$10.47
High Volume: >1,000,000 Tests/Year	Total Expense/Test	\$16.65	\$13.04	\$9.90

Total Direct Expenses: All costs associated with performed testing in addition to reference expense. Excludes health system overhead allocations.

What are the biggest factors in total expense per test and overall performance?

Test complexity and volume

Efficiencies in productivity, supply chain, and reference testing are the biggest critical success factors of high performing laboratories.

¹Benchmarking percentiles are determined based on a 1% to 100 % scale, with 100% being the best performer.

Setting the Stage for Cost Improvement: Productivity and Workflow Metrics

Laboratory Productivity		Peer Group Productivity ¹		
		25%	50%	75%
Low Volume: <500,000 Tests/Year	Total Test/Paid Hour	3.06	3.96	5.13
Medium Volume: 500,000-1,000,000 Tests/Year	Total Test/Paid Hour	4.31	5.88	7.66
High Volume: >1,000,000 Tests/Year	Total Test/Paid Hour	4.80	5.77	7.29

Salary and Benefits averages approximately 55% of total direct cost.

Best Performers

- Consolidation of Testing from Low Volume Locations
- Standardization of Process
- Constant Focus on Improvements to Productivity and Workflow
- Staffing Mix
- Diligent Review of Support Functions, including Phlebotomy, Customer Support and Specimen Processing
- Front End and Back End Automation
- Schedule to Volume
- Using Information Technology to Automate Processes
- Labor Oversight
- Monthly Reporting Tools to Drive Accountability
- External Benchmarking

¹Benchmarking percentiles are determined based on a 1% to 100 % scale, with 100% being the best performer.

Setting the Stage for Cost Improvement: Supply Chain Management

Laboratory Supply Chain Expense		Peer Group Supply Chain Expense ¹		
		25%	50%	75%
Low Volume: <500,000 Tests/Year	Supply Cost/Performed Test	\$3.65	\$2.94	\$2.20
Medium Volume: 500,000-1,000,000 Tests/Year	Supply Cost/Performed Test	\$3.09	\$2.33	\$1.91
High Volume: >1,000,000 Tests/Year	Supply Cost/Performed Test	\$4.08	\$3.01	\$2.17

Supply Expense averages approximately 25% of total direct cost.

Best Performers

- Strategic Sourcing
- Inventory Management for Reduction in Waste
- Standardization of Vendors
- Test Utilization
- Diligent Review of Reagent Rental Contracts
- Strategic Capital Purchases
- Supply Chain Oversight
- Monthly Reporting Tools to Drive Accountability
- External Benchmarking

¹Benchmarking percentiles are determined based on a 1% to 100 % scale, with 100% being the best performer.

Setting the Stage for Cost Improvement: Reference Testing Expense Targets

Reference Lab Expense		Peer Group Reference Lab Expense ¹		
		25%	50%	75%
Low Volume: < 500,000 Tests/Year	Reference Expense/ Referred Test	\$46.11	\$28.37	\$16.26
Medium Volume: 500,000-1,000,000 Tests/Year	Reference Expense/ Referred Test	\$44.87	\$31.09	\$21.95
High Volume: >1,000,000 Tests/Year	Reference Expense/ Referred Test	\$65.89	\$35.97	\$22.62

Reference Testing Expense averages approximately 12% of total direct cost.

Best Performers

Strategic Sourcing
 Vendor Consolidation to Drive Economies of Scale
 Test Utilization Controls
 Test Repatriation (Insourcing) through Make versus Buy Analysis
 Request for Proposal (RFP) Every Three (3) Years
 Monthly Reporting Tools to Drive Accountability
 External Benchmarking

¹Benchmarking percentiles are determined based on a 1% to 100 % scale, with 100% being the best performer.

Setting the Stage for Cost Improvement: Why Overall Financial Metrics and External Benchmarking Are Not Enough

Department	Tests per Paid Hour/ 75 th Percentile ¹	Supply Expense 75 th Percentile ¹
Core Laboratory	16.8	\$1.89
Microbiology	6.8	\$5.25
Cytology	3.1	\$8.05
Surgical Pathology	3.2	\$7.33
Molecular Pathology	2.0	\$37.95
Blood Bank	5.6	\$3.09

Monthly departmental analysis and trends are required to drive value.

Challenge: Each hospital department is unique to each institution, such that comparison by name of department (core lab, microbiology, etc.) alone may yield results that are not comparable.

¹Benchmarking percentiles are determined based on a 1% to 100 % scale, with 100% being the best performer.

Setting the Stage for Cost Improvement: ABC Microbiology

- Microbiology testing for the entire ABC system is consolidated at XYZ Medical Center with only stat and some molecular testing performed at other lab sites.
- Some level of automation has been incorporated into the department but it has not been leveraged to the degree of other testing areas and comparable peers, who have invested in automated systems to improve productivity and turnaround time. The lack of automation results in manual processes and declines in productivity as compared to peers.
- Microbiology is primarily responsible for managing its own supply chain, which is in part responsible for a **percentile ranking of 57%** in supply chain performance. This involves a labor-intensive process to manage inventory, placing orders through multiple systems to multiple vendors, tracking delayed or backordered requests, reconciling purchase orders, unpacking deliveries, and placing them in storage. Best performers in supply chain management have a comprehensive supply chain management program, which includes aggressive contracting negotiations, an inventory management program, and test utilization controls.

ABC Microbiology – FY 2016		
Performed Volume	240,521	
Salaries and Benefits	\$2,858,000	
Supply Expense	\$1,686,000	
Other Expenses	\$222,000	
Total Performed Expense	\$4,738,000	
Paid FTEs/Paid Hours	22.5	
Cost per Test	\$19.70	
	Billable Test/ Paid Hour	Supply Expense/ Billable Test
Actual Performance	5.1	\$7.01
Rank	40%	57%
75th Percentile - Target	6.8	\$5.25
50 th Percentile	6.2	\$7.83
25 th Percentile	4.5	\$9.01
Median	6.2	\$7.83
Target: Billable Tests/Worked Hour		
Potential Margin Opportunity	\$468,000	\$423,000
Targeted Savings	\$891,000	

Setting the Stage for Cost Improvement: Reference Testing

Benchmarking Statistic	Hospital D
Reference Testing Volume ¹	71,644
Reference Testing Expense	\$2,382,059
Reference Testing Expense as a Percentage of Overall Lab Expense	9.9%
Referral Expense/Referred Test	\$33.25
Percentile Ranking ²	45.4%
25 th Percentile	\$53.16
50 th Percentile	\$31.42
75 th Percentile	\$24.28
Short-Term Cost Saving Opportunity (up to 24 months) – Improvement One Tier Up	\$131,109
Long-Term Cost Savings Opportunity (greater than 24 months) – Improvement to the 75 th Percentile	\$642,647
Savings % Improvement	6% - 27%

Reference laboratory testing services reflect laboratory tests that are not performed at the respective hospital and instead are sent to outside laboratories to be performed. These outside laboratories include large commercial laboratories (Mayo, ARUP, Quest, LabCorp, etc.) as well as specialty laboratories (molecular and esoteric testing) that have proprietary testing technologies (Neogenomics, Prometheus, Genomic Health, etc.). **These tests involve a large menu of low volume, high complexity tests where it is considered economically and clinically prudent to send these tests out to be performed.** High performance organizations establish effective **utilization management** of reference laboratory services to set up appropriate ordering protocols, consolidate vendors to drive economies of scale, seek out strategic sourcing opportunities, and establish monthly reporting to monitor performance. Utilization management requires key roles by physicians in the laboratory (medical director), ordering physicians, and administration to drive cost and clinical benefits to the organization. The potential financial benefit above reflects a cost reduction opportunity within the respective member hospital reference expense as compared to hospitals with similar test volume and test mix.

¹Reference volume is based on total billable CPT codes.

²Percentile rankings based on a 1% to 100% scale with 100% being the best performer.

Setting the Stage for Cost Improvement: Key Statistics and Test Utilization



- Institute of Medicine recommends improving healthcare quality, by delivering high quality medical laboratory testing, and improving patient outcomes.
- 70% of all medical decisions are based on laboratory results.
- Overall mean rates of over utilization were at 20% to 30%.
- Establish Utilization Committee.
- Robust and meaningful utilization metrics/scorecards.
- Enhance current CPOE/decision support capabilities/LIS Rule changes.
- Implement/expand proactive clinical strategies to minimize tests ordered when not clinically indicated.

The Landscape of Inappropriate Laboratory Testing: A 15-Year Meta-Analysis; Ming Zhi, Eric L. Ding, Jesse Theisen-Toupal, Julia Whelan, Ramy Arnaout; Published: November 15, 2013, DOI: 10.1371/journal.pone.0078962

Cost Improvement Monitoring Case Study: Single System, Multiple Hospitals



	Baseline	Year 1 of Cost Improvement Plan	Year 1 Savings	Percent Cost Take Out
Labor Costs	\$73,792,000	\$69,987,000	\$3,805,000	5%
Supply Expense	\$51,926,000	\$48,707,000	\$3,219,000	6%
Reference Expense	\$23,692,000	\$21,367,000	\$2,325,000	10%
Blood Utilization	\$11,683,000	\$11,374,000	\$309,000	3%
Total	\$161,093,000	\$151,435,000	\$9,658,000	6%

A cost improvement plan is a three-year cycle, with Years 2 and 3 providing the highest yield as new processes, contracts, consolidation, utilization management, best practices, etc., are fully implemented.

- The road to success is always under construction.
- Thoughtful consideration of how to execute cost improvement plans.
- Do it yourself. (assessing of risk execution failure is critical)
- Partner with a third party in a value based partnership where the partner responsible for execution shares risk.

Poorly executed integrations waste potential economies of scale!

PAMA Cuts: The Facts, What's Next, and How Should You Respond?

Background

What? Reduction to Medicare Part B lab rates **January 2018**.

Why? Medicare seeks to pay **market-based rates** paid by private payers for lab testing.

How will rates be set? “**Applicable labs**” reported private payer rates in Q2 2017, which sets the rate for 3 years, at which time a **2nd reporting period (2020)** will be reported and rates will be adjusted.

Who's impacted? All labs paid including **hospital outpatients**.

What's missing from the rate determination? **95% of hospital labs were** expected to be excluded from the reporting group.

Why is that important? Hospitals are paid **30% above** the current Part B reimbursement by private payers while commercial laboratories are paid **30% below**.

Current State – October 2017

Proposed 2018 rates and market-based **rates were lower than expected** due to hospital participation in the reporting group being less **than 1%, resulting in the commercial labs carrying the weight of the market rates**.

Proposed 2018 Rates. **10% decline in Part B** reimbursement with additional rate reductions proposed in **2019-2022 of 10% to 12%**.

2018 Impact. Estimated reduced payments by Medicare Part B Lab testing totaling **\$570 million**.

Industry Response. National laboratory associations, LabCorp, and Quest are seeking legal action and other political support to delay and/or change the law, stating a position that “applicable lab” purposely **excluded hospital laboratories** to skew the results.

How to Respond

Assuming that the 2018 lab rates proposed rates go into effect in January, we expect part B reimbursement for lab testing to decline by approximately **10%** in 2018. However, further rate reductions beyond 2018 are **speculative at this time**, as efforts to change and/or delay the law continue to escalate.

What should hospitals do now? Reimbursement pressures continue to drive changes in how hospitals look at their cost structure in the laboratory. There is a sense of urgency to create a financial plan to reduce the **laboratory cost structure** and look for ways to expand volume to drive down unit costs (i.e., outreach). Outreach testing, even with shrinking reimbursement, continues to provide incremental margin and leverages fixed assets (facilities, personnel, equipment, etc.)

What should you not do? **Selling your outreach program in a market that is skewed towards the buyer (commercial laboratory)**. Commercial laboratories are actively seeking to acquire outreach programs from hospitals, using the fear of reimbursement reductions as a reason for hospitals to exit the space. In terms of the price paid for the outreach asset, speculative price reductions will lower the multiple paid by the buyer. With the cloud and uncertainty around PAMA reductions, hospitals that sell outreach programs only to see the PAMA cuts repealed will have sold their outreach program at a deep discount.

Impact of PAMA on Outreach Case Study 1

	Current Base Business	2022 Run Rate	Difference
Net Revenue	\$13,900,000	\$13,020,000	(\$880,000)
Revenue Per Test	\$11.82	\$11.07	(\$0.75)
Medicare Payer Mix	20%	20%	-
Operating Margin	48%	39%	(9%)

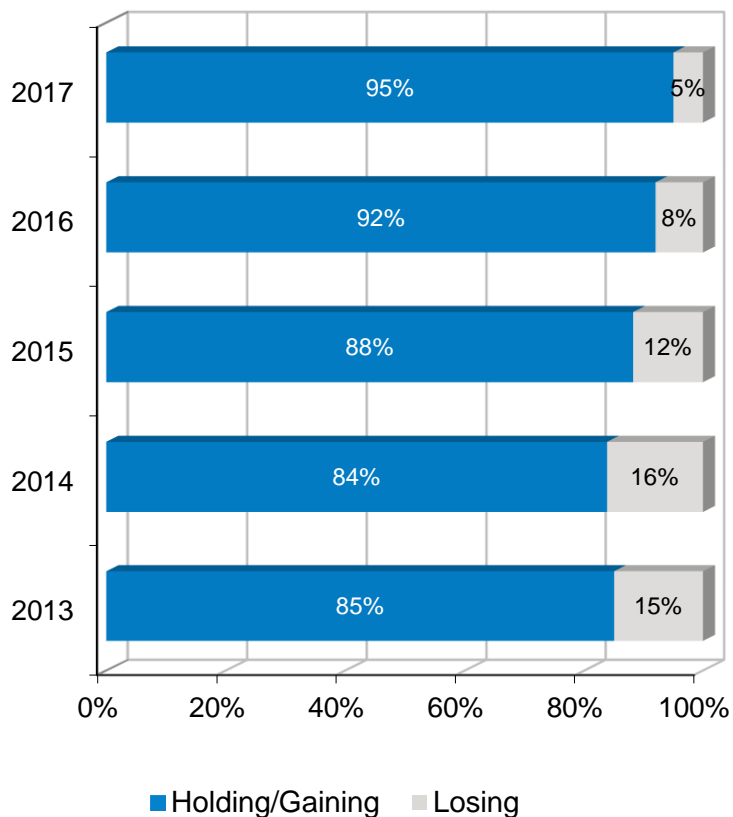
Impact of PAMA on Outreach Case Study 2

	Current Base Business	2022 Run Rate	Difference
Net Revenue	\$16,674,000	\$15,363,000	(\$1,311,000)
Revenue Per Test	\$24.99	\$23.03	(\$1.96)
Medicare Payer Mix	25%	25%	-
Operating Margin	76%	71%	(5%)

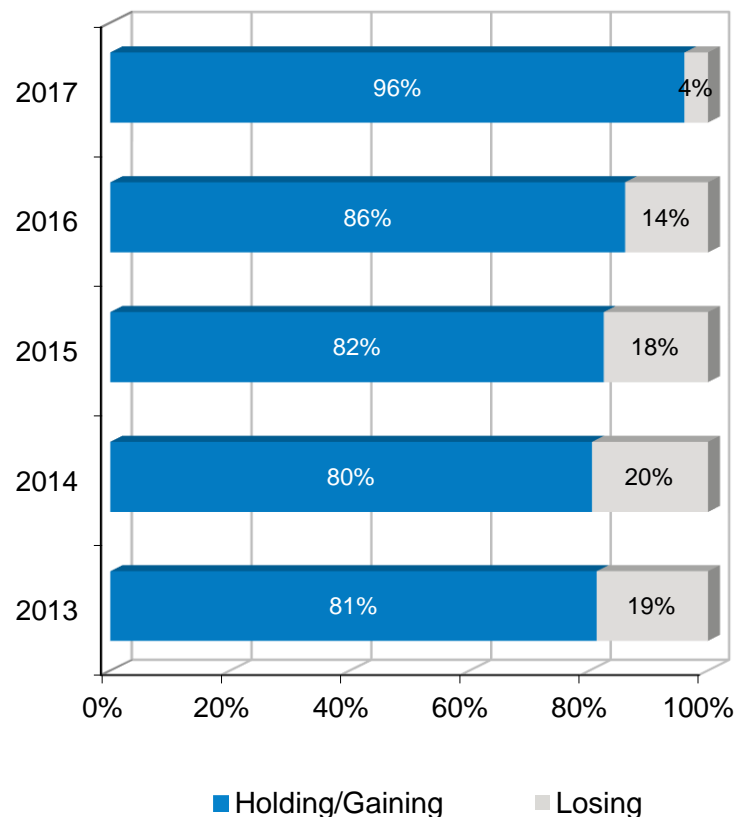
Impact of PAMA on Outreach Small Community-Based Program

	Current Base Business	2022 Run Rate	Difference
Net Revenue	\$6,000,000	\$4,833,000	(\$1,311,000)
Revenue Per Test	\$11.75	\$9.46	(\$2.29)
Medicare Payer Mix	65%	65%	-
Operating Margin	28%	5%	(23%)

Vs. Quest Diagnostics



Vs. LabCorp



The vast majority of hospital-based labs are either holding their own or gaining against the national labs.

No Magic Bullets for Cost Reductions and Revenue Growth

To achieve best-in-class performance —you have to do a lot of things right. This is the 80/20 list for cost reductions:

- 1 Standardize equipment and reagents
- 2 Maximize synergies from consolidation
- 3 Grow your outreach program
- 4 Manage reference lab and blood costs
- 5 Apply lean practices

**ONGOING
PRACTICE**

6

Monitoring of
Results

Q&A

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