WhitePaper

A CEO's Guide to Doubling Profitability:

Using Technology to Reduce Back-Office Costs

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Introduction

"The ultimate goal of any commercial venture is to increase profitability."

The ultimate goal of any commercial venture is to increase profitability. Significantly increasing overall profitability frequently requires substantial changes to a business (e.g., mergers/acquisitions, in-licensing or developing new products, or divestiture of unprofitable business units). Building on earlier white papers in the *CEO's Guide* series[1,2,3], this white paper will look at relatively benign changes that clinical laboratory management can undertake. Although less dramatic than other options, they can still result in a doubling of lab profitability.

Chapter 1:

Situation Recap

Before zeroing in on specific measures to increase profitability, let's recap some of the forces buffeting the medical diagnostic industry (more details can be found in a previous Dark Report White Paper, "*A CEO's Guide to Next Generation Revenue Cycle Management*"[4]. Many of these changes, while external, have profound impacts on the profitability of laboratories and for the most part are outside of the control of the lab's management team.

Reimbursement Models and Amounts

As is true for the majority of the healthcare industry, the most prevalent reimbursement models in the medical diagnostic industry are variations on fee-for-service models. In the past, these models created a clear way for labs to increase profitability. Need more profits, perform more tests. As a recent Oliver Wyman study[5] of hospital physicians illustrates, (Figure 1) this standard relationship (work harder and earn more) is likely to be less and less effective at increasing revenues.

Projected Decline in Fee-for-Service

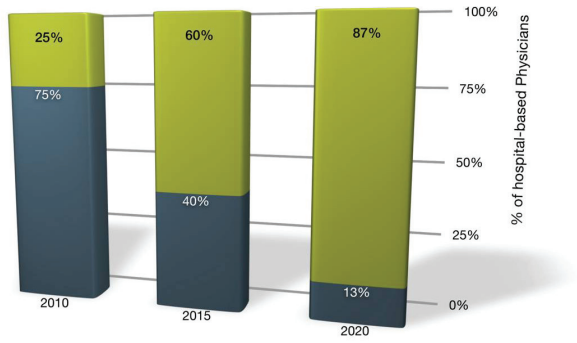


Figure 1: Fee-for-service reimbursement models are expected to be rapidly replaced over the next decade by fee-for-value models.
Source: Oliver Wyman 2011 survey of healthcare executives

In an effort to rein in spending, payors are rapidly driving the industry to new reimbursement models. These new, primarily results-based, models are changing the paradigm for clinical laboratories from "work harder and earn more," to "work smarter and create value." Advances in Health Information Exchange (HIE) systems

are increasingly making it possible to determine the effectiveness of procedures, doctors, hospitals, diagnostic service providers, and virtually any other entity in the healthcare delivery system. Armed with this information, payors from Medicare to small regional providers are demanding accountability. Their expectation is that if a lab performs a test, whether for $10 or $1,000, there is some evidence that the test resulted in an overall savings in total healthcare costs or provided better patient care. Rapidly evolving technologies, including HIE, decision support, and interoperable web services, are making fee-for-value models possible.

Reimbursement amounts can be divided into standard tests/procedures with established fee schedules and new, generally esoteric, tests that are not explicitly listed on fee schedules. Both types of tests are under downward price pressure. Government reimbursements for standard tests and procedures have been steadily whittled down in recent years. The 2005 Deficit Reduction Act[6] cut Medicare spending for imaging by 12.5% starting in 2007[7], the Patient Protection and Affordable Care Act of 2010[8] cut laboratory reimbursements by 1.75% for each year from 2011 through 2015, and the Middle Class Tax Relief and Job Creation Act of 2012[9] cut an additional 2% from laboratory fee schedules. These continued cuts to reimbursement, coupled with competition, combine to squeeze margins on standard tests and procedures to the point where little additional profit can be extracted.

Esoteric testing, while historically well-reimbursed, is increasingly coming under scrutiny. The tests can garner reimbursements into the thousands of dollars and their beneficial value is not always fully understood. The high reimbursements are generally the result of current coding guidelines that utilize methodology codes (code stacking), which will be eliminated in 2013[10], and not always the clinical value of the test result. For both standard and esoteric tests, there are continuing rapid decrements to payments.

HIPAA ASC X12 4010 to 5010

A Gartner analysis prepared for CMS[11] (Table 1) estimated that the mandated change on January 1, 2012 from 4010 to 5010[12] was expected to introduce short term costs to providers, with those costs being concentrated in the testing phase. Some months into the transition, and following a delay in the issuance of penalties, it is clear to many in the industry[13,14] that while implementation may have been challenging, testing to get the system fully functional was, and still is, even more challenging. There are multiple examples[15,16] of small physician practices and other ancillary providers losing tens of thousands of dollars as a result of difficulties filing 5010 claims. The Medical Group Management Association (MGMA) requested[17] that the Department of Health and Human Services take a number of steps to alleviate the pains being felt by its members. The full financial impact of the transition will likely not be realized for some months as it will take time to determine what percentage of the rejected claims are eventually corrected and paid.

COST CATEGORY	% OF TOTAL COSTS
Software Costs	15%
Customization	5%
Testing Costs	60%
Training Costs	5%
Transition Costs	15%
Total	100%

Table 1: 5010 Cost Estimates. A study commissioned in 2008 by CMS estimated the relative cost distribution incurred by service providers for the implementation of 5010.

Evolving Technologies

In addition to the technological advances in HIE allowing for the more effective sharing of clinical data and the standards updates that allow more complete claim processing and evaluation, there are also more general technologies that are impacting clinical labs. In an earlier white paper we referenced "Next Generation Revenue Cycle

Management (RCM)."[3] This concept holds that on the business side of laboratory operations, an effective RCM system for a laboratory must be:

- **Interoperable**: seamlessly communicate with new systems without significant re-engineering,
- **Informative**: use the connections to other systems to present relevant information,
- **Intelligent**: apply rules to help users interpret the data, and
- **Instantaneous**: gain real-time access to current data.

Next Generation RCM systems must be architected with these characteristics from the ground up; repackaging old client server architected software from the 1990s and patching it to be delivered over the Internet will not allow a system to have all of these characteristics. All four of these characteristics are critical for capturing value and being able to extract additional profitability by cutting back-office costs.

Chapter 2:

Profitability

"The first step to being able to double profitability, is to understand what a well-run, profitable clinical laboratory looks like."

The first step to being able to double (or understand the feasibility of doubling) profitability, is to understand what a well-run, profitable clinical laboratory looks like. While public laboratories may differ in many ways from privately held providers (e.g., they may have other non-laboratory business units) and may not be perfectly optimized businesses, their financial filings can provide some general estimates for profitability in the industry.

Public medical diagnostic companies (NAICS 621511), excluding those with significant research and development expenses and those with market caps less than $45 million (Table 2), generally have profit margins ranging from about 4.0% to 10%, with the mean and median around 6.7%. Based on these data, it can be assumed that a medical laboratory with $25M in annual revenue would generate a profit between $1.0M and $2.5M; most likely about $1.7M. With this common reference, we can now look at specific levers that management can use to increase top-line revenue and decrease bottom-line costs.

SYMBOL	COMPANY NAME	MARKET CAP	NET PROFIT MARGIN
LH	Laboratory Corp. of America	$ 8.78B	9.62%
SHL	Sonic	$ 4.49B	9.51%
DGX	Quest Diagnostics Inc.	$ 9.47B	6.75%
BRLI	Bio-Reference Laboratory	$ 635.86M	6.51%
MTOX	MEDTOX Scientific, Inc.	$ 134.78M	4.12%
GHDX	Genomic Health, Inc.	$ 929.99M	3.81%

Table 2: Large Publicly Traded Labs. Market cap and net profit margin for large, publicly-held, laboratories in March 2012.

Revenue

In general there are two ways to increase revenue (Figure 2); increase prices (creates external challenges), or sell more units (creates internal challenges.) Let's look first at the challenges inherent in increasing prices. Prices are largely guided by the clinical laboratory fee schedule published annually by CMS[18]. This defines what Medicare will reimburse each code in the Healthcare Common Procedure Coding System (HCPCS) in each state, and effectively anchors all other payors to similar prices. Combining this relatively fixed fee structure with the commodity nature of most diagnostic products means that making significant changes to pricing for standard tests is really not feasible for most clinical laboratories.

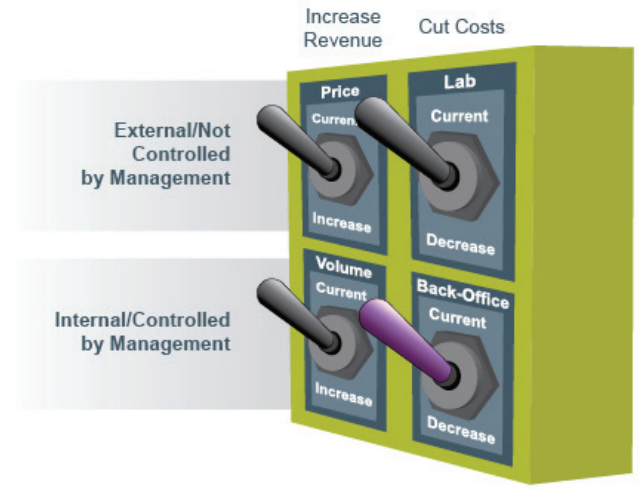


Figure 2: Multiple revenue and cost levers are theoretically available to labs. In practice, back-office costs comprise one of the few levers lab executives can directly control to influence profitability.

The second way to significantly increase revenue, selling more, is something the laboratory can control. Setting aside for a moment the fact that selling significantly more is generally coupled with substantial cost increases, selling that much more also generally requires major changes to the business. Major expansions to the customer base (geographically through the acquisition of competitors, or functionally through the acquisition of additional technologies) is usually a board-level decision that needs to be aligned with the overall corporate strategy and goals, i.e., it not something that can be undertaken in the short term. Together the external and internal challenges to increasing revenue means that while the objective is desirable, it is not necessarily something readily accomplished.

Costs

Costs, like revenues, have both external and internal components (Figure 2). By far the largest cost items for laboratories come from the lab itself (i.e., couriers, phlebotomists and technicians to perform the tests, reagents, equipment, etc.). Most labs devote considerable time and effort to ensure their lab operations are efficient. They ensure that the most cost effective automation techniques are used; that personnel utilization is optimized, and that reagents are sourced from the lowest cost providers. Because of the attention paid to lab operation costs, there is generally little laboratories can do without impacting services to their customers. This leaves the lab back office as a target for cost cutting; a relatively small cost item, but as this paper will demonstrate, still capable of doubling laboratory profits.

"How could it be possible to double a provider's profits simply by cutting back-office costs?"

Even within the back-office cost structure, there are a number of factors beyond the control of the lab. HIPAA[19] and CLIA[20] rules for the management of patient clinical and financial data, the conversion from 4010 to 5010, and payor-specific rules are all examples of external factors that impose costs on back-office operations. Against this backdrop, how could it be possible to double a provider's profits simply by cutting back-office costs?

Chapter 3:

Specific Back-Office Cost Centers

There are a number of functions performed by the back offices of clinical labs. Costs for most of these functions are split between labor and technology, with the cost of labor being by far the largest of the two components. The Full Time Equivalent (FTE) costs associated with an individual include salary and benefits, and generally vary between $35,000 and $65,000 per year depending on region, level of expertise, specific employer, and other factors. The costs for technology can vary depending on the specific technologies used, volumes, and negotiated prices. The FTE costs and technology costs are not independent. Utilizing the right technologies at the right times and places can reduce FTE costs. Additionally, properly implemented technologies that can work error-free and that are always able to ensure claims are submitted on time, can lead to an overall increase in revenue.

Processing Claims

One of the primary functions of the back office is processing claims. If all claims came into the lab electronically and clean (i.e., they could be submitted and paid), the workload on the laboratory Error Processing staff would be essentially eliminated. As orders move through the workflow (Figure 3) from physician office (1), to patient service center (2), to billing order entry (3), and finally to claim submission (4), it becomes more costly and time consuming to correct any errors. The physician office where the physician, the

WASTEFUL	4. Denied / Rejected Claim	• Added cost / delays for submitting problem claims • Easiest to implement - Someone else finds the errors
OK	3. Billing Order Entry & Error Processing	• Can't correct clerical, diagnosis, or patient demographic errors • Easy to implement - Fully under lab control
GOOD	2. Patient Service Center (PSC)	• Can't correct diagnosis or physician demographics • More difficult to implement - Usually under lab control, but technology lacking
BEST	1. Physician Office	• Can easily correct any information • Most difficult to achieve - Not under lab control, still lacking technology

Figure 3: The cost of correcting claims increases the further from the physician office the correction is made. It is generally also hardest for the lab to make the correction at the physician office and easiest at the other end of the workflow (where it is also most expensive.)

patient, and the patient's insurance card are all together is the best and most efficient time and place to ensure claims will be payable.

The challenge in the physician office is twofold. First, clinical labs must communicate to the physician office that it is in their best interest to ensure that they are submitting clean orders; second, they must provide a mechanism so that it is possible for physician offices to easily create clean orders. The first challenge, communicating with the physician office, is most directly addressed by asking the rhetorical question "Is it easier to correct a chart when it is open in front of you, or when you have to retrieve it later to make a correction?" The second challenge, providing a simple mechanism by which the physician office can create a clean claim, can be addressed by technology. There are a number of commercially available claim scrubbing tools. These tools function with varying levels of effectiveness, contain varying levels of integration with the Electronic Medical Record (EMR) or Order Entry product on the physician desktop, and have varying costs. While these third party tools can increase the number of clean claims, they usually do not use exactly the same rubrics that are used in claim adjudication and frequently are not continually updated as payor rules change. Since payor rules are in a perpetual state of flux, these tools add cost, may require integration work or manual processing, and will likely not fully prepare claims as required for reimbursement.

"The Next Generation RCM solution to this challenge would be to optimize electronic order entry and to use interoperable protocols to put cloud-based, continually updated claim scrubbing capability into the EMR or Order Entry product."

The Next Generation RCM solution to this challenge would be to optimize electronic order entry and to use interoperable protocols to put cloud-based, continually updated claim scrubbing capability into the EMR or Order Entry product. As the physician enters an order, instantaneous services would run the same payor rules and edits as the provider's billing department and inform the physician of any problems. Furthermore, the order the physician enters is

already in final form to be submitted for payment, so no further formatting is required.

The next best place to ensure clean claims are created is the Patient Service Center (PSC). Here the patient and his or her insurance card are both present, so some information can be corrected at the point of patient interaction, but not as much as at the physician office. Laboratories frequently have more control over PSCs; assuming they can provide the technological capability to the PSC, they can ensure the PSC will enter clean orders. The Next Generation RCM solution uses the same capabilities deployed in the physician office to ensure clean claims come from the PSC.

"The Next Generation RCM solution uses the same capabilities deployed in the physician office to ensure clean claims come from the PSC."

Some more advanced clinical laboratories concentrate their effort to ensure clean claims during billing order entry or pre-submission error processing. Ensuring orders are correct at billing order entry does have value, but correcting orders here is significantly more time consuming and expensive than earlier in the workflow because the patient and/or the physician office must be contacted to supply the missing or corrected information. The reason most labs concentrate their clean claims efforts downstream of the best places to ensure clean claims (physician office or PSC), is simply that they lack the technology and business processes to ensure information is entered correctly at the physician office or PSC. Moving the large effort at billing order entry and pre-submission error processing back out to the physician office or PSC directly correlates to reductions in FTEs, reduced opportunity for error, and reduced delays in claim submission.

The last, most expensive and most risky place to ensure claims are clean is by looking at denied or rejected claims. Rejections and denials is the most expensive place to catch errors because the lab has already paid to submit the claim, and correcting any errors requires

the time consuming process of contacting the physician office and/or the patient. Rejections and denials is also the riskiest point to catch errors. If errors are not caught here, they can lead to accidental submission of false claims. Section 13410 of the Health Information Technology for Economic and Clinical Health Act (HITECH Act) states that "a violation...due to willful neglect is a violation for which the Secretary is required to impose a penalty."[23] While the Social Security Act does outline remedies to correct violations,[24] it is clear that improper payments will be aggressively pursued and that submitting inaccurate claims to government payors (or private payors) is not desirable for clinical labs.

Example: Anonymous Laboratory (AnonyLab): Order Entry and Error Processing

Ensuring clean claims are received from the physician office can result in significant savings. Assuming an anonymous laboratory (AnonyLab) with $25 million in annual revenue has a profit margin equal to the industry average of 6.7%, AnonyLab produces about $1.7M in profits, processes about 500,000 orders annually, and already receives about 50% of its orders electronically. AnonyLab probably also has at least two FTEs focused on order entry and about 17 working in Error Processing (Table 3). Increasing electronic order submission by 25%

Location/Task	Detail	Current	Technology Enhanced
Physician Offices	Orders/year	500,000	500,000
Billing Order Entry	% handled automatically	50%	75%
	Orders handled manually	250,000	125,000
	OE throughput/FTE/year	150,000	150,000
	Number of FTEs	1.67	0.83
	Cost per FTE	$40,000	$40,000
	Total order entry cost	$66,667	$33,333
Error Processing	40% of orders have errors	200,000	200,000
	Manual orders	100,000	50,000
	Electronic orders	100,000	150,000
	% electronic requiring manual error processing	100%	0%
	Total manual EP	200,000	50,000
	Minutes/claim[21]	10	10
	FTE Cost @ $0.33/min	**$660,000**	**$165,000**
	Annual Cost to Produce Clean Claim	**$726,667**	**$198,333**
	Net Cost Improvement		**$528,334**

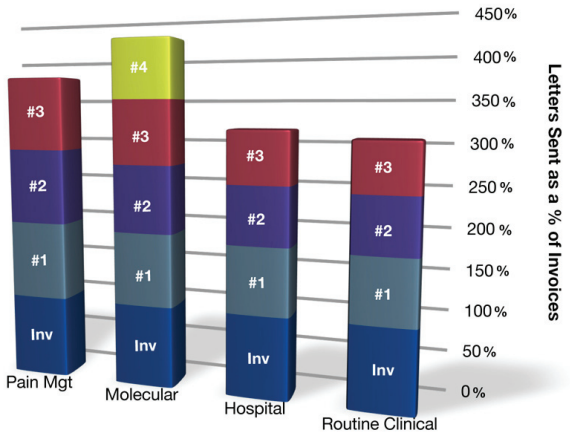
Source: Adapted from XIFIN Proprietary Interactive ROI Calculator[22]

Table 3: Clean Claims. As claims move from physician offices to order entry in the lab and on to error processing to ensure the claims can be submitted, costs are incurred. Next Generation RCM systems reduce these costs.

(75% overall) should result in the savings of about one FTE. Allowing physician offices to see errors as they are being made will virtually eliminate simple errors; a benefit felt directly in a reduction of Error Processing work.

For AnonyLab, that translates to an annual cost savings of $528,334 for Order Entry and Error Processing alone.

Dunning Cycles – Tripling Collection Costs



Source: XIFIN internal data for demand notices by lab segment.

Figure 4: A large portion of patient responsibility (self-pay or insurance co-pay) is not paid on time. As a result, labs need to send out reminders, often multiple reminders. Based on assessment of optimized dunning cycles, XIFIN has found that a lab with 100 unpaid bills will send out between 300-400 notices, including the initial invoice. Response rates vary by lab segment. Most labs use three dunning cycles, with molecular labs commonly using four.

Eligibility Checking

Clinical laboratories frequently do not check eligibility for low cost procedures, such as many lab tests. By the time the lab sees the order, the patient is usually no longer present to correct any inaccuracies in demographic information, some of the cost has already been incurred (the sample has been collected and transported), and there is a significant liability for failing to process the sample in a timely fashion. While checking eligibility at the lab is still useful, it is significantly less valuable to the lab than checking while the patient is present.

New technologies, regulations, and health economics are all driving up front eligibility checking to be feasible and economical. The new technologies, specifically systems designed to be interoperable, allow transactions like eligibility checking to be easily embedded in almost any application. Any laboratory with an interoperable billing system can instantaneously inform physician desktop tools (e.g., EMR systems or Order Entry systems) or PSC tools about a patient's eligibility. The

recently adopted HIPAA 5010 transaction set requirement dictates that eligibility transactions return co-pay and deductable amounts. This means that not only is it possible to determine that a patient is eligible while he or she is present; it is also possible to collect payment at the same time. Some PSCs work around this missing information by asking patients to sign a blank credit card receipt, but this is not ideal for obvious reasons. There is also a recurring push among government payors, likely to be mirrored by private payors, to increase the patient responsibility component—a development that will further increase the value and number of co-pays, and the importance of capturing them at the point of patient interaction.

Location/Task	Detail	Current	Technology Enhanced
Third Party Claims at the PSC	Claims/year	500,000	500,000
	50% of claims are from PSC	250,000	250,000
	75% of claims are third party	187,500	187,500
	Eligibility checking @ $0.20		$37,500
Getting Eligible Claims	90% eligible claims	168,750	
	10% ineligible (initially)	18,750	
	FTE throughput	25,000	
	Cost/FTE	$40,000	
	Cost to ID all eligible claims	$30,000	
	80% of ineligibles corrected	15,000	
	Total eligible claims	183,750	183,750
Working Ineligible Claims	Ineligible claims	3,750	3,750
	Self-pay paid @ PSC	0%	15%
	Self-pay billed	100%	85%
	Self-pay billed collected	0%	30%
	Average bill	$50	$50
	Self-pay revenue	$0	$75,938
Collecting Co-Pays at PSC	Eligible patients at PSC	168,750	183,750
	% of patients with co-pay	25%	25%
	Patients paying (4010 vs. 5010)	10%	80%
	Patients paying co-pay at PSC	4,219	36,750
	Co-pay revenue (Avg. co-pay $10)	$42,190	$367,500
	Patients billed for co-pay	37,969	9,188
	Average 3 invoices/payment[25]	113,907	27,654
	Cost of $1/bill & manual entry	$113,907	$27,654
	50% of patients pay co-pay bill (avg. $10)	$189,850	$45,940
	Total Co-Pay Revenue	**$232,040**	**$413,440**
	Total Eligibility Revenue	**$232,040**	**$449,378**
	Total Eligibility Costs	**$143,907**	**$65,064**
	Total Eligibility Profit	$88,133	$424,314

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 4: Eligibility Checking. Laboratories could enforce eligibility checking at PSCs more easily than at physician offices Ineligible claims, identified while the patient is present are more likely to be paid than those identified later. The ability to identify and collect a co-payment at the PSC can create significant revenue today and will likely create more in the future.

Example: AnonyLab: Eligibility Checking

Checking eligibility at the PSC can lead to significant cost savings, as well as significant revenue increases, without even taking into account possible future increases in patient responsibility. In the case of AnonyLab, assuming 500,000 claims annually, with 75% billed to a third party payor and 50% of those coming through a PSC, about 187,500 claims should be checked for eligibility (Table 4).

The majority (assume 90%) of the 187,500 claims at the AnonyLab's PSCs will have correct payor information. The remaining 10% of claims with invalid payor information must be manually worked (contact patient or physician) to determine the correct payor. Assuming an FTE cost of $40,000 and an annual throughput of 25,000 claims per FTE, working these 10% of claims will likely cost about $30,000. Interestingly it is not uncommon that upwards of 80% of errors on demographic information are clerical (patient misread or assistant mistyped patient information) and could be easily corrected while the patient is present. A Next Generation RCM system that is interoperable with PSC systems would eliminate the $30,000 associated with correcting claims to generate the same 183,750 eligible claims.

The next benefit from using eligibility checking at a PSC comes from working ineligible claims. While there is some cost savings from not having to send as many bills, the larger cost savings comes from being able to address the ineligible patient in person. After the clerical errors in demographic data have been eliminated (i.e., confirming with the patient that the information was entered accurately), the remaining errors are largely the result of patients intentionally providing invalid information. As a result, these ineligible claims are unlikely to be paid. Addressing this in person with the patient will result in at least a small percentage (15%) of ineligible patients providing payment at the PSC and increasing the probability that the patient will respond to a bill (30%). Similarly, not addressing ineligibility in person with a patient who intentionally provided invalid information, will likely result in an extremely low pay rate (even as low as 0%). In the case of AnonyLab, this amounts to about $75,000 in revenue.

By far the largest single benefit from checking eligibility at the PSC is the collection of co-payments. Before the introduction of the 5010 transaction set and the popularization of interoperable systems, there was no easy way for patients at a PSC to know if they had co-pays. As such, very few were paid. For AnonyLab we assumed that 25% of eligible claims at the PSC have a co-pay. This, like all of the other assumptions is for illustrative purposes and undoubtedly will differ (in some cases significantly) for each lab. We also assumed that only about 10% of patients would know on their own if they had a co-pay whereas with eligibility checking we assumed that after informing all patients of their co-pay, about 80% would pay at the PSC. This simple piece of information being present at the PSC leads to an increase in revenue of over $250,000. There also is cost savings on the order of $80,000 by not having to mail (multiple copies) and manually process bills for co-pays.

Patient Service

A 2010 study in the McKinsey Quarterly found that "the vast majority (more than 74%) of insured consumers are both able and willing to pay their out-of-pocket medical expenses for annual liabilities of less than $1,000 a year. Indeed, more than 90% are willing and able to pay if these liabilities are less than $500."[26] This suggests that providing additional touch points with patients and ways for patients to make payments and set up payment plans would increase the percent of patients paying. One of the most effective ways to do this is through the use of patient portals and Interactive Voice Response (IVR) systems.

Patient portals provide customers with 24/7 access to their accounts and the ability to make payments. IVRs also provide extended service hours, but they have the added ability to provide proactive outbound calling capabilities to remind patients of their bills. IVR capabilities

vary from simple touch-tone entry[27] to more advanced voice recognition driven by artificial intelligence[28]. The use of a patient portal and/or an IVR system both cuts costs—by reducing the number of calls to patient services staff—and increases revenues—by helping to remind patients and increasing availability. A side benefit is that customers are generally happier, particularly the majority who are willing and able to pay and who would rather not be sent to collections.

Example: AnonyLab: Patient Service

For AnonyLab, assuming the lab has on the order of 140,000 patient payments each year (50,000 from patient self-pay and 90,000 from co-pays to third parties), the value proposition for patient responsibility involves some relatively small costs differences, but a noticeable increase in revenues (Table 5). For every one out of 100 patients that uses the increased availability and capabilities of an IVR or patient portal to pay a bill, the lab recognizes about $15,000 in additional revenue. On the cost side, assuming IVR calls take 50% longer than live-operator calls, the IVR solution would cost roughly $15,000 less than the manual operators. Of course, no lab could expect all of its call volume to be handled automatically, but this provides an order of magnitude for the cost savings. Combining a 10% increase in revenue and a conservative cost savings, automating

Location/Task	Detail	Current	Technology Enhanced
Patient Responsibility	Total accessions	500,000	500,000
	% Patient self-pay	10%	10%
	Patient self-pay	50,000	50,000
	% third party	75%	75%
	% third party with co-pay	25%	25%
	Third party co-pay	93,750	93,750
Patient Billing Revenue	50% of self-pay is paid	25,000	25,000
	Self-pay revenue @ $50	$1,250,000	$1,250,000
	Self-pay up 10% due to 24/7		$125,000
	50% of third party co-pay is paid	46,875	46,875
	Third party revenue @ $10	$468,750	$468,750
	Third party up 10% due to 24/7		$46,875
Patient Billing Cost	Co-pay & self-pay calls	71,875	71,875
	Call length (min)	2.0	3.0
	FTE cost @ $0.33/min	$47,438	
	IVR cost @ $0.15/min		$32,344
	Total Revenue	**$1,718,750**	**$1,890,625**
	Total Cost	**$47,438**	**$32,344**
	Total Profit	**$1,671,313**	**$1,858,281**
	Net Profitability Increase		**$180,000**

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 5: Patient Services. A portion of lab revenue is patient responsibility (co-payments on insurance or self-pay for those without insurance). Providing patients with increased access to, and information about, their accounts increases their payment rates. Costs for automated solutions, are generally lower than manual solutions.

patient billing services results in an overall increase to AnonyLab's profitability of about $180,000. This is in addition to the largely intangible benefits of fewer errors, increased customer contact, and increased customer satisfaction.

Client Services

Similar to patient services, the interoperable informative Next Generation RCM systems that provide real-time data can also assist the client services department. Physician offices or other laboratories call labs to check pricing, update their demographic information, request copies of current or old invoices, check balances, etc. All of these functions use laboratory client service staff time at the lab, as well as time from the client's staff. Providing clients with a self-serve client portal would eliminate a large portion of this workload. This not only decreases client services work, but also provides the significant benefit of improving customer satisfaction; clients can access up-to-date information about their accounts instantly, whenever they want it. In addition to increasing customer satisfaction, there is also a small cost savings in terms of FTEs, reduced printing and mailing costs, and reduced opportunity for error.

Direct cost savings resulting from the use of Next Generation RCM for client services is commonly seen regardless of the percent of orders that are billed to clients, because many physician offices assist their patients by contacting the lab to determine the patient's cost for a given diagnostic.

Example: AnonyLab: Client Services
For the purposes of completeness, let's assume that AnonyLab serves about 500 clients and that on average each client calls for price inquiries or questions about billing about ten times each month (client services professionals estimate that each call lasts between one and two minutes.) Assuming a standard FTE cost of $0.33 per minute, these calls cost

Location/Task	Detail	Current	Technology Enhanced
Client Services	# of physician office clients	500	500
	Calls per office per month	10	10
	Average call length (min)	1.5	
	FTE cost per minute	$0.33	
	Cost per transaction		$0.45
	Annual Cost	$29,700	$27,000
	Net Cost Improvement		**$2,700**

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 6: Client Services. The major benefit to automating client services is to increase client satisfaction.

an estimated $30,000 annually. Assuming a client portal is priced competitively, it would result in similar direct cost savings while extending the client service hours with no additional labor costs (Table 6).

Internal IT/Data Group

Another cost center where Next Generation RCM systems can have a significant impact is the IT and infrastructure needed to keep data synchronized. Labs commonly use Order Entry systems (which provide the best data about which test was ordered), a Laboratory Information System (LIS) (best source of current status of specimens and results), Customer Relationship Management (CRM) systems (best source of client and patient demographics), RCM systems (best data about who will pay for test) and Financial systems (best view of the overall health of the business (Figure 5). Interoperable, informative, intelligent, and instantaneous Next Generation RCM systems facilitate the communication, presentation, analysis, and real-time delivery of data between these systems. As illustrated earlier, pushing billing rubrics from the RCM system to the Order Entry system

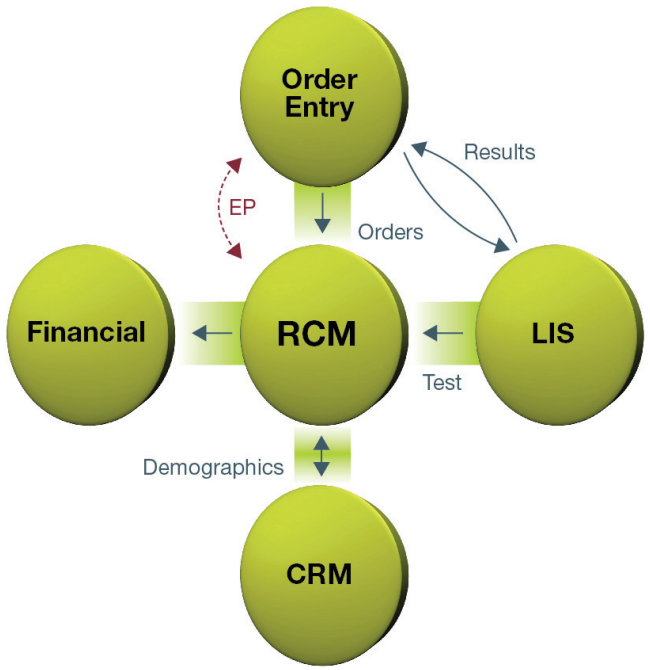


Figure 5: Revenue Cycle Management, contains information about revenue in addition to specific tests, is located centrally in the clinical laboratory's workflow. As such, a Next Generation RCM system can produce significant efficiencies.

facilitates the submission of clean claims. Ensuring that as new tests are added or updated in the LIS system, or new clients are added by the sales team, those changes are reflected in the RCM system, avoids claims being delayed as unpriceable because the claim doesn't match what the billing system is expecting. Using a Next Generation RCM system, interactions with CRM systems are commonly two-way. As client support staff enters updated demographic information from clients into the CRM, it is instantly pushed to the RCM. Similarly, as the billing staff receives updates from payors or clients, the information can instantaneously inform the CRM system of the changes. Another key feature of a Next Generation RCM system is that it must be competent to provide accurate data to a financial system. The purpose for having an RCM system is to ensure revenue is properly managed so that it can be used as part of the broader financial package for the clinical laboratory. It is therefore critical for publicly-held labs, or those monitoring their valuation, to ensure that revenue data coming from their RCM systems are both GAAP and Sarbanes-Oxley compliant. Ideally, using interoperability, data from the RCM could directly populate the general ledger.

"Another key feature of a Next Generation RCM system is that it must be competent to provide accurate data to a financial system."

Quantifying the internal IT benefits from having an interoperable, informative, intelligent and instantaneous RCM system in terms of FTEs is difficult as there are rarely specific jobs to synchronize data between disparate systems. Rather, each group (order entry, client services, laboratory staff, payor services, finance, etc.) typically spends a short time each day either manually re-entering data into their system or ensuring that the automated data transfers happened as they were supposed to. All these short bits of time spent multiple times per day, by multiple people, contribute to overall inefficiency and the opportunity for the introduction of costly errors.

Example: AnonyLab: Internal IT/Data

Anecdotal evidence from multiple labs suggests that about 5% of revenue is routinely written off because timely filling deadlines were missed; for AnonyLab that would represent roughly $1.25M (Table 7). With the conservative assumption that only half of this is corrected by a Next Generation RCM system, it would still represent an increase in revenue of about $625,000. As another example, multiple labs have reported "leakage" in their filing processes, meaning the number of orders in their LIS system is greater than the number of orders in their billing systems, and the number of orders in the billing system is more than the number that are adjudicated. Each of these leakage points usually represents about 1% of total revenue; combined for Anonylab, these account for another $500,000.

Location/Task	Detail	Current	Technology Enhanced
Late and Lost Claims	Revenue per year	$ 25,000,000	$ 25,000,000
	% lost LIS → billing	1%	0%
	% lost billing → payor	1%	0%
	Lost revenue	$500,000	
	% third party payor	75%	75%
	% past timely filing	5%	3%
	Lost revenue	$937,500	$468,750
	Total Lost Revenue	**$1,437,500**	**$468,750**
	Net Improvement		$968,750

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 7: Late & Lost Claims. Most labs report significant losses due to missed timely filing deadlines

Taken in combination, improvements in internal IT infrastructure show a net improvement of nearly $1 million for AnonyLab.

Is a Measureable, Avoidable Loss the Same as a Cost?

Each year the Practice Management Center at the American Medical Association publishes the National Health Insurer Report Card[29]. One of the metrics in the report card compares the frequency with which payments from major payors match the contracted pay rate. Looking exclusively at CPT codes in the 80000s for Pathology and Laboratory, 10% of payments in 2011 did not match the contracted rates. Next Generation RCM systems have the ability to both 1) be easily updated with the latest payment rates, and 2) provide the detailed financial reporting needed to identify and pursue any underpayments.

Frequently in traditional billing systems, these discrepancies are incorrectly attributed to contractual allowance, when they should be recorded as bad debt. Under previous GAAP rules, eliminating this bad debt would represent a cost savings; and under new accounting rules, it actually represents an increase to revenue.

Example: AnonyLab: Expect Price Discrepancy

Assuming the vast majority of the payment mismatches were not over-payments from the payors, the expect price discrepancy would result in an impact to AnonyLab's revenue (Table 8). This assumes 75% of AnonyLab's claims are from third party payors. Using the AMA average incorrect payment rate of 10% and assuming a 4% underpayment ($2 on a $50 test) this is costing the lab approximately $75,000 in revenue. With the visibility and documentation provided by a Next Generation RCM system, the majority of the incorrect payments—particularly the high-value tests—could easily be corrected. This would net AnonyLab an additional $75,000 in revenues, according to the new bad debt accounting standards.

Location/Task	Detail	Current	Technology Enhanced
Expect Price Discrepancy	Revenue per year	$25,000,000	$25,000,000
	% third party payor	75%	75%
	% paid incorrectly	10%	0%
	% of underpayment	4%	0%
	Lost Revenue	**$75,000**	**$0**
	Net Revenue Gain		**$75,000**

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 8: Expect Price Discrepancy. With advanced technology, 100% of discrepancies between contracted expect price and allowables can be identified and are actionable.

Chapter 4:

Economies of Scale

In addition to the specific back-office costs that can be reduced or leveraged to increase revenue, there is also a set of higher-order benefits that effective clinical laboratory back offices can use. In broad strokes, these can be considered economies of scale in functions like purchasing, development, maintenance, and domain knowledge. Failing to take advantage of these economies can put a lab's back office at a competitive disadvantage.

Purchasing Vendor Services

The back offices of labs deal with a large number of vendors. These vendors sell services (e.g., printing and mailing, clearinghouse services, IVR services, credit card transactions) and products (computers, paper, etc.) and as with any sale, volume discounts can be negotiated. One challenge for any entity is that there are some capabilities that are needed in relatively small quantities, thus eliminating the organization's ability to secure volume pricing. In recognition of this challenge, Group Purchasing Organizations (GPOs) were established to help organizations[30] obtain volume discounts. On a much smaller scale, individual vendors of back-office products and services, could, if they were so inclined, negotiate pricing on behalf of their entire customer base, and pass on the savings in the form of lower cost services and products to their customers. This would add some additional effort for the vendor, but could be of considerable benefit to clinical laboratories.

FASB Bad Debt Change Impacts Laboratories' Revenue

Many cost saving measures involve the implementation of new technologies, some of which increase overall efficiency and decrease bad debt. Generally Accepted Accounting Principles (GAAP) standards have historically accounted for bad debt as an expense, so a decrease in bad debt would be accounted for as a cost-savings.

The Financial Accounting Standards Board (FASB), the authoritative source for GAAP, issued an update in July 2011 that requires "certain health care entities to change the presentation of their statement of operations by reclassifying the provision for bad debts associated with patient service revenue from an operating expense to a deduction from patient service revenue"[31]. This means that a cost-savings measure that leads to a reduction in bad debt will be accounted for as an increase to net revenue.

For public entities this amendment was effective for fiscal years beginning after December 15, 2011 and for private entities the amendments are effective for the first annual period ending after December 15, 2012.

Example: AnonyLab: Volume Discounts

As an example of volume discounts in action, clearinghouse fees for simple eligibility and claim submission typically vary from $0.10 to $0.25 per transaction for non-participating payors, depending on volume. Similarly, IVR services can range from $0.10 per minute to over $0.20 per minute for identical services from the same vendor, simply based on volume. Applying volume price discounts based on the negotiating strength of the vendor to AnonyLab (with 500,000 accessions annually) can result in a savings of around $100,000 for eligibility and claim submission (assuming 75% are submitted to insurance) and about $10,000 for an IVR service (assuming 10% patient pay and two minute calls). In addition to the base cost savings from volume purchasing, there is also the not insignificant savings of time and effort in negotiating multiple contracts. These factors combine to make a strong case for laboratories to seek out partners who can economically provide multiple back-office services. As an example, XIFIN processes over 100,000,000 claims per year, enabling us to negotiate the highest discount levels for our clients. For AnonyLab, volume discounts on just these two vendor services would net an estimated $110,000 annually.

Information Technology (IT) Costs

IT costs are frequently overlooked when looking at back-office costs. Because IT supports the entire organization (with many critical responsibilities to the lab itself), the added time required to support an RCM system and the integration of all back-office systems is rarely broken out as a direct contributor to the cost of billing. In fact, RCM systems are rarely a priority in the allocation of IT resources, resulting in delays in optimizing automation for RCM processes which must then be augmented with additional clerical labor, often resulting in lost revenue and compliance

exposure. Just as GPOs allow organizations to benefit from volume discounting, Software-as-a-Service (SaaS) solutions allow organizations to benefit from shared IT infrastructure. Rather than each lab maintaining its own server systems, including installing all the latest security patches, backup generators, data recovery systems, etc., modern technology has demonstrated, in multiple industries including healthcare, that SaaS-based solutions offer a more cost effective, more secure and technologically advanced way to optimize automation and functionality than installed software.

Knowledge Costs

The last and possibly most far-reaching economy of scale benefit a lab can gain is knowledge and know-how. All labs are different and what works best for one may not be best for another; however, the benefit of learning from others cannot be overlooked. Simple (but time consuming) tasks like maintaining Correct Coding Initiative (CCI) edits, Medicare NCD/LCD edits, and individual payor requirements are all examples of knowledge that is universally applicable in healthcare. Not only does acquiring this knowledge require significant time and effort, failure to acquire it in a timely and accurate manner directly translates to lost and delayed revenue. It is grossly inefficient for each lab to maintain staff to input current edits and subscriptions to the content providers.

There is a second aspect to knowledge costs. In addition to the comparatively tangible edits, there are also best-practices that can be observed in profitable labs. These best practices range from being able to successfully submit 5010 claims, and knowing how best to work denied claims for new molecular diagnostic tests, to the most effective timing and wording on dunning cycle letters. While not directly quantifiable, all of these economies of scale do contribute to the overall efficiency of the lab.

Software Products Evolve to Services

The rapid changes required to keep computer systems up to date and the ubiquity of secure internet connectivity, mean the traditional installed software model for OE, CRM, RCM, and other software is being replaced by the Software-as-a-Service (SaaS) model. This reduces the end-user cost of ownership (less IT staff to install, secure, and maintain software) and allows the software provider to provide more frequent updates.

Summary

"All of these capabilities allow clinical laboratories to double their profitability without touching the key revenue drivers of price and volume and without negatively impacting the largest cost center, the lab itself."

The healthcare landscape continues to rapidly evolve. Reimbursement models and technology are both changing to increase the overall efficiency of the system. In this rapidly changing environment there are steps a laboratory can—and to remain competitive, must—take to maximize profitability. Increasing revenue and decreasing large cost centers are not necessarily feasible options for most labs. Fortunately, other cost savings, particularly in the billing department, can make a significant difference to profitability. Costs such as claim processing, eligibility checking, payment processing, client services, internal IT services, full integration, and others can all be modulated using technology to decrease costs and in some cases, to significantly increase revenue. Further, by leveraging economies of scale, labs can decrease their vendor costs, decrease their general IT costs, and decrease their costs for ensuring they are using best practices. All of these capabilities allow clinical laboratories to double their profitability without touching the key revenue drivers of price and volume and without negatively impacting the largest cost center, the lab itself.

Example: Anonymous Laboratory (AnonyLab) Net Profitability Improvement

Table 9 shows AnonyLab's net profitability improvements. The lab is generating an estimated $1.7 million in profits for its owners today. The largest source of increased revenue ($250k) is from the collection of co-pays as a result of 5010 eligibility checking. On the cost side, ensuring clean claims enter the lab leads to an additional $500,000 in savings and simply ensuring that all orders are passed through the system ahead of the timely filing deadline decreases cost by about $1,000,000. Increasing patient and client access and eliminating expect price discrepancies leads to additional measurable cost savings.

Combined, these eight components turn the billing department into a revenue center rather than a cost center. Ignoring any savings from volume pricing, savings from reducing IT infrastructure and labor, any knowledge benefits from handling hundreds of millions of claims annually, and any synergistic effects from combining all elements of a Next Generation RCM, AnonyLab would still see an increase of about $2.1M in profit, or over 125% increase to its net profit margin on an annual basis.

Location/Task	Detail	Current	Technology Enhanced
Additional Revenue	Eligibility checking	$232,040	$489,378
	Payment access	$1,718,750	$1,890,625
	Total Associated Revenue	**$1,950,790**	**$2,383,003**
Cost / Loss Reduction	Clean claims	$726,667	$198,333
	Eligibility	$143,907	$65,064
	Payment access	$47,438	$32,344
	Client services	$29,700	$27,000
	Late / lost claims	$1,437,500	$468,750
	Expect price discrepancy	$75,000	
	Total Associated Costs	**$2,460,212**	**$791,490**
Profit from Billing	**Total Associated Profit**	**$(509,421)**	**$1,588,512**
	$25M @ 6.7% Current Profit Margin	**$1,675,000**	
	AnonyLab Profit Gain	**$2,097,933**	
	Percent Profit Increase	**125%**	

Source: Adapted from XIFIN Proprietary Interactive ROI Calculator

Table 9: Profitability. Revenues increased over $400,000 and costs decreased over $1.6M for a net profit gain of about $2.1M

Conclusion

With laboratory reimbursement coming under pressure, growing the top line becomes uncertain, and to some extent outside of the control of lab management. Increasing profitability through streamlining operations and reducing cost, on the other hand, is under the direct control of management. For a lab to benefit from the back-office savings and capture of unrealized revenue described in this paper, a Next Generation RCM system is required. Next Generation RCM systems are inherently architected to be delivered over the Internet using industry standard interoperability protocols, and delivered as a SaaS platform; legacy software cannot be patched or upgraded. There are numerous ways a laboratory can leverage technology to reduce costs and increase collections, which can more than double profitability; a Next Generation RCM system is the key to unlocking them.

"There are numerous ways a laboratory can leverage technology to reduce costs and increase collections, which can more than double profitability; a Next Generation RCM system is the key to unlocking them."

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Appendices

A-1
About Lâle White
Executive Chairman and CEO, XIFIN, Inc.

Lâle White is a nationally recognized expert in the field of medical financial management and regulatory compliance, with over 25 years of experience in information systems development and medical billing. She lectures extensively on these topics and has consulted for major laboratories and laboratory associations throughout the U.S. She worked with HCFA and the U.S. Office of the Inspector General to develop the first OIG Model Compliance Program. Ms. White was previously Vice President - Finance of Laboratory Corporation of America (NYSE: LH), one of the largest clinical reference laboratories in the U.S., and its predecessor National Health Laboratories (NYSE: NHLI), where she led the software development of several accounts receivable, inventory, cost accounting and financial management systems for the laboratory industry. Ms. White has a B.A in finance and an M.B.A. from Florida International University.

A-1
David Lorber
Director of Business Development, XIFIN, Inc.

David Lorber is the Director of Business Development at XIFIN. Before joining XIFIN, he was the Director of Global Sales Operations at Accelrys; a leading scientific informatics company. He also held various marketing and product management roles at Accelrys, bringing new products to market and redesigning the corporate pricing strategy. He began his career as a computational chemist designing early-stage drug leads for oncology targets. He holds a Ph.D. in Computational Chemistry from Northwestern University and an MBA from the Rady School of Management at UC San Diego.

A-2
About XIFIN

"XIFIN delivers SaaS revenue cycle management solutions that enable labs to improve cash collections and gain efficiencies that substantially improve profitability... The proof is in the numbers: our customers consistently see a 50-100% improvement in profitability on the XIFIN system, in the first 12 months."

XIFIN delivers SaaS revenue cycle management solutions that enable labs to improve cash collections and gain efficiencies that substantially improve profitability. XIFIN empowers providers with the means to optimize their business and financial management. Our end-to-end interoperable XIFIN iNet™ platform, expert services, and highly automated system better manage the medical claims process, and provide timely visibility into key operational and financial analytics. XIFIN's partnership principle is based on the shared goals of fast revenue capture with reduced compliance risk, maximized productivity, and constant attention to ongoing improvement and long term success.

With XIFIN iNet as its backbone, the XIFIN system is more than next-generation billing—it's a vehicle for maximizing profitability. The proof is in the numbers: our customers consistently see a 50-100% improvement in profitability on the XIFIN system, in the first 12 months.

XIFIN's deep expertise in the medical billing industry helps us ensure our customers are always on the leading edge of best practices. More than $6 Billion in medical claims are submitted via the XIFIN system annually, enabling us to compellingly advocate on our clients' behalf, and our participation in industry associations and standards boards give our customers an essential voice within the industry.

XIFIN provides diagnostic service providers of all types—from early stage molecular diagnostics startups, to radiology practices, to the nation's largest laboratories—with new levels of automation and actionable information. XIFIN has received continual industry recognition, including being named to the Inc. 5000 fastest growing privately-held companies 2007 through 2011, and ranking among Deloitte's Technology Fast 500. For more information, visit www.xifin.com.

A-3
About *DARK Daily*

DARK Daily is a concise e-news/management briefing on timely topics in clinical laboratory and anatomic pathology group management. It is a solution to the dilemma facing anyone in the laboratory profession. New developments, new technology, and changing healthcare trends make it imperative to stay informed to be successful. At the same time, the Internet, cell phones, blackberries, laptop computers and wireless devices are overwhelming any one individual's ability to absorb this crushing Tsunami of data.

"Dark Daily is a concise e-news/management briefing on timely topics in clinical laboratory and anatomic pathology group management. It is a solution to the dilemma facing anyone in the laboratory profession."

DARK Daily is a quick-to-read, easy-to-understand alert on some key development in laboratory medicine and laboratory management. It has no counterpart in the lab world. Why? Because it is produced and written by the experts at THE DARK REPORT and The Dark Intelligence Group, who know your world, understand your needs and provide you with concise, processed intelligence on only those topics that are most important to you!

You will find *DARK Daily* to also be an exceptionally valuable resource in laboratory and pathology management. Some of the lab industry's keenest minds and most effective experts will be offering their knowledge, their insights and their recommendations on winning strategies and management methods. Many of these experts are unknown to most lab directors. As has proven true with THE DARK REPORT for more than a decade, *DARK Daily* will be your invaluable— and unmatched—resource, giving you access to the knowledge and experience of these accomplished lab industry professionals.

A-4
About The Dark Intelligence Group, Inc. and THE DARK REPORT

"Membership is highly-prized by the lab industry's leaders and early adopters. It allows them to share innovations and new knowledge in a confidential, non-competitive manner."

The Dark Intelligence Group, Inc., is a unique intelligence service, dedicated to providing high-level business, management and market trend analysis to laboratory CEOs, COOs, CFOs, pathologists and senior-level lab industry executives. Membership is highly-prized by the lab industry's leaders and early adopters. It allows them to share innovations and new knowledge in a confidential, non-competitive manner. This gives them first access to new knowledge, along with the expertise they can tap to keep their laboratory or pathology organization at the razor's edge of top performance.

It offers qualified lab executives, pathologists and industry vendors a rich store of knowledge, expertise and resources that are unavailable elsewhere. Since its founding in 1996, The Dark Intelligence Group and THE DARK REPORT have played instrumental roles in supporting the success of some of the nation's best-performing, most profitable laboratory organizations.

The Dark Intelligence Group (TDIG) is headquartered in Austin, Texas. This location makes it very accessible for any laboratory organization seeking input, insight and support developing their business operations, creating effective business strategies and crafting effective sales and marketing programs that consistently generate new volumes of specimens and increasing new profits. The Dark Intelligence Group, Inc. owns and operates two Web sites in the TDIG Website network:

THE DARK REPORT

http://www.DarkReport.com

DARK Daily
Clinical Laboratory and Pathology News/Trends

http://www.DarkDaily.com

A-5
About the *Executive War College on Laboratory and Pathology Management*

Every spring since 1996, the lab industry's best and brightest gather at the *Executive War College on Laboratory and Pathology Management* to learn, to share and to network. Many consider it to be the premier source of innovation and excellence in laboratory and pathology management.

Each year, a carefully selected line-up of laboratory leaders and innovators tell the story of how their laboratories are solving problems, tackling the toughest challenges in lab medicine and seizing opportunities to improve clinical care and boost financial performance. The *Executive War College* is the place to get practical advice and solutions for the toughest lab management challenges. A unique case study format brings participants face-to-face with their most successful peers. They tell, first hand, how their laboratory solved intractable problems and successfully used new technology.

Many lab management secrets are shared, along with specific "what-not-to-do's" gained from hard-won experience! It's not pie-in-the-sky theory, but useful knowledge that can be put to use in any lab. The *Executive War College* offers superlative networking, with lab administrators and pathologists attending from countries as far away as the United Kingdom, Germany, Brazil and Australia. It makes the *Executive War College* a melting pot for all the best ideas, new lab technologies and management strategies now reshaping the laboratory industry. It's also become a recruiting ground used by headhunters and major lab organizations.

In the United Kingdom, The Dark Intelligence Group and the Association of Clinical Biochemists (ACB) have co-produced a meeting every February since 2003. Known as *Frontiers in Laboratory Medicine* (FiLM), it attracts laboratory leaders and innovators in the United Kingdom. Also featuring a case study format, this meeting pioneered the international laboratory side-by-side case study, where a North American laboratory and a United Kingdom laboratory prepare a comparison of best practices and an operational assessment of their two organizations.

In September 2005, a laboratory management meeting called *Executive Edge* was conducted in Toronto, Ontario, Canada, by The Dark Intelligence Group and QSE Consulting. It provided pathologists and lab directors in Canada with a customized meeting devoted to the strategic and operational issues of laboratory management in Canada.

A-6
About R William (Bill) Taylor
Chief Marketing Officer, XIFIN, Inc.

Bill Taylor brings over 25 years of high technology experience focusing on software companies ranging from start up to multibillion dollar enterprises. Most recently Mr. Taylor served as VP, Marketing and Corporate Development for Accelrys Inc. were he drove the re-invention of the company's mission and grew revenues from new markets at 50%/yr. resulting in a bookings increase of over 300% in three years. Prior to Accelrys Mr. Taylor served as an IBM Strategy Executive where he drove the strategy for the rapid growth of the Rational brand within IBM Software Group.

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