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From the Desk of R. Lewis Dark...

THE DARK REPORT

RELIABLE BUSINESS INTELLIGENCE, EXCLUSIVELY FOR MEDICAL LAB CEOs / COOs / CFOs / PATHOLOGISTs

Restricted information, see page 2

Commentary & Opinion by...

R. Lewis Dark

Founder & Publisher

Do GPOs Encourage Supplier Oligopolies?

WITHIN A FEW MONTHS, political insiders say two senators will hold public hearings about the business practices of hospital group purchasing organizations (GPO). This will be the first time for GPOs to face this type of congressional scrutiny. The senators want to investigate whether GPOs have negatively affected competition among medical device and hospital supply companies.

Certainly GPOs have delivered benefits to their member hospitals over the years, but not without many flaws. Within the hospital laboratory profession, there is widespread dissatisfaction about specific methods employed by GPOs to select a limited number of designated vendors and then enforce compliance by individual hospitals with those contracts.

In Vivo magazine, discussing this topic, described the problem succinctly. It said the "criticism of group purchasing is simply that, whether intentionally or not, GPOs and their contract vendors have closed the market, creating a very insular world where very large, market share leaders play exclusively with very large, consolidated groups." Few laboratorians would disagree with that characterization.

If GPO contracting practices become a public issue, it will probably be over concerns about how contracting practices for pharmaceuticals and large-ticket medical devices limit competition and thus contribute to higher healthcare costs. Diagnostic products are a smaller component of this larger game and so it's unlikely they will undergo the same level of scrutiny as other product segments.

What I've always found interesting about GPO contracting practices is that, despite the national contract which supposedly establishes an attractively low price, larger hospitals and hospital systems can invariably negotiate lower-than-GPO-contract pricing for their particular purchases. I wonder if this phenomenon will surface in the congressional hearings.

THE DARK REPORT has long predicted that the formation of multiple hospital integrated delivery networks (IDNs) and e-commerce technology will force changes to how hospital GPOs conduct business. What will be interesting to watch is whether congressional hearings stimulate reforms to certain GPO practices. Among hospital lab administrators, there is lots of quiet support for restoring a greater degree of choice beyond the limited number of big vendors typically favored with GPO contracts. TDR

Largest Hospital Lab JV Making Steady Progress

Aurora and Advocate Health Systems unifying lab & pathology operations

CEO SUMMARY: It's a daunting task to rationalize and integrate lab testing services among 21 hospitals spread out between Eastern Wisconsin and the south side of Chicago. Since the joint venture was announced April 2000, management initiatives have generated lower costs. But the number one obstacle to faster progress has turned out to be information system capabilities between the two systems.

WHAT HAPPENS WHEN A HOSPITAL system finishes several rounds of rigorous laboratory consolidation? What management strategies can be employed next to generate further cost savings and service enhancements from lab operations?

These are the questions which led to the laboratory joint venture between **Aurora Health Care**, headquartered in Milwaukee, Wisconsin, and **Advocate Health Care**, which operates hospitals in the northern suburbs of Chicago, Illinois. The joint operating agreement forming the laboratory venture, called **ACL Laboratories**, was completed in April 2000. *(See TDR, April 17, 2000.)*

By making the decision to place their individual lab operations under a common management structure, the Aurora and Advocate health systems became an example of an infant trend in the lab industry. That trend is for two or more health systems to unify, integrate, and consolidate their lab operations across the participating systems.

Although the Aurora/Advocate lab joint venture has only operated over the past 19 months, it has already learned a number of strategic business and management lessons about this type of laboratory joint venture. The first lesson is that the unique composition of each participating healthcare system dictates the form and function of the lab testing services. One lab solution may not meet the needs of all partners.

This is particularly true of ACL Laboratories, which serves two large

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health systems. Aurora operates 12 hospitals and generates $1.9 billion in annual revenue. Advocate has 11 hospitals and revenues of $2.2 billion. In deciding to place their laboratory under a common management structure, these two health systems created what may be the largest hospital-based laboratory organization in the United States.

THE DARK REPORT recently traveled to the Midwest and visited the labs of Aurora and Advocate to learn, first-hand, about the management strategies guiding this huge lab joint venture. Not surprisingly, the scale of this lab venture has created some unique complexities.

Hospital Lab Is Profitable

"ACL's financial numbers tell an interesting tale," stated Jay F. Schamberg, M.D., General Manager of ACL Laboratories, "As a cost center, laboratory services spends $170 million per year in both systems. As a revenue center, laboratory services generates $235 million per year.

"The fact that we are profitable is an important point. It explains one reason why our system administrators support the laboratory joint venture," noted Dr. Schamberg. "Our laboratory brings in a substantial amount of money to the benefit of the systems. We've provided the numbers to our administrations and they recognize the importance of lab testing revenues."

Delivering Added Value

In many hospitals and health systems, there is a belief by administration that lab services are a cost. Consequently, these labs are managed to control and eliminate expenses. At ACL Laboratories, the opposite is true.

"We made a strategic management decision to develop very sophisticated tools that measure net revenues, costs, and productivity within the laboratory," noted Dr. Schamberg. "This detailed information about our finances and productivity gives us great credibility with the two health systems.

"As we create improvements in lab operations," he continued, "they can see relevant financial and operational measures moving in the right direction. This gives our governing board, called the Laboratory Oversight Committee, the confidence to support us with more capital and the resources we need to expand the testing services offered by our lab."

When the joint venture was formed in 2000, Aurora Health Systems had finished a rigorous, multi-year project to consolidate its laboratory services. Since most of the 12 Aurora hospitals are clustered around eastern Wisconsin, it had created a core laboratory at **West Allis Memorial Hospital**, just outside downtown Milwaukee. The core lab serves hospitals located as far north as Green Bay, Wisconsin.

Limited By Geography

Within the Advocate system, some laboratory consolidation had been completed, using **Lutheran General Hospital** in Park Ridge, Illinois as the site of the core lab. But geography and traffic had constrained the lab's efforts to shift sizeable amounts of testing from other hospitals in the system.

"The location and needs of Advocate's hospitals dictated a different strategy for our laboratory organization," noted Imad Y. Almanaseer, M.D., Chairman, Department of Pathology at Lutheran General. "Within our system, consolidation of lab testing has been done selectively, where it can contribute to better quality and lower costs."

"It's important to understand that both health systems knew, at the start of this lab joint venture, that the lab organizations were different in fundamental ways," stated Dr. Schamberg.

"This fact shaped our management strategies. We needed to build upon the existing strengths of both laboratory organizations. Opportunities to further unify and integrate lab operations would present themselves over time."

Both Dr. Schamberg and Dr. Almanaseer can reel off a list of successful management initiatives that include savings from group purchasing, integration of courier and logistics, and establishing specific testing centers of excellence to serve both health systems. But both physicians are candid about the major obstacle preventing ACL Labs from moving on bigger management priorities.

"It's the information systems," stated Dr. Almanaseer. "Both hospital system labs run on **Sunquest** LIS. But an effective interface has yet to be implemented and that makes it difficult to move specimens between labs and across the two systems."

Billing For Lab Outreach

"Another obstacle is outreach billing capability," added Dr. Schamberg. "For years, Aurora has enjoyed a thriving lab outreach program. We've got a separate billing department from the hospital and it uses **Antrim**. In contrast, as the Advocate health system formed, lab outreach was never developed. So they have a relatively limited capability to bill for outreach tests.

"Establishing the ability to bill for outreach testing across both health systems represents a significant opportunity for us," declared Dr. Almanaseer. "Our priority is to implement an aggressive outreach program around the Advocate hospital campuses once the LIS and lab billing informatics solutions are in place."

A parallel initiative is under way to unify the informatics capabilities of the pathology group practices which serve Aurora and Advocate. "Here is an example of where a consolidated lab organization helps us avoid reinventing the wheel and incurring unnecessary costs," observed Dr. Almanaseer. "Our pathologists at Advocate are using the latest version of DHT's CoPathPlus™. Pathologists at Aurora are using an earlier version of CoPath."

"Work is under way to implement CoPathPlus within the Aurora pathologist group," he continued. "It will take considerably less effort to include their tests into our existing tables than if they were upgrading on their own."

Detailed Numbers Drive Management Decisions

Inside Aurora Health Systems' Laboratory division, a detailed financial program supports rapid and accurate decisions by its adminstrative team.

"We've developed a system of analysis which allows us to take a detailed look at almost any cost or productivity variable in our laboratory organization," said Jay F. Schamberg, M.D., General Manager of ACL Laboratories. "It is accessible by Web browser and permits us to do real-time anaylsis of our lab operations."

Dr. Schamberg and his team have used this financial accounting system to drive lab costs down. From an average cost per test of $10.20 in 1997, ACL's cost per test was reduced to $9.01 for 2000.

As the information systems are unified across all the hospital laboratories, a plan to further consolidate and rationalize testing flows is ready to roll out. "For example, Advocate has a well-developed lab for molecular and genetic testing," observed Dr. Schamberg. "Its expertise is established and significant

and so it makes sense to make it the center of excellence for molecular and genetic testing.

"That principle applies equally to outreach testing. Aurora's core lab is already set up and it handles a significant volume of outreach testing every night," he continued. "As lab information solutions are put in place, it will make sense for most outreach specimens originating in Chicago to come to Milwaukee for testing.'

...it demonstrates that collaborative efforts by independent healthcare systems to rationalize laboratory services across extended geography can be successful.

In both Chicago and Milwaukee, ACL labs is not plagued by the same shortage of med techs seen in other cities. "We've had no problems maintaining the required staffing levels of medical technologists," noted Dr. Schamberg. "It's the histology lab where we could use additional trained technical staff. To fill our staffing needs, we've established an educational program to train histotechs."

Significant To Marketplace

THE DARK REPORT believes that the ACL Laboratory joint venture between Aurora Health Systems and Advocate Health Care represents market significance for at least two reasons.

One, it demonstrates that collaborative efforts by independent healthcare systems to rationalize laboratory services across extended geography can be successful. Despite the 100 miles which separate hospitals in Chicago and Milwaukee, ACL Laboratories is successfully improving services and unifying lab operations.

Two, this lab joint venture is representative of a handful of similar attempts by two or more multiple-hospital health systems to operate a shared laboratory organization. As such, it is an example of what may be an emerging trend. After all, once hospital systems have consolidated lab operations internally, "external" lab consolidation is an obvious way to further reduce costs and expand lab testing services.

Because ACL Laboratories is an early effort to combine very large testing operations of two independent healthcare systems, it offers some relevant lessons in strategic positioning and lab management.

Lab Information Systems

To no one's surprise, the importance of laboratory information systems is reinforced by the experience of ACL Laboratories. Once a common LIS capability is established, it is ready to move forward on any number of significant performance improvement opportunities. These include expanding outreach efforts in Chicago, more movement of specimens among the two systems' core labs, and referring specific tests to appropriate centers of excellence labs within the two systems.

The other key lesson is that good financial and productivity data can provide irrefutable proof that a hospital laboratory generates net operating profits to its parent hospital or health system. As that happens, it becomes easier for laboratory administrators and pathologists to get capital and additional support for ongoing expansion of laboratory testing services and further projects to reduce lab expenses and boost productivity. TDR

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ProxyMed & Medscape Select Atlas' LabWorks

Collaborations with Atlas Development Corp. involve electronic lab test ordering capabilities

CEO SUMMARY: ProxyMed and MedScape just announced contracts with Atlas Development Corporation. Both companies will integrate Atlas LabWorks™ for electronic test ordering and results reporting into software products they sell to labs and physicians' offices. Such collaborations again illustrate the importance of a competitive solution for electronic lab test ordering and reporting.

THERE'S A NEW VENDOR RAISING its profile in the competitive marketplace for browser-based lab test ordering and results reporting systems.

It was announced on November 16 that **ProxyMed, Inc.** and **Atlas Development Corporation** had signed an agreement to colloborate**.** ProxyMed will incorporate the "Atlas LabWorks™" software for electronic lab test ordering and results reporting into its "ProxyLab" system. Additional features, including patient test results notification capability, will also be part of ProxyLab's functionality.

Business Collaboration

Just ten days later, on November 26, **Medscape, Inc.** of Hillsboro, Oregon made public its own business collaboration with Atlas. Under terms of the agreement, Atlas will provide Medscape with an electronic lab test ordering solution for its suite of clinical software products.

Medscape provides clinical decision support and other information services to healthcare providers, particularly office-based physicians. Its Logician® EMR (electronic medical record) and its upcoming Web-based chart room and messaging applications already support lab test results reporting.

Used At 500 Sites Nationally

Atlas Development Corporation, based in Woodland Hills, California, is a software development firm with established credentials. Its LabWorks software product is used for electronic test ordering and results reporting by **Dynacare, Inc.** and **Spectra Renal Management, Inc.** (which uses LabWorks in more than 500 dialysis clinics throughout the United States).

THE DARK REPORT believes each of these collaborations are noteworthy. They provide evidence of ongoing changes in how physicians' offices communicate with laboratory providers. A closer look at ProxyMed and Medscape will illustrate why this is true.

ProxyMed, with headquarters in Fort Lauderdale, Florida, describes itself as an "electronic healthcare transaction processing services company." It

operates "ProxyNet," designed to connect physicians and other care providers to payers, pharmacies, and clinical laboratories for financial and clinical uses.

ProxyMed's presence in the lab industry is extensive. In 1998, it acquired **Key Communications Service, Inc.**, itself founded in 1976 and widely-recognized in the lab industry as a major provider of connectivity solutions between labs and their physician office clients. Primarily this involves maintaining teleprinters and PCs in physicians' offices on behalf of its laboratory customers.

"Talks between our two companies actually started at the *Executive War College* last May," stated Nancy Ham, President and COO of ProxyMed. "Having heard each other's presentations, we both recognized that our strengths were complementary.

"ProxyMed and Key Communications Services have long-term experience in DOS-based thick client products such as KLM and ClinScan," she noted. "We were looking to offer our clients an upgrade path. We needed a solution that was stable, proven, and highly configurable to the needs of individual customers.

Flexible Design

"We find LabWorks to be relevant for us because of its flexible design," noted Ham. "It can run as either thick client or thin client. It can be run on the Web and Windows platforms. It can run on a hospital's intranet as well as the Internet. Since we serve more than 550 laboratories in the United States, we need a platform software product that can serve this variety of environments without significant modification."

The ability of LabWorks to be easily configured in a number of ways was equally attractive to Medscape. "We will begin aggressively promoting its lab test ordering solution to our clients," stated Pat Wolfram, Vice President, Product Integration at Medscape. "It's our tool of choice.

"Our electronic medical record (EMR) system, Logician, is already used at more than 600 clients," he added. "These range from integrated delivery networks—many with their own physicians' office laboratories—to small group practices. Some clients chose the client server-based Logician in order to own and manage their own data. Others want an ASP [application service provider–thin client solution]. They are opting for the Web-based chart room and messaging services. We chose Labworks because it can serve both environments.

Connecting the Dots: Who Are the Players?

TO BETTER UNDERSTAND THE FORCES causing shifts in the competitive lab marketplace, it helps to know the backgrounds of the people actively introducing new products and services.

Within ProxyMed, two individuals have deep roots in the lab industry. Michael K. Hoover, Chairman and CEO, and Nancy J. Ham, President and COO, were principals in **ActaMed**, the company which owned and managed the communications infrastructure of **SmithKline Beecham Clinical Labs**' teleprinter and SCAN PC services serving its physicians' office clients. When **Healtheon** (later to become **WebMD**) acquired ActaMed, it helped develop its Dx product for browser-based lab test ordering before eventually joining ProxyMed.

At Atlas Development, President Rob Atlas has significant experience at moving lab services onto an Internet-based platform. His firm did extensive development work for the precursor system to **Specialty Laboratories**' DataPassportMD product before Specialty took the project totally in-house.

"Our systems are designed to be used by physicians and other care providers in their daily work," Wolfram explained. "What we've learned about EMR and lab test ordering is that it absolutely *must* align with a physician's way of doing business, otherwise it won't be used.

"Since most physicians are at different points in their acceptance of digital data, we've had to learn how to match our clinical support services with the individual physician's way of conducting business," he said. "As they realize our solution is just as easy as their paper-based method, they comfortably switch to the digital method.

Patient-Specific Data

"With the help of Atlas, we are configuring our electronic lab test ordering function to work exactly the same way the physician works," noted Wolfram. "One way our Logician system adds value is the way it provides patient-specific clinical data to the physician as he orders the test. This enables the physician to order tests faster, more accurately, and to provide the correct information needed for the lab to process the test and get paid."

> ***"What we've learned about lab test ordering is that it absolutely* must *align with a physician's way of doing business, otherwise it won't be used."***
> **Pat Wolfram–Medscape**

As the comments from executives of ProxyMed and Medscape demonstrate, physicians demand sophistication in the design and operation of an electronic test ordering system. Their parent organizations require different types of thin client and thick client solutions, sometimes both within the same healthcare system.

ProxyMed and Medscape have a different relationship with the physicians' office market than clinical laboratories. Based on this experience, they want to develop a more sophisticated capability for electronic lab test ordering.

For that reason, laboratory administrators and pathologists should track how well ProxyMed and Medscape do in their efforts to convert physicians from paper test requisitions to electronic test ordering. Rapid physician acceptance would be a market sign that both companies successfully "cracked the code."

From the other side of the table, these two collaborations position Atlas Development to get its systems into a lot of physicians' offices. In doing business with 550 laboratories, ProxyMed already provides lab support services to thousands of physicians' offices. The opportunity is similar at Medscape, which currently has 600 client sites and is growing steadily.

Bring Value To Doctors

THE DARK REPORT notes that both ProxyMed and Medscape are companies built around the concepts of heatlhcare e-commerce. They want to bring value to the physician's office by introducing new tools and work processes that support the physician's clinical activities and eliminate paper and unnecessary or wasteful work procedures.

To accomplish this, each company has recognized that it must play a role in moving, storing, and analyzing laboratory test information if they are to be successful. After all, lab data is the majority of the permanent patient medical record.

That's why ProxyMed and Medscape aptly illustrate how such companies are working to capture functions traditionally provided to physicians' offices by clinical laboratories. TDR

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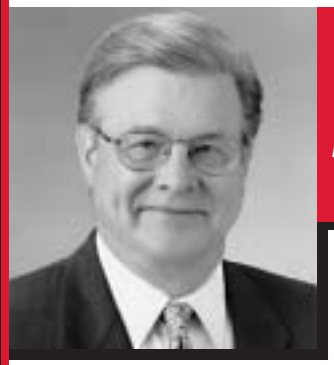

"The twin macro trends of demographics and technology will act to the benefit of diagnostic testing."
—John (Jack) Wareham

Beckman Coulter Positions Itself For Biotech Testing Continuum

Biomedical R&D and clinical research are fast-growing markets for Beckman Coulter Inc.

CEO SUMMARY: Here's a little-known side to diagnostics giant Beckman Coulter Inc. Its efforts to expand into the fields of biomedical R&D and clinical research is a strategic shift designed to give it early access to promising technology that could be introduced into the clinical diagnostics marketplace. In this exclusive interview, John (Jack) Wareham, Chair, President, and CEO of Beckman Coulter, outlines the market trends driving healthcare and how they impact diagnostics. He explains why Beckman Coulter recently made changes to its organization and discusses the types of new products soon to be heading into the marketplace. The interview was conducted by Robert L. Michel, Editor-In-Chief.

EDITOR: Several developing trends are influencing and changing the diagnostic testing marketplace. Most clinical lab administrators and pathologists are unaware that **Beckman Coulter Inc.** is responding to these trends with fundamental changes to its corporate business strategy. Since these same strategic drivers will also affect clinical laboratories, I'd like to explore three levels of strategic analysis within Beckman Coulter. Could you first identify the global, or macro trends you see influencing the healthcare marketplace? Second, how will these trends specifically impact clinical diagnostics? Third, how is Beckman Coulter's strategic response to these market dynamics changing the company from what it was following the 1997 merger of **Beckman Instruments, Inc.** and **Coulter Corporation**?

WAREHAM: We can start with broad trends, then address the specific business strategies we are implementing in response to those trends. From the global perspective, I see two macro trends now actively reshaping healthcare systems worldwide and changing the way diagnostic testing is used. One involves demographics. The second involves technology.

EDITOR: By classifying these trends as macro, are you saying they will have major influence on shaping the way government and society debates and implements changes to the way healthcare services are organized, delivered, and reimbursed?

WAREHAM: Yes. These two macro trends, demographics and technology, will underpin the most significant changes to healthcare. Among other things, they will directly stimulate the expansion of diagnostic testing in new directions.

EDITOR: Let's start with demographics.

WAREHAM: By far, I believe demographics will be the major driver in the ongoing evolution of healthcare. There is widespread agreement among demographers that the populations of both the United States and Western Europe are aging.

EDITOR: Which implies a higher utilization rate for healthcare services.

WAREHAM: Certainly, but the thing to watch is how demographics impacts the *cost* of healthcare. Because it is the prospect of higher costs which will drive policy. However, there's a catch.

EDITOR: Please explain.

WAREHAM: In most societies, public policy is driven by circumstances. And since most political systems are reactionary, policy responses to rising healthcare costs often lack innovation and breakthrough thinking. That's because public policy-makers, whether elected officials or appointed regulators, are risk-averse.

EDITOR: That's an accurate description of the political gridlock which often surrounds both legislation and regulation governing healthcare services. The effect is to stifle innovative solutions to problems in the healthcare system.

WAREHAM: Certainly that's an element. But this demographics trend involves more than the aging populations of the United States and Europe. China and many populous third world countries have extremely young populations. The introduction into these countries of medical technology common in the Western World is fueling a demand for more of these services.

EDITOR: You've described a type of "yin–yang" trend. Across the globe, demographics is going to drive the social policy of various countries in contrasting ways. In the United States and Western Europe, aging populations will require more healthcare even as there are fewer young workers per capita to fund government health programs. In countries like China, with young populations, the demand will be for medical care which uses the technology and quality standards of the developed nations.

WAREHAM: "Yin–yang" is a valid way to characterize this trend, because it represents two distinct forces that will change healthcare systems. In each case, the common denominator is that the overall cost of healthcare will increase.

EDITOR: Could you define your second macro trend?

WAREHAM: The second trend of overwhelming importance is the ongoing cascade of improved technology. Not only is there a geometrically-increasing volume of technology hitting the healthcare marketplace, but a new phenomenon now affects technology. Medical technology is increasingly global.

EDITOR: You seem to be saying that, in conjunction with new technology itself, the way it diffuses in countries throughout the world is now different than in the past.

WAREHAM: Correct. On a daily basis here in the United States, we only see little increments and don't fully appreciate the impact of major changes. However, taken collectively, there's a lot of movement and change in technology which contributes to lengthening life and also improving the quality of life.

EDITOR: How does this shape itself into such an influential macro trend?

WAREHAM: As people become aware of better technology that would improve their health and their quality of life, they want access to it. Simply put, this is where the demographics trend intersects with the medical technology trend. Throughout the world, we are seeing an acceleration in the way new technology is diffused and adopted.

EDITOR: Does this mean medical technology is moving faster than ever across international borders?

WAREHAM: Definitely, and technology is intricately linked to demographics. In almost every country, you can find a demographic group that will either drive new medical technology or pull it through.

EDITOR: For example, in the United States, the Medicare population wants access to newly-developed prescription drugs which are life-extending. They push to have the health system fund such services. On the other end of the demographic spectrum, young couples in China want access to surgical and other procedures which may save their child's life. They want the healthcare system to adopt medical technology already in wide use in more developed countries.

WAREHAM: Yes. Those are good examples. In both cases you've mentioned, demographics and technology are intertwined and require a policy solution by society. After all, someone has to pay for all that technology and healthcare.

EDITOR: Although you've not mentioned it specifically, one consequence of these two trends is that the demand for diagnostic testing should be very strong in years to come. Demographics of most populations favors more test utilization. Technology promises diagnostic tests of greater clinical value. Both factors would be good for diagnostic manufacturers and clinical laboratories.

WAREHAM: That's correct. I consider these two macro trends to be primary change agents to the healthcare system. For example, they are the market forces which give the developing fields of genetics and proteomics such great potential.

EDITOR: Let me take a crack at summarizing your view of the healthcare market. In simplest terms, you see increased costs associated with healthcare as a primary change agent to healthcare systems around the world. Demographics will fuel a demand for health services. This demand will have different components, depending on whether the population is younger or older. Medical technology which improves and lengthens life also represents an increase in costs to the healthcare system. Together, these two trends place pressure upon the healthcare system to expand health services without bankrupting the nation.

WAREHAM: That certainly describes the general environment into which Beckman Coulter must offer relevant products. But, medical technology both saves lives and improves the quality of life. While total costs may go up, there is also positive impact on longevity and quality. These are the macro trends shaping our business strategy. In response, we've begun to shift our focus and develop products which meet the needs of customers throughout the biomedical testing continuum.

EDITOR: Let me stop you for a moment. Most clinical lab executives and pathologists perceive Beckman Coulter to be a diagnostics company, with a particularly strong market share in chemistry and hematology. What is the "biomedical testing continuum" and why is it causing Beckman Coulter to change its strategic focus?

WAREHAM: The biomedical testing continuum has always existed. Across this continuum are biological testing

applications that include research and development of pharmaceuticals, research and development of biological processes, and clinical trials and clinical research that all have medical applications. So it's broader than just diagnostics.

EDITOR: Has the biomedical testing continuum changed in recent years? Is that a factor influencing the shifting business strategies at Beckman Coulter?

WAREHAM: The simple answer is yes. Compared to, say 20 years ago, the sheer volume of activity in the biomedical testing continuum has increased by impressive amounts. We currently estimate the total market at the manufacturing level to be about $31 billion per year.

"We believe there will be continued downward pressure on reimbursement for routine testing."

EDITOR: How is it segmented?

WAREHAM: We divide it into three segments. The biggest is clinical diagnostics—those tests involving patient care. At the manufacturer's level, this segment is $20 billion per year. Next is research and development, at $8 billion per year. This is the type of bio-assay work that includes basic science. Third is clinical research. It's the smallest, at $3 billion, but it's the critical link which moves technology from R&D labs into clinical diagnostics.

EDITOR: Does Beckman Coulter sell into all three segments?

WAREHAM: Yes. We mirror the aggregate market. Our clinical diagnostics business is about $1.3 billion. R&D testing sales are $400 million and clinical research totals about $200 million.

EDITOR: Given Beckman Coulter's long service to clinical diagnostics, how have recent changes to the biomedical testing continuum altered the strategic direction of your company?

WAREHAM: I can best answer that by describing two themes we continue to observe in the laboratory marketplace. First, we believe there will be sustained downward pressure on reimbursement for routine clinical testing. This forces labs to do more with less. Consequently, the critical success factor for Beckman Coulter and other diagnostic manufacturers is to provide products which enable labs to do those same tests at lower costs.

EDITOR: Even as volume and utilization increases because of demographics.

WAREHAM: True. Which places the laboratory, and its vendors, under pressure to continually automate, reduce costs, and make lab operations more efficient. However, if you look at the success high-volume labs have had in cutting costs throughout the last decade, the potential to squeeze further significant gains from this area grows increasingly difficult with current processes. Continued new automation and workflow improvements are what we strive for. Ultimately, many of these innovations will help make healthcare more cost-efficient.

EDITOR: So one theme is the diminishing potential of further cost reductions in how routine clinical testing is performed.

WAREHAM: Yes, given the expectation that labs will face continuing pressures to slash costs in the foreseeable future. That brings me to the second theme. We all expect that there will soon be new things to test for which improve the quality of life and possibly may even extend life. But as that happens, there will be a short-term collision with the need to control the dollars. Ultimately, many of these innovations will help to make healthcare more cost efficient.

EDITOR: That's your intersection of demographics and technology as they impact the American healthcare system.

WAREHAM: Correct. We already see the tension in how reimbursement is established for existing and new tests. It does no good to introduce a new test if labs cannot get paid for it. It's reasonable to expect further stress within the healthcare system until these issues are sorted out satisfactorily.

EDITOR: As you lay this out, I can see how your two macro trends play into the two "micro themes" you've just described.

WAREHAM: These are the market forces which have been shaping our corporate strategy. So let's step back and look at what Beckman Coulter is doing. One of the biggest efforts in the two areas we call Clinical Diagnostics [patient care testing] and Life Science Research [research and development] is to simplify and automate our customers' processes. Now, most clinical lab administrators and pathologists are familiar with our automated systems and work process design services. However, what is less well-known is that, for years, we've had an equivalent program in the Life Science Research community to automate and simplify their processes, particularly in the drug discovery testing marketplace. There is great synergy between the two market segments because so much of the simplification and automation is the same for both.

EDITOR: That's logical, given the similar nature of the underlying testing technology. But I would bet that at least two things have caused you to place greater corporate emphasis on the Life Sciences Research market than in past years. First, it must be undergoing huge growth with the money flowing into genomic and proteomic research. Second, if you are placing instruments in research labs, it must give you an early peek at promising diagnostic testing technology and put you first in line to partner in bringing that technology to clinical labs.

WAREHAM: That's correct on both counts. We call it the "biomedical testing continuum" for a reason. We believe that technology is developed in the R&D labs. Some of it then moves into clinical research, which is the stage where it proves whether or not it is effective for clinical applications. If so, it then moves into general clinical usage. We want to be there at every step in that continuum. In fact, that is why, in March of this year, we created a new division to serve the clinical research marketplace. Called the Specialty Testing Division, it positions us to better capture new technologies earlier and then drive those of significant routine clinical importance into the patient care markets.

"Remember the value component in our healthcare system. New lab tests must add clinical value for the system to be willing to pay adequate reimbursement."

EDITOR: I guess you could call this a leverage strategy. Your biggest revenue component is clinical diagnostics—what you call Patient Care. Yet the products you place in R&D and clinical research settings position you to learn about promising new technologies which can eventually be introduced into the clinical diagnostics marketplace.

WAREHAM: That's right. Remember the value component in our healthcare system. New lab tests must add clinical value for the system to be willing to pay adequate reimbursement. Beckman Coulter, working with research organizations already using our instruments and other products, can identify

promising technology and participate in developing it for clinical use. The Access® Hybritech® PSA and Free PSA assays are good examples of how tests can improve the quality of life and length of life.

EDITOR: Is this leverage strategy working? What kind of new testing technology does Beckman Coulter expect to introduce during the next 24 months?

WAREHAM: Speaking broadly, there are probably three areas where we have new products moving through the pipeline. First is the whole field of flow cytometry. We have ongoing collaborations with a number of clinical research organizations. We expect to introduce a variety of products in the flow cytometry market.

EDITOR: Number two?

WAREHAM: Second involves our Immunomics Operations. The line of products we call iTAg™MHC Tertamers allow direct ex vivo quantitation of antigen-specific T cells. These are run on flow cytometers. Currently applications are mostly in research labs and to support development of new vaccines. We are optimistic that these products will move into the patient care market.

EDITOR: And the third product line?

WAREHAM: Not surprisingly, it's a variety of micro-arrays with a particular emphasis on proteomics. Our program is called Progressive Micro Arrays. We currently have low-density arrays and are working to move those up to high-density arrays that would allow multiplex testing to occur. First users of these products are R&D labs.

EDITOR: Eventually those three areas of product development will take Beckman Coulter into segments of the clinical diagnostics marketplace where it has not always had a major presence.

WAREHAM: That may be true, but the underlying corporate mission of the company remains unchanged. Beckman Coulter is focused on simplifying and automating laboratory work processes and providing greater value.

EDITOR: In that context, your corporate mission to other diagnostic companies is like **Honda's** is to other automobile manufacturers. Whereas **Ford** defined themselves as an expert in making cars, Honda defined themselves as in expert in designing and manufacturing engines. That's why Honda produces automobiles, motorcycles, outboard motors, lawn mowers, and similar devices. The way you've defined your company's core competency, it's positioned to support any line of biological testing which benefits from work process simplification and automation.

WAREHAM: I think that's a reasonable comparison. As we've shifted our emphasis to serve all three segments of the biomedical testing continuum, our product lines have proven to be relevant and effective in any type of lab setting and for a wide variety of applications.

EDITOR: Based on the insights you've shared today, I think clients of THE DARK REPORT now understand how the evolving business strategies of Beckman Coulter will position it to serve some new, and possibly surprising, areas of routine clinical testing.

WAREHAM: Thank you. I don't often get the opportunity to directly tell this part of our story to the clinical laboratory community.

EDITOR: Of equal importance, you've provided some valuable business intelligence on key trends you see shaping the healthcare marketplace. Many of our clients are developing strategies for their lab organizations and will incorporate these observations into their own business planning. Jack, thank you for your time today.

WAREHAM: Thank you, Robert. TDR

Contact Jack Wareham through Nancy Everhart at 714-773-8895.

Story Update

Hermann Lab Rebuilt in Weeks, Reopens With Entire Hospital

REBUILDING AN ENTIRE HOSPITAL laboratory on a crash basis is a rare occurrence. But in just six weeks, the lab team at Houston's **Memorial Hermann Hospital** accomplished that feat.

In June, tropical storm Allison dropped 36 inches of rain on Houston in just two days. One casualty of the widespread flooding was Hermann's laboratory, located in the basement. *(See TDR, July 2, 2001.)* "Flood damage to Memorial Hermann Hospital was severe enough to force its closure," noted James Faucett, AVP System Laboratory Services at **Memorial Hermann Health System** (MHHS). "This was a particularly challenging, since it is one of only two Level I trauma centers in the city."

Last July, Faucett told THE DARK REPORT that work was under way to construct a temporary lab from scratch in another area of the hospital and reopen just six weeks after the flood. "With great pride, our laboratory launched on schedule with all services," said Faucett. "We were ready when the hospital reopened on Monday, July 17. It was an amazing effort by everyone involved.

"The original rebuilding plans were changed to enlarge our new temporary lab to 15,000 square feet," he added. "It's an open lab configuration. Because MHHS has a core laboratory serving the system, we did not restart virology, AFP, and some testing in microbiology, special coag, and special chemistry.

"You'll recall that, because our former lab was in the basement, it was a total loss," noted Faucett. "We had to replace 100% of the lab. The one exception was our **Cerner** LIS. The hardware survived the flood. We had to do some recabling and it was ready.

"Construction was finished in just three weeks," he added. "Vendors then began their work. They did an astonishing job. In the last two weeks before reopening, their service teams worked around the clock and on weekends."

As a "temporary" lab site, Faucett's facility operates with a bare concrete floor and no acoustical ceiling. "That doesn't bother anybody. We like the open design. The old lab, down in the basement, was a rabbit warren of small rooms and hallways," recalled Faucett.

Faucett's lab team may have accomplished something unique in the lab industry. "I've never heard a story about a large hospital losing its lab because of a disaster, then rebuilding it in a new site on a crash basis in just six weeks," he offered. "It's something I obviously hope I never have to do again, but it's taught us some valuable lessons.

"For one, we've learned that our lab people can accomplish great things. They only need to be asked in the right way," stated Faucett. "Second, we learned the importance of swift action. After the flood, we disbursed our med techs throughout the system and immediately began making decisions and initiating steps needed to rebuild." TDR

Contact James Faucett at 713-448-5107.

Lab Industry Briefs

SUNQUEST REAFFIRMS LONG-TERM COMMITMENT TO COPATHPLUS PRODUCT

EXPECT A FASCINATING competitive battle in the market for anatomic pathology software now that **Cerner Corporation** is acquiring **Dynamic Healthcare Technologies, Inc.** (DHT).

DHT is the developer and owner of CoPathPlus™, used by many pathology group practices around the country. One authorized reseller of CoPathPlus is **Sunquest Information Systems**.

In the last issue of THE DARK REPORT it was speculated that it would be "unlikely that Sunquest will decide to continue offering a software product now owned by one of its competitors." *(See TDR, October 15, 2001.)*

Sunquest President Mark Emkjer responded quickly to this statement. "Cerner's plan to acquire Dynamic was not a surprise to Sunquest," he told THE DARK REPORT. "We expected it for some time and we prepared for all contingencies."

Emkjer noted that, on March 5, 2001, Sunquest and DHT had announced an amended agreement. It allows Sunquest to continue to "distribute, implement, and support Dynamic's CoPathPlus System." Sunquest has the "ability to enhance and further integrate the system into future versions of Sunquest's laboratory information system (LIS) independent of Dynamic or Cerner."

Emkjer noted that "CoPath integration with our industry-leading LIS is well underway and will continue as originally planned." He further observed that, during third quarter 2001, Sunquest enjoyed its best-ever sales of CoPathPlus, with 20 healthcare institutions signing contracts to implement CoPathPlus.

Because Sunquest has rights to the source code for CoPathPlus, it will be able to add features and capabilities independent of Cerner and Dynamic Healthcare Technologies. That should benefit anatomic pathology groups, because it means more innovation and competition.

Pathologists are aware that healthcare systems want to integrate both clinical and financial data. The fact that both Sunquest and Cerner want to integrate CoPathPlus into their existing information systems shows how important this trend has become.

Sunquest's willingness to go on the record as being firmly committed to further development and integration of CoPathPlus means that the marketing battle for pathology information systems should be quite intense during the next few years. Pathology groups may find themselves with the pleasant option of choosing among three increasingly robust versions of CoPathPlus.

HEALTH PREMIUMS OUTPACE INCREASES IN PROVIDER COSTS

DURING 2002, MANAGED CARE FIRMS should report healthy profits. **Towers Perrin** reports that HMOs negotiated increases in premiums that were higher than the increased costs experienced by providers.

With most health insurance contracts for 2002 now signed, Towers Perrin calculates that the average increase was 14%. This is the highest year-to-year increase in over a decade. Experts predict that employers will respond to the stiff increases in healthcare benefits costs by switching to plans with less lavish benefits and requiring more co-pays,

deductables, and out-of-pocket payments by beneficiaries.

For the third quarter, almost every major health insurer reported profits. The exception was **Aetna, Inc.**, which posted a loss of $54.4 million. Although it is predicted that most managed care companies will do well financially in 2002, few observers believe that provider reimbursement will be increased by much, if at all.

TWO BLOOD BROTHERS TO PARTNER MORE WITH DIAGNOSTICS FIRMS

Being biggest brings opportunities not available to competitors. **Quest Diagnostics Incorporated** and **Laboratory Corporation of America** are now leveraging their sizable presence in the commercial marketplace to do more partnering deals with diagnostic manufacturers.

THE DARK REPORT is first to identify and alert lab administrators and pathologists to this trend. It means the two blood brothers will often have first access to new diagnostic technologies. As part of these partnering deals, they will generally have more favorable pricing or "profit sharing" opportunities than what are offered to hospital labs and regional independent labs.

Of the two blood brothers, Quest Diagnostics has been fastest to realize the financial potential from partnering with diagnostics manufacturers. Its latest such partnership is **Roche Diagnostics**. Announced last month, the two companies will combine forces to develop and commercialize genetic tests based on Roche's PCR technology. Their target is pharmacogenomics and predictive medicine.

One partnering agreement that's paid handsomely for Quest Diagnostics is its agreement with **Cytyc Corporation**. Almost two years ago, Quest Diagnostics agreed to use and market only Cytyc's ThinPrep™ test as a thin layer Pap test option. In return, it received preferred pricing for ThinPrep instruments and test kits, along with warrants for Cytyc stock.

Not only has the value of Cytyc's stock zoomed in the last 24 months, but financial analysts tell THE DARK REPORT that profits from the higher margins of ThinPrep tests versus conventional Pap smears have boosted Quest's net earnings by a significant amount.

The large size and presence in regional markets throughout the United States make the two blood brothers attractive partners for any diagnostics company ready to roll out new test technology. It remains to be seen whether this gives the two lab testing giants long-term competitive advantage in the laboratory marketplace.

POINT-OF-CARE CHEMISTRY PRODUCTS SOON TO BE MARKETED TO PHYSICIANS

THERE'S BEEN MUCH TALK about whether or not new technology is ready to support moving routine chemistry and hematology out of the core lab and into physicians' offices.

The clinical marketplace may soon answer this question. **Careside, Inc.**, has developed a point-of-care (POC) testing system capable of performing 41 FDA-cleared or exempt tests in the areas of chemistry, electrochemistry, and coagulation with a 15-minute turnaround time. *(See TDR, November 29, 1999.)*

Careside now has a marketing agreement with **Physician Sales and Service** (PSS) to distribute its products nationally to solo and small group practices. PSS employs 750 sales people who call on nearly 100,000 customers. As this sales team introduces Careside's POCT solutions to physicians' offices, it will provide the first opportunity to learn whether physicians' are willing to do these types of tests in-house. TDR

INTELLIGENCE LATE & LATENT

Items too late to print, too early to report

Here's clear evidence that laboratories will play a big role in healthcare's future. **AMIDEX Funds, Inc.** just launched the first index-based mutual fund that focuses on cancer companies. Called "AMIDEX Cancer Innovations and Healthcare Mutual Fund" (symbol: CNCRX), it holds investments in 45 pharmaceutical, biotechnology, and medical device companies. Clinical lab industry vendors such as **Abbott Laboratories**, **Beckman Coulter**, and **Cytyc** are included in the fund's holdings.

UROCOR MERGED INTO DIANON

Pathologists take note! **DIANON Systems, Inc.** completed its acquisition of **UroCor, Inc.** on November 9. Post-merger, DIANON says it provides diagnostic and other services to 5,000 of the nation's urologists. That's a significant share of the market for urology diagnostics, all coming at the expense of local anatomic pathology groups which traditionally served office-based urologists in their local community.

WEBMD POSTS HUGE WRITE DOWN IN Q-3 OF $3.83 BILLION!

It's been a tough financial road for **WebMD** since its merger with Healtheon in 1999 and the subsequent acquisition of several healthcare companies in 2000. All those Silicon Valley wonder boys who founded Healtheon and defined a grand scheme to help healthcare cut transaction costs have long since disappeared from WebMD. But the financial losses remain. In its third quarter earnings report, WebMD reported an operating loss of $19.5 million on revenues of $167 million. However, the big item was a whopping $3.83 billion write down, "primarily of goodwill and other acquired intangible assets."

MORE ON: WEBMD

There's another interesting number on WebMD's financials. For the nine months ending September 30, 2001, the company posted a loss from continuing operations of $6.5 billion! Corporate executives certainly have to be way out of step with the marketplace to incur losses on this scale, particularly with a company that is currently only generating about $706 million in revenues annually. It should be noted that Healtheon's original intent, to build a cost-effective transaction platform to link payers, providers, and patients, got rapidly lost as WebMD became enamored of its ability to do grandiose deals with media companies and big corporations.

NEWS BYTES:

Here are additional items of interest about companies profiled in this issue of THE DARK REPORT. • **ProxyMed, Inc.** (see pages 6-7) recently promoted Nancy J. Ham to President and COO. She had been the company's COO. • **Beckman Coulter Corp.**, (see pages 9-14) on November 14, raised $235 million from a sale of 10-year notes. It will use the funds to retire existing credit lines. • On November 1, **Memorial Hermann Healthcare System** (MHHS–see page 15) and **Dynacare, Inc.** announced termination of their outreach joint venture. Dynacare purchased the assets of the JV for an undisclosed price.

That's all the insider intelligence for this report. Look for the next briefing on Monday, December 17, 2001.

WAR COLLEGE PREVIEW #1

How to Buy, Implement, and Operate Browser-Based Lab Ordering & Reporting

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- ***THE DARK REPORT'S Review of the Ten Biggest Lab Industry Stories for 2001.***
- ***New Competition in Thin-Layer Pap Testing Now Gives Laboratories More Choices.***
- ***PART TWO: Recent Legal Developments Affecting Reimbursement for Clinical Pathology Professional Services.***

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