

From the Desk of R. Lewis Dark...

THE **RD**ARK **REPORT**

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

R. Lewis Dark:

Lab Regionalization Creates New Business Models.....Page 1

Memorial Hermann Hospital Laboratory
Launches Crash Rebuild.....Page 2

Connecticut Hospital Lab Network
Wins HMO Lab Test Contracts.....Page 5

Laboratory Competitors Form Common
Lab Test Data Repository for Doctors..... Page 9

Lab Industry Trends: Hospital Association Studies
Nurse and Laboratory Staffing issues..... Page 15

Lab Briefs: Bio-Reference Labs, Sunquest,
Beckman Coulter, Vysis..... Page 16

Intelligence: Late-Breaking Lab News..... Page 18

Commentary & Opinion by...

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Founder & Publisher



Lab Regionalization Creates New Business Models

REGIONALIZATION OF LABORATORY TESTING SERVICES continues to be a dominant trend within the lab industry. That's not news to our members and regular readers, because THE DARK REPORT closely tracks this important trend.

What always surprises me, however, is the variety of new business models which emerge from efforts to regionalize lab services. These experiments and innovations spring directly from the unique needs of the healthcare markets served by laboratories. I don't think it is any coincidence that THE DARK REPORT, in just this issue, provides intelligence briefings on three specific, but very different, business models of laboratory regionalization.

The first briefing involves Houston's **Memorial Health System**. (Pages 2-4.) When tropical storm Allison dropped 36 inches of rain, **Memorial Hermann Hospital** was overwhelmed by flood waters and its core laboratory was totally destroyed. Because of earlier efforts to consolidate and regionalize the lab testing resources within the health system, other Memorial hospital labs have helped to fill the loss of the core lab at Hermann Hospital.

The next briefing discusses how the **Connecticut Hospital Laboratory Network** (CHLN) developed an effective managed care contracting program. (Pages 5-8.) There are two "twists" in this story. One, CHLN involves 100% of the state's hospital labs, giving it credibility and greater clout with payers. Two, CHLN actively partners with **Quest Diagnostics Incorporated** to provide services under several managed care contracts.

Third, in British Columbia, the two dominant commercial laboratories overcame issues of trust to jointly design and implement a "universal physician portal." (Pages 9-14.) **BC Biomedical Laboratories** and **MDS Metro Laboratory Services** created PathNET, a system which allows physicians to gain access to patient lab data, regardless of which lab performed the test. Both labs, along with the provincial health system administration, want other labs in the province to participate in PathNET.

I believe these three business models represent a greater truth about lab regionalization: We have yet to see the "perfect" business model of lab regionalization. In cities and rural areas throughout the United States and Canada, laboratories and integrated health networks (IHNs) are regionalizing lab test services in innovative ways. Taken collectively, this is evidence that labs are still under strong pressure to reduce costs and boost service.

Memorial Hermann Lab Launches Crash Rebuild

Total loss of core laboratory facility triggers major management challenges

CEO SUMMARY: *This 600-bed hospital and core laboratory are in a crash rebuilding program as a result of flooding from tropical storm Allison. One important management lesson learned is the value of consolidating and integrating laboratory services within a health system. Previous lab integration efforts within the Memorial Hermann Health System are now contributing to the restoration of laboratory testing services.*

EXTENSIVE FLOOD DAMAGE to Houston's **Memorial Hermann Hospital** and the destruction of its main laboratory has triggered a crash program of rebuilding.

"We are learning about logistics and operational interaction on an accelerated basis," observed James Faucett, AVP, System Laboratory Services at Memorial Hermann Health System (MHHS). "As one of the city's two Level I trauma centers, we've had to move nimbly to maintain patient services and continue to provide the laboratory testing needed to support those services."

The main lab, located in the basement, was totally destroyed during tropical storm Allison last month. Flooding ruined the first floor of the hospital and completely inundated the core lab.

"Within hours of losing power, almost 550 patients had been moved to other hospitals," Faucett said. "About 60% of the patients were transferred to other hospitals within the Memorial Health System. Memorial Hermann Hospital is affiliated with the **University of Texas Medical School** and is one of Houston's two Level I trauma centers. It is also a children's hospital and a transplant center.

"Many of these services were relocated to Memorial Hermann's seven community hospitals. The physicians and support staff here were deployed throughout the Memorial Hermann Healthcare System as necessary to support those services as well as the increased caseload at the community hospitals," explained Faucett.

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“Laboratory services within the Memorial Hermann system are organized around the core laboratory model,” noted Faucett. “Our core laboratory is located at the Southwest campus. For some time, we have been consolidating the central core laboratory with the high volume laboratory at Memorial Hermann. That’s helped us, because we have standardized instrument platforms, processes, and information systems. As a result, our Hermann technologists were immediately integrated into our other laboratories.

“Meanwhile, there is a goal of reopening Memorial Hermann Hospital by mid-July, served by a new temporary laboratory.”

“Meanwhile, there is a goal of reopening Memorial Hermann Hospital by mid-July, served by a new temporary laboratory. We’ve been assigned about 12,000 square feet of temporary space and will become operational with a 70-test menu,” noted Fawcett. “We will be prepared to provide essential lab services to the high-acuity patients served by Memorial Hermann Hospital.”

Vendors Willing To Help

According to Faucett, vendors proved willing to respond to the emergency. “They’ve all pledged to help us,” he said. “The real challenge will be when the equipment arrives. That’s when we’ll need extraordinary support from our vendors to get the instruments installed, calibrated, and operational on an accelerated time line.”

The extensive damage and the urgency to rebuild Memorial Hermann Hospital is best illustrated by the fact that, within days of the flood, some

100 different companies were contracted for services and already have more than 800 employees working within the hospital.

“There is nothing that could prepare any lab manager for this type of experience,” stated Faucett. “Like most hospitals and labs, Memorial Hermann had comprehensive crisis contingency plans in place. But these plans were unable to anticipate and cope with such extensive destruction from a natural disaster exceeding anything predicted by experts.

“We recently completed a bi-directional interface between the Hermann LIS and our community hospital’s LIS. These all operate on the Cerner Classic system,” he noted. “This provides us with the flexibility of supporting Hermann with lab testing at the community hospital core laboratory. This core lab already performs non-urgent testing for the community hospitals and operates central microbiology and histology laboratories.”

Lab Management Lessons

Although the remarkable story of the destruction and rebuilding of the core laboratory at Memorial Hermann Hospital continues to unfold, there are several good lab management lessons already emerging.

First, contingency and crisis planning can never anticipate the full range of disasters and destruction which may befall a clinical laboratory. Certainly the remarkable amount of rain, as much as 36 inches in some parts of Houston, caught emergency planners by total surprise.

Second, clinical and operational integration of laboratory services within an integrated health network (IHN) can provide important back-up and service redundancy in times of natural disasters. The rapid and successful shift of patients, Level I trauma center

activities, and laboratory testing from Hermann Hospital to other system facilities bears this out.

Going The "Extra Mile"

Third, vendor relationships do make a difference. During emergencies, labs rely on vendors to replace instruments and the supplies necessary to maintain testing services. The Memorial Health System lab team is about to find out which of their vendors are willing and capable of going that "extra mile" during this challenging time.

In the wake of tropical storm Allison, at last one lab company was blessed by lady fortune. During the past year, **Dynacare, Inc.** built and opened a new core laboratory near the Bush International Airport. This lab provides testing to Dynacare operations throughout Texas and other southern states.

Dynacare's new lab survived the storm without damage or problems. Prior to the move to this new lab facility, Dynacare's lab testing operations had been located in the Memorial Hermann Hospital core laboratory. Dynacare executives are unquestionably relieved at the fortuitous timing of that move, which spares them the same problems now challenging the laboratory administration at Memorial Hermann Hospital.

Repair Lab Facilities

All across Greater Houston, any number of clinical laboratories are working to identify damage, repair their facilities, and restore testing services back to pre-storm levels.

The experience of Houston is a reminder that the unexpected intensity of natural disasters continue to surprise us with a destructive force that overwhelms even the best crisis plan. **TDR**
For further information, contact James Faucett at 713-776-5107.

Lab Damage Seems Relatively Limited

DESPITE THE INCREDIBLE AMOUNTS OF rain which fell upon Houston during tropical storm Allison, damage to clinical laboratories throughout the metropolitan area was limited.

Several hospitals reported storm damage to specific parts of their facilities, but Memorial Hermann Hospital has attracted the most attention because of the extensive way that tropical storm Allison damaged its main laboratory.

At least 2,000 hospital beds were put out of service. Both **Methodist Hospital** and **St. Luke's Episcopal Hospital** were drawing power from back-up generators one week following the storm.

"**Dynacare** and **Dynagene Labs** managed to come through unscathed," said Kevin Pishkar, President and CEO of Dynagene. "Our losses were limited to four courier cars, which were flooded while parked overnight.

"Extensive damage to Baylor's research labs was widely reported on the national news," noted Pishkar. "Following the loss of their lab facilities, the Baylor genetic laboratory has temporarily relocated to our Dynagene lab facility. Baylor's staff is now working alongside ours.

"Right now, the Houston Medical Center is running at about one-third of capacity," he added. "The lingering effects of tropical storm Allison continue to affect health services throughout the city. As a result, many providers are rethinking their emergency preparedness plans."

Connecticut Hosp. Labs Win HMO Test Contracts

Statewide regional laboratory network enjoys growing managed care business

CEO SUMMARY: *Connecticut Hospital Laboratory Network, LLC was formed in 1996 with the specific goal of winning managed care lab testing contracts. During the past five years it has steadily increased the number of patients covered by such contracts. Along the way, it has learned important lessons on how to price laboratory testing services and how to effectively negotiate managed care lab testing contracts.*

STATEWIDE MANAGED CARE contracts for lab testing services are the norm in geographically-compact Connecticut. This has motivated 100% of the state's hospital labs to participate in **Connecticut Hospital Laboratory Network, LLC (CHLN)**.

"We quickly recognized two realities about managed care contracting in our state," said Greg Weisenberger, Executive Director at CHLN. "First, because so many insurance companies have their headquarters in and around Hartford, experiments and innovations in contracting for lab testing services tend to be common here. We often see things before they are introduced in other parts of the country.

Statewide Lab Contracts

"Second, because of Connecticut's rather compact geography, insurers usually contract for lab testing services on a statewide basis," he explained. "Obviously, this makes it difficult, if not impossible, for individual hospital lab outreach programs to easily gain provider status."

In response to this particular managed care contracting environment, all of Connecticut's 31 hospitals are members of CHLN. "Our network is owned by 29 hospital organizations," noted Weisenberger. "CHLN represents 31 individual hospitals and a total of 33 hospital labs or labs affiliated with hospitals.

"CHLN has two strong cards to play in the managed care contracting arena," he continued. "One, we represent 100% of the acute care hospitals and hospital labs in Connecticut. Two, we have 138 patient access points within the state. This far exceeds that of any national lab doing business within Connecticut."

Incorporated in 1996 as an LLC (limited liability corporation), CHLN's primary strategic goal is to obtain managed care contracts on behalf of its hospital laboratory members. "From the beginning, CHLN has pointedly focused on winning managed care contracts," recalled Weisenberger. "Shared testing, group purchasing, and

other functions take a back seat to the primary objective of maintaining our member labs' access to patients at acceptable levels of reimbursement."

Managed Care Contracts

CHLN must be doing something right. Currently it participates in contracts involving six major insurers, representing access to 1.1 million patients. CHLN participates in many of these contracts as part of the "lab network" contracting model in partnership with **Quest Diagnostics Incorporated**. CHLN, on its own, is currently bidding for additional contracts representing another 165,000 covered lives.

Quest Diagnostics Incorporated, which operates a major lab facility in Wallingford is probably the major commercial lab competitor in the Connecticut market. "CHLN's first managed care contract was originally established jointly with **SmithKline Beecham Clinical Laboratories (SBCL)**," stated Weisenberger. "This relationship has continued evolving since SBCL's acquisition by Quest Diagnostics in 1999.

Relationship With Quest

"Another relevant fact about this competitive marketplace is that as many as 90% of our member hospital labs use Quest Diagnostics for send-out testing," he said. "Our hospital lab members are keenly aware that, on one level, Quest Diagnostics wants to serve them as a reference laboratory, but on another level, Quest Diagnostics wants to directly capture as much of the physicians' office testing as possible. This creates a 'dynamic tension' that continually frames the relationship between these hospitals and CHLN's relationship with Quest Diagnostics."

During its formative period, there were several primary champions of the regional laboratory network. Like regional lab networks in other areas of

the country, it was these committed individuals who provided the early drive and leadership to sell the lab network concept and help it become operational.

"Managed care was a clear threat and hospital labs recognized the need to respond with an effective business strategy," stated Weisenberger. "That motivated labs interested in becoming members of the network to rapidly move past issues of trust and control and squarely address the business problems that concerned them.

Strong Financial Standing

"This unity of purpose allowed us to organize rather quickly," he added. "Each owner hospital was required to make a capital contribution of \$10,000. We are proud to note that, six years later, the capital accounts of our lab members have increased almost yearly. The financial organization of our regional lab network has allowed us to fund expanded services without drawing down the original capital."

Connecticut Hospital Laboratory Network is organized so that lab test reimbursement flows directly to CHLN. "CHLN takes a portion of the capitated reimbursement each month to cover administrative expenses," explained Weisenberger. "We then distribute the balance to our members under a pre-agreed formula.

"Each laboratory test is assigned a Relative Value Unit (RVU). Monthly we tally the RVUs done by individual labs and pro-rate the capitated payment pool based on each lab's relative share of the total RVUs done under that contract. This arrangement has worked well for our members," declared Weisenberger.

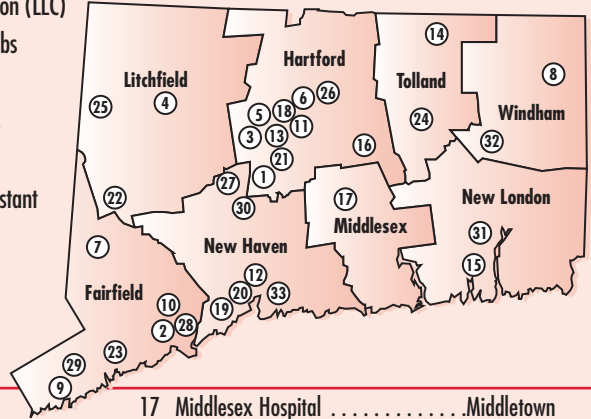
"We've learned a lot since we became operational in 1996," he said. "Probably the most important management lesson for us was to understand

Connecticut Regional Lab Network Gains Managed Care Contracts

Connecticut Hospital Laboratory Network (CHLN)

At-A-Glance

- Incorporated:** 1996 as a limited liability corporation (LLC)
- Members:** 29 hospital owners, 31 hospitals, 33 labs
- Phlebotomy Sites:** 138
- Business Strategy:** obtain managed care contracts
- Contracts:** total of 1.1 million lives under contract
- Employees:** Executive director, Administrative assistant



Member Hospital Labs

- 1 Bradley Memorial HospitalSouthington
- 2 Bridgeport HospitalBridgeport
- 3 Bristol HospitalBristol
- 4 Charlotte Hungerford HospTorrington
- 5 Clinical Lab PartnersNewington
- 6 CT Children's Medical CtrHartford
- 7 Danbury HospitalDanbury
- 8 Day Kimball HospitalPutnam
- 9 Greenwich HospitalGreenwich
- 10 Griffin HospitalDerby
- 11 Hartford HospitalHartford
- 12 Hospital of St. RaphaelNew Haven
- 13 John Dempsey HospitalFarmington
- 14 Johnson Memorial HospStafford Springs
- 15 Lawrence & Memorial HospNew London
- 16 Manchester Mem HospitalManchester

- 17 Middlesex HospitalMiddletown
- 18 MidState Medical CenterNewington
- 19 Milford HospitalMilford
- 20 Milford Medical LaboratoryMilford
- 21 New Britain General HospitalNew Britain
- 22 New Milford HospitalNew Milford
- 23 Norwalk HospitalNorwalk
- 24 Rockville General HospitalRockville
- 25 Sharon HospitalSharon
- 26 St Francis Hosp & Med CtrHartford
- 27 St. Mary's HospitalWaterbury
- 28 St. Vincent's HospitalBridgeport
- 29 Stamford Medical CenterStamford
- 30 Waterbury HospitalWaterbury
- 31 William Backus HospitalNorwich
- 32 Windham HospitalWillimantic
- 33 Yale-New Haven HospitalNew Haven

the relationship of test prices to the actual cost of testing.

“When we first started, we were eager to get our first contract,” he explained. “At that time, capitated rates for lab testing were in the range of 65¢ to 85¢ PMPM (per member per member). We didn’t realize that this price, based on actual utilization rates, was equivalent to probably 10% to 15% of the Medicare fee schedule.

“Over time, we’ve learned how to analyze our data and accurately determine utilization and costs for each managed care contract,” noted Weisenberger. “That’s allowed us to be more knowledgeable in negotiations.

“In the beginning, we wouldn’t say no to contracts that were financially unacceptable,” he added. “Now we’ve learned to do a financial analysis and then say ‘no.’ We only agree to prof-

itable contracts. That's a great accomplishment for a group of scientifically-trained laboratorians."

According to Weisenberger, capitated rates have increased in recent years, to CHLN's benefit, but CHLN also understands how carve-outs impact the actual reimbursement paid as part of a capitated lab testing contract. "Whereas in earlier years you could find cap rates as low as 85¢ in Connecticut, now rates are moving past \$1.85.

"More importantly, we've learned to exclude a variety of tests from the capitated rate," stated Weisenberger. "These are reimbursed outside the capitated pool. Examples of procedures excluded from the cap pool are anatomic pathology, esoteric and genetic testing, thin layer Pap smears, and similar tests.

"The other good news in our healthcare market is that rates for testing done by PPOs is increasing over time," he added. "These rates are frequently above Medicare. Most importantly, what has helped us defend and sell higher prices is improved information. We have data and use it to support our contract proposals."

Clinical Info Services

Information plays an important role in the next phase of CHLN's development. "Currently we look at claims data," Weisenberger said. "The next step is for us to accumulate and use clinical data. We've established a clinical data committee that includes lab administrators and information technology specialists to study and develop an implementation plan for CHLN.

"Managed care plans want us to provide clinical data and they are asking for our timetable to comply," he noted. "We recognize that clinical data is the next competitive service we must offer. Our lab network will need to support health insurers with services that support dis-

ease management programs of clinical conditions like diabetes, high cholesterol, and asthma."

During CHLN's organizational phase, it was envisioned that pathologists would form a parallel network to pursue contracts in tandem with the lab network. "That hasn't occurred," stated Weisenberger. "In 1996, the original plan was for the state's anatomic pathology groups to form their own LLC.

Status Quo For Pathology

"During the next two years, 14 of the 17 private pathology groups in the state agreed to participate," he continued. "But the general sentiment was that individual pathology groups were doing just fine by contracting through other entities, like IPAs, which were not capitated. For this reason, the anticipated relationship with the pathology groups was never realized."

Connecticut Hospital Laboratory Network demonstrates that regionalization continues to be a viable method for hospital labs to maintain access to patients and develop new business skills in managed care contracting, sales, marketing, and collaborative management.

The ever-delicate relationship between Quest Diagnostics and CHLN also demonstrates that both types of laboratory organizations continue to need each other if they are to provide the full range of lab testing services demanded by their managed care customers.

Finally, during the past five years, CHLN has sustained a financially-viable network organization. This noteworthy accomplishment provides the business platform for CHLN to move into the next challenging area of lab testing services: converting raw data into useful information for payers, physicians, and patients.

TDR
Contact Greg Weisenberger at 860-423-1584.

CEO SUMMARY: *Integrated hospital systems, government health plans and private insurers can frequently threaten the status quo for commercial laboratories in both the United States and Canada. Motivated by the desire to offer greater value, two commercial lab companies in British Columbia collaborated to pool their lab test data in a system called "PathNET." The goal of PathNET is to give physicians "universal access" to lab results, regardless of which lab actually performed the test.*

DIFFERENT TEST CATALOGS MAPPED USING LOINC

Lab Competitors Form Common Test Data Repository for Docs

IN THE CANADIAN PROVINCE of British Columbia, two laboratory competitors are collaborating to give physicians universal access to the lab test data generated by both companies. The service went live in February 2001.

The project is called PathNET. It is a legal partnership, 50% owned by **BC Biomedical Laboratories** and 50% owned by **MDS Metro Laboratory Services**. Together, both labs perform testing for more than 70% of the specimens originated by physicians' offices within British Columbia.

This pioneering effort demonstrates that market forces within the healthcare

system are already providing incentives for lab competitors to create universal physician access to laboratory test data. Both the motive and operation of PathNET mirror certain aspects of early attempts to pool lab test data in the United States, such as the **Winona Project** in Minnesota and **HealthBridge** in Cincinnati, Ohio.

Political And Social Forces

The unusual collaboration between competing commercial labs reflects political and social forces within the province. "About three years ago, legislation was introduced in the provincial government to shut down private lab testing," stated

Doug Buchanan, Managing Director at BC Biomedical Laboratories in Vancouver, British Columbia. "This legislation called for all lab testing to be done within public hospital labs. Public outcry and hundreds of thousands of patient signatures on petitions caused this legislation to be shelved.

"It was an unmistakable warning to private labs that some government officials would prefer to eliminate this part of the healthcare sector," explained Buchanan. "PathNET is a strategic business initiative in response to this warning. Commercial laboratories want to manage lab information in a way that

overwhelmed by the need to deal with current healthcare issues.

"Collectively, these are the trends and factors which encouraged BC Biomedical and MDS Metro to meet and explore ways that our labs could add value to the healthcare system and strategically position ourselves to be essential partners in providing healthcare to the province," explained Buchanan.

PathNET is a 50-50 partnership. "Obviously issues of trust and control had to be overcome for this project to move forward," he noted. "However, both labs recognized the market advantage that would result from pooling our physical

adds unmistakable value to British Columbia's health system.

"Moreover, all providers and labs face a growing challenge," observed Buchanan. "If we look at patient demographics in British Columbia and estimate demand for lab testing services as a function of age, the numbers are daunting. By the year 2010, we will need to do three times the volume of testing that is done currently.

"Within the provincial healthcare system, this is a challenge without answer today," he added. "Funding is tightly constrained and planning for future healthcare needs is generally

resources. For example, between us, we maintain 120 locations throughout the province. This includes labs and bleeding stations [phlebotomy sites]. These are connected electronically and served by an extensive courier route infrastructure.

Faster, More Accurate Lab Info

"PathNET's strength comes from this extensive pool of existing laboratory resources. PathNET's service focus is to give doctor's faster and more accurate access to lab test data. It immediately adds value to the healthcare community," said Buchanan.

"By intent, the business organization of PathNET is designed to include additional laboratory partners," he noted.

Not All Docs Ready To Use the Internet

"WE'VE LEARNED THAT BRITISH COLUMBIA physicians seem to be, on average, a little behind in the quality of the computer systems other sectors have in their offices," stated Douglas Buchanon, Managing Director of BC Biomedical Laboratories.

"They are generally better-equipped at home," he explained. "So we've configured PathNET to work with a minimal computing environment. Our goal was to maintain a good screen response rate, even at 28K BPS (bauds per second).

"Thus, we have a very "thin" product. It moves data over copper wires at a decent response time. Running at 28K, we're getting screen refresh times of two to three seconds, for all screens. That's for access to the full data base," observed Buchanon.

"We do free installations of PathNET in the physicians' offices," he added. "Our goal is to get in, provide everything that's required to dial in and access PathNET, do the training, and be out in 20 minutes!

"Our plan has always been to encourage the early-adopter physicians to begin using PathNet," said Buchanon. "The number of users will increase until critical mass is reached and this becomes the accepted way of

"Also, by intent, PathNET is an open technology system. We anticipate that the PathNET umbrella will allow partnerships in three areas: information, technology, and business services.

"Information partnerships will include other laboratories which want to include their lab testing results," explained Buchanon. "These additional participants will help defray the cost

of the project even as they make the lab information data base more valuable to referring physicians.

"Technology partners will be those companies that help us at the physician's desktop," he continued. "A whole variety of services will be coming to the physician via the computer and Web access. We are actively meeting with these companies to discuss how to integrate our respective products.

"We expect our business partners to include companies we already work—such as **IBM** and **Triple G** (our LIS provider)—that can help us span the province's vast geographical territory," noted Buchanon.

"Our vision for PathNET is comprehensive, but the current emphasis is on the practical steps necessary to give physicians speedy, accurate, and detailed access to the lab test data of their patients," he observed.

"That's why PathNET is designed around these capabilities," Buchanon added. "One, it needs to be integrated with everything else happening in our healthcare system. Two, it must be scalable to province-wide coverage. Three, it must provide both security and privacy.

Concept Is Validated

"Four, it must be simple and intuitive for physicians to use," he said. "For us, this meant Web-based. It also has to fit within the structure of existing practice dynamics while having the potential to add value downstream."

PathNET became operational earlier this year. The new company has teams in the field assisting physicians' offices in the installation of the product and teaching both doctors and their staffs how to use the system.

"Conceptually, PathNET is a simple system," said Buchanon. "It is open and non-proprietary. We use the British Columbia laboratory test standard, HL-

7, and LOINC. This makes it possible for other labs to plug into PathNET.

“Currently we operate PathNET as a virtual private network. This gives it an extra layer of security,” he stated. “Ultimately, we will open this up and operate it over the Internet.

Physician Communications

“One interesting aspect of our security is a feature we call ‘running audit’,” offered Buchanan. “We believe this system will eventually be accessible to physicians in emergency rooms, for example. That means PathNET needs to know, in real-time, which physicians are accessing patients and whether that physician has ever been one of that patient’s care team, based on past lab test ordering and reporting records.”

Since PathNET became operational in February, a growing number of physicians’ offices have begun to use the service. However, like the earliest Web-based lab projects in the United States, most doctors chose to only use limited features.

Acceptance By Physicians

“Once an authorized individual logs on, the first thing they see is an inbox,” explained Buchanan. “This lists all the patients for the clinic or a particular doctor, depending on which PathNET options were selected at installation.

“Not surprisingly, up to now, most users do one thing,” he noted. “They log on, select ‘print all,’ and then log off. In our pilot study, 95% of the people did not want to do anything more with the lab information—at this time. However, we know this will change, which is why we are building a variety of capabilities into PathNet.

“For example, patients with abnormal results are highlighted. Information can be sorted by a variety of factors. Historical lab test results can

be viewed. These are just a few of the features available with this version of PathNET,” stated Buchanan.

For most laboratory administrators and pathologists, the intriguing feature about PathNET is the fact that it is designed to provide physicians with a single point of access to lab data generated by any laboratory participating in PathNET.

To accomplish this, PathNET had to deal with the “Tower of Babel” effect in the lab industry. Each laboratory has its own test catalog, test naming scheme, and ordering rules. Historically, this has made it prohibitively expensive and extremely difficult to create and maintain a useful common data repository for lab test results generated by different laboratories.

More Lab Relationships

“PathNET recognized this problem,” responded Buchanan. “Our solution was to establish standards in three layers: the business layer—which defines our basic system architecture; the messaging protocols—which define how information is actually communicated from system to system; and the universal test coding system to uniquely identify each test in a common way that can be recognized by all systems accessing the information.

“LTS (the provincial lab-test standard) is a standard that provides the platform for all of this,” he said. “It already operates at the business layer and was developed by the government of British Columbia with our involvement. The British Columbia Government is facilitating use of LTS throughout the province. In fact, there is evidence that the BC lab test standard may become a de facto standard for the business layer of lab information transmission and management in other parts of Canada.

Evolving Pricing Model

“I should emphasize that the LTS business layer is end-to-end; that is, it looks at how the information needs to be managed, controlled, exchanged, and transmitted,” explained Buchanan. “It goes beyond simple data exchange, and handles all the steps from ordering to results reporting.

“Another thing about LTS is that it is intentionally designed to work in both the central exchange model and the point-to-point model,” he added.

“Our next level of standards utilizes HL-7. This is a widely-supported standard and incorporates both clinical data and administrative data,” stated Buchanan. “It has templates which are easy to use and allows PathNET to send unambiguous messages between systems.

“Obviously, to have different labs share data is the big accomplishment. Our standard to accomplish this is LOINC, which stands for Logical Observation Identifier Names and Codes. Obviously, to develop a conversion table between our two labs would have been one approach.

“But our vision for PathNet extends beyond simply two labs that agree to exchange data. If we were to have 25 laboratories exchanging data in our province, that would require us to develop and maintain more than 300 conversion tables,” he noted.

“LOINC is a public domain data base that currently has 22,000 universal names,” added Buchanan. “It’s designed for universal exchange of data and does not require cross referencing of the internal coding systems used by each provider.

“Next, we needed to handle ordering tests. This is one function where LOINC doesn’t work well,” commented Buchanan. “A significant amount of testing is ordered as profiles and needs

to be recognized by the lab as a group of tests. To supplement LOINC, we’ve worked with our government to create a separate order-test coding system for British Columbia. Because we are ahead of other Canadian provinces, we anticipate that this system may also become a de facto standard across the country.

“As you can see, creating PathNET was a challenge,” observed Buchanan. “Our two lab partners have invested considerable money and management time to bring it to its current level of functionality.

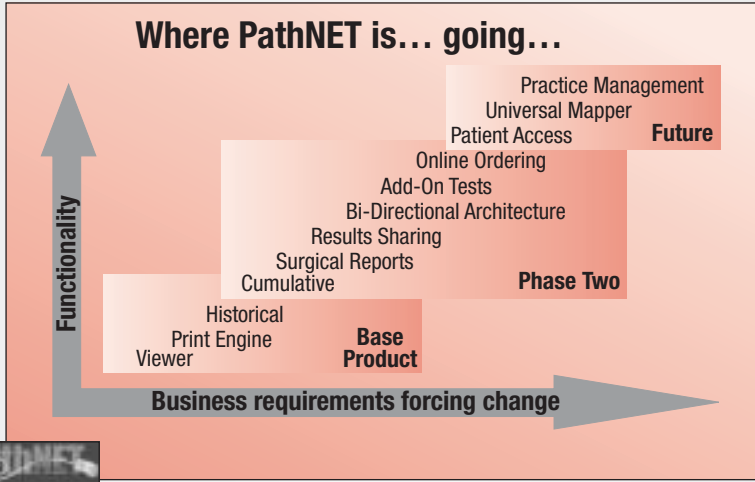
“However, our common vision is that PathNET becomes the standard which allows *any* laboratory in British Columbia to link in and provide its lab test data to physicians throughout the province. We foresee major benefits to this system and we are optimistic that other labs which join this venture will help share the cost,” stated Buchanan.

Labs Feel Market Pressure

The PathNET effort by competing laboratories in British Columbia to offer physicians a single access point for laboratory test data is a response to political and social trends in that province. It is further evidence in the real world that pressures in the healthcare marketplace continue to push both hospital labs and commercial labs toward increased collaboration.

From one perspective, the effort by BC Biomedical Laboratories and MDS Metro Laboratory Services to create PathNET demonstrates that competitors can work together to create new value-added services. The worth of PathNET is validated by the willingness of other labs to join and become partners. Efforts by provincial healthcare officials to support the implementation of PathNET further validates PathNET’s contribution to the BC healthcare system.

More Services Ahead for PathNET



From the beginning, PathNET was designed to grow with the needs of the British Columbia healthcare system. The base product is gaining widespread use. During Phase Two and Phase Three, more clinical and operational services will be folded into PathNET's basic functionality. PathNET is an example of how commercial laboratories have taken the initiative to bring added value to the health systems they serve. Their goal is to remain an essential provider to the provincial health system.

But from a wider perspective, PathNET demonstrates how traditional barriers that inhibited cooperative lab testing arrangements are crumbling. For a reasonable investment, BC Biomedical and MDS Metro have used existing information handling technology and crafted a unique laboratory services platform.

On one end, any physician can easily "plug-in" and gain access to lab data. On the other end, it is economically feasible for clinical labs of all types to map their data base and catalog to the PathNET engine and gain the benefits of universal access by physicians, patients, and payers.

THE DARK REPORT believes that PathNET is an example of the "enabling

tools" now emerging in the marketplace which will support new forms of collaborative lab testing ventures. More specifically, these types of tools will make it easier for regional laboratory networks to offer enhanced lab testing services. **TDR** Contact Doug Buchanan at 604-507-5120 or dbuchanan@bcbio.com.

For More Information

Member-subscribers of **THE DARK REPORT Intelligence Service** can obtain an audio cassette tape and handouts from Douglas Buchanan's presentation on PathNET given at the Executive War College in Cincinnati on May 9, 2001 at no cost by calling Debbie Lucas at 503-699-0616. For non-members, the cost is \$29.95 plus shipping.

Lab Industry Trends

Hospital Association Studies Nurse & Lab Staffing Issues

WIDESPREAD PUBLICITY about the nursing shortage is not coincidence. The **American Hospital Association (AHA)** is making “staffing relief” a primary reason why the current Congress should increase reimbursement and provide funding for training and recruiting healthcare workers.

A variety of studies have looked at nursing vacancies and changes to the total number of registered nurses in recent years. There is disagreement about whether or not these studies prove that a nationwide shortage of nurses currently exists.

To bolster its position, the AHA recently released its “AHA Special Workforce Survey.” It surveyed 715 hospitals and looked at vacancy rates for a variety of positions, including “laboratory technologists.”

Lab Tech Vacancy Rate

For the clinical lab industry, the AHA’s findings confirm that the shortage of medical technologists is both widespread and significant. Survey results indicate a vacancy rate of 12% for laboratory technologists in hospital settings.

This is higher than the vacancy rate for registered nurses, which was 11%. However, the top three vacancy rates reveal bigger problems in other areas besides laboratory and nursing. Vacancy

rates were 21% for pharmacists, 18% for radiological technologists, and 18% for billers/coders.

Widespread Staff Shortages

The survey results seem to indicate that other areas of clinical services are undergoing the same staffing shortages as clinical laboratory and nursing. If true, this means more competition for training dollars and incentive programs.

However, it should be noted that nursing is the major staffing headache for hospital administrators. Of the 168,000 unfilled staff positions in the nation’s hospitals, 75% are for nurses.

The funding stakes in this battle are huge. The AHA is calling for the creation of a \$12 billion

grant program that would match hospitals and colleges as partners in boosting the numbers of students enrolled in healthcare professional programs.

This recent data sends two messages to the clinical laboratory industry. One, there is a widespread shortage of medical technologists, probably around 10% of the available positions nationally. Second, other clinical service areas in the hospital have significantly greater vacancy rates. Together, these facts mean the lab industry will have to compete for the dollars necessary to increase laboratory professional training programs.

Hospital Vacancy Rates For Staff Positions

Pharmacists	21%
Radiological Technologists	18%
Billing/Coders	18%
Laboratory Technologists	12%
Registered Nurses	11%
Housekeeping/Maintenance	9%

Source: Studies by American Hospital Association and National Advisory Council on Nurse Education and Practices

Lab Industry Briefs

BIO-REFERENCE LABS REPORTS STRONG GROWTH IN REVENUE & EARNINGS

LIKE MOST PUBLIC LAB COMPANIES, the financial news continues to be good at **Bio-Reference Laboratories, Inc.**, based in Elmwood Park, NJ.

For second quarter ending April 30, 2001, the lab reported revenues of \$19.8 million, an increase of 22% over revenues of \$16.3 million for same quarter last year. Bio-Reference also posted a profit of \$502,000, the largest quarterly profit in the lab company's history.

Unlike most of its commercial lab competitors, Bio-Reference Labs is devoting a significant amount of resources to supplement its lab testing services with added-value clinical information services built around lab test data.

Bio-Reference believes its ongoing business relationship with physician office clients is the prime asset which must be protected and developed. To that end, Bio-Reference has developed several business strategies. It has created a revenue-generating physicians' Web portal that it now offers to other regional laboratories. Called *Careevolve.com*, this portal allows physicians to access lab test results, check patient eligibility, electronically file claims and access CME education. It also supports a variety of other relevant services.

Another strategic initiative is **PSIMedica**. This business division offers a product that allows managed care plans to analyze quality of healthcare outcomes, cost of care, and other variables. It combines quantitative and qualitative laboratory test data with medical claims information, and prescriptions. **XCARE.net** recently agreed to provide PSIMedica to its customers.

Bio-Reference Labs also offers specialized lab testing services to prisons and jails. It holds several comprehensive contracts for prisons and jails in New York State. It recently inked a contract to provide such services to prisons in Eastern Pennsylvania.

Partly as a result of these multiple business strategies, Bio-Reference Laboratories gained a new investor and board member. In May, Morton Topfer, recently a Co-CEO and Vice Chairman of **Dell Computer**, purchased 1.5 million shares of Bio-Reference stock. Prior to Dell, Topfer worked at Motorola for 23 years and played a key role in its Land Products Sector and paging business, both multi-billion dollar divisions of Motorola.

SUNQUEST INFO SYSTEMS ACQUIRED BY BRITISH SOFTWARE COMPANY

FOLLOWING MANY MONTHS of persistent rumors, **Sunquest Information Systems, Inc.** announced, on June 25, that it would be acquired by **Misys PLC**, a software company based in Great Britain.

Misys offered to buy all outstanding Sunquest shares at \$24, a 63% premium over its trading price of \$14.74 per share. Misys will pay approximately \$404 million to acquire Sunquest. Both companies expect the deal to close within 30 days.

Misys offers software products in banking, healthcare, and insurance. In the United States, it already owns **Medic, Inc.**, a physician-services software company with 18,000 sites serving 85,000 physicians. After the acquisition, Sunquest will continue to maintain its corporate headquarters in Tucson, Arizona.

The arrival of Misys in the American healthcare marketplace marks the third time in the past year that a foreign company has acquired companies or introduced products that include LIS software.

Last year, **Siemens** purchased **Shared Medical Systems, Inc. (SMS)**. Since the acquisition, Siemens has expanded its market presence on the American healthcare scene. Also during 2000, **Sysmex, Inc.** introduced a new LIS product developed in Europe. It is called Molis and operates as a separate business from Tucson.

The acquisition of Sunquest by Misys demonstrates an example of further consolidation among leading healthcare information system vendors. The new twist to this consolidation trend is that foreign companies are using acquisitions to gain a foothold in the United States market.

BECKMAN COULTER ANNOUNCES \$200 MILLION BOND SALE—THEN PULLS PLUG ON OFFERING

IT WAS A SERIES OF MIXED MESSAGES from **Beckman Coulter Inc.**, manufacturer of diagnostic and research testing instruments.

First the company announced that it would sell \$200 million of 20-year zero coupon convertible bonds. The market for convertible bonds, which earn income and can be converted into stock, has been red-hot since the beginning of the year. Beckman Coulter stated it would use the money to retire existing debt.

Following that announcement, **Moody's Investor Service** released its rating on the Beckman Coulter offer. The rating was Baa3. At the same time, Moody's upgraded its ratings for the

company's existing debt and withdrew its rating on the senior implied and senior unsecured debt issues of Beckman Coulter. This moved the company's debt ratings from the "junk" category to the "investment" category.

The day after the positive news about the upgrade by Moody's, Beckman Coulter announced that it was cancelling the \$200 million bond sale. This caught the investment community by surprise, since it is unusual for a company to pull this type of offering, particularly following an upgrade of its debt ratings.

Since its acquisition of Coulter Corporation in 1999, Beckman Coulter has carried a relatively high level of debt. Since 1999, it has paid down its debt by \$129 million. It wants to lower its debt to equity ratio to a 1:1 ratio.

VYSIS CLOSES IN ON DNA-BASED TEST FOR BLADDER CANCER

AN ILLINOIS-BASED COMPANY is using FISH technology to create a diagnostic test for bladder cancer.

Vysis, Inc., located in Downer's Grove, Illinois, expects FDA permission to market its "UroVysion" test sometime this summer. The test is a DNA-based urine test for bladder cancer that has demonstrated improved sensitivity over existing tests. It is also capable of detecting the disease as much as six months earlier than other methodologies.

UroVysion uses FISH (fluorescence in situ hybridization) to check for the presence of four specific chromosomal abnormalities deemed characteristic of bladder cancer. Vysis also markets a test for breast cancer, called "PathVysion", and is developing tests for certain genetic birth defects, leukemia, lung, and cervical cancers.

INTELLIGENCE

LATE & LATENT
 Items too late to print,
 too early to report



Late last week **DIANON Systems, Inc.** announced it had signed a definitive agreement to acquire **UroCor, Inc.**, based in Oklahoma City. In recent years, the two companies have competed intensely for case referrals from urologists. Valued at \$180 million, the deal is expected to close by the end of 2001, subject to approval by shareholders and regulators. The pending acquisition indicates that anatomic pathology continues to be a hot segment of the diagnostic testing marketplace.

ADD TO: UroCor

Since the mid-1990s, the two companies have pursued significantly different strategies within the urology testing marketplace. **DIANON Systems** posted sustained increases to revenues and profits, while **UroCor's** financial performance stalled for several years. **THE DARK REPORT** will provide a more detailed analysis of this acquisition and its impact upon the anatomic pathology profession in an upcoming issue.

HOSPITALS MUST NOW DISCLOSE MEDICAL MISTAKES TO FAMILIES

This should increase the importance of laboratories to overall hospital operations. Effective July 1, 2001, new standards by the **Joint Commission on Accreditation of Healthcare Organizations (JCAHO)** require hospitals to tell patients and their families whenever they have been hurt by a medical error. This new requirement is an effort to reduce the estimated 98,000 deaths attributed each year to medical errors. **JCAHO** believes that reporting errors to patients and family members will cause hospitals to take more effective steps to identify and eliminate situations and procedures which lead to medical errors.

MORE ON: MEDICAL ERRORS

JCAHO's new disclosure requirement means that a hospital which did not comply could lose its accreditation. It requires hospitals to "actively work to prevent errors; design patient safety systems, such as systems that double-check a drug order before a prescription is filled; and encourage and act on internal reports of errors." Because laboratory test data is involved in a high

percentage of treatment decisions for hospital patients, this new requirement should give laboratories a more important role in evaluating the patient's condition and the quality of care provided to that patient.

MCKESSON HBOC RENAMES ITSELF AGAIN

Maybe a long-running identity crisis is about to end. **Mc-Kesson HBOC, Inc.** announced that it would rename itself again. The new corporate name will be "McKesson." Clients of **THE DARK REPORT** remember that **iMcKesson** was the name of choice in 2000 for its short-lived e-health business division. By early this year, that division had been disbanded and the name **iMcKesson** had disappeared.

ADD TO: McKesson HBOC

One key player formerly involved in **iMcKesson's** Web-based lab systems product, **Abaton.com**, is in high demand since departing the company last April. **Cory Fishkin** was speedily engaged to consult with labs such as **MDS** and **Centrex Clinical Labs** on issues of Web-accessed lab test reporting and test ordering.

*That's all the insider intelligence for this report.
 Look for the next briefing on Monday, July 23, 2001.*



UPCOMING...

- ***Doing Web-Accessed Lab Test Ordering and Results Reporting Right the First Time: Secrets from a Former Abaton.com Exec.***
- ***Point-of-Care Testing Hits Home Run At Massachusetts General Hospital.***
- ***THE DARK REPORT'S Annual Ranking of Public Laboratory Companies.***
- ***Why the DIANON Systems–UroCor Merger Means Changes Ahead for Anatomic Path.***