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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

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COMMENTARY & OPINION by...

R. Lewis Dark
Founder & Publisher

Raising the Bar with Better Phlebotomy Service

STEP BY STEP, INNOVATIVE CLINICAL LABORATORIES AND PATHOLOGY GROUPS across the country are deliberately raising the level of service they provide to patients and physicians. In the short term, this often delivers competitive advantage—at least until competing laboratories improve their own service to equal that new benchmark.

Raising the bar on service is the theme of the story you will read on pages 10-15. In York, Pennsylvania, the laboratory team at **WellSpan Health** undertook the ambitious goal of creating the "ideal" patient service center (PSC).

They wanted to transform the operation of their PSCs in two dimensions. One dimension would be the identification of the perfect physical layout for the PSC. The second dimension would be to develop "standard work" that would allow WellSpan phlebotomists to meet and exceed the expectations of their patients.

Once the "ideal" physical layout and workflow was identified, WellSpan began to make over each of its 13 PSCs. It would directly benefit because of vastly shorter patient wait times, improved phlebotomist productivity, and a single way of operating all the PSCs in its laboratory system.

I'll bet that many of you have already guessed that the methods of Lean, Six Sigma, and process improvement were the primary tools used by WellSpan's laboratory managers to identify and refine the "ideal" PSC physical layout and standard work. The Lean team achieved a reduction in average patient wait times by as much as 80%. The newly reconfigured patient service centers are meeting the goal of improving patient satisfaction.

By deliberately elevating the service level of its patient service centers, the laboratory at WellSpan reminds us of how the competitive market regularly raises the bar on the level of service that clinical laboratories provide to patients and physicians. It is one reason why progressive laboratory organizations cannot afford to remain with the status quo.

Moreover, I think the accomplishments of WellSpan have a more important message for pathologists and laboratory administrators. Lean and similar performance improvement techniques now make it possible for true innovators to confidently identify substantial opportunities to raise service levels while cutting or eliminating major sources of waste. Collectively, these efforts should strengthen the value proposition of laboratory testing. TDR

Labs Learn About ACOs And Medical Homes

Major healthcare reforms take center stage during the *Executive War College* in New Orleans

CEO SUMMARY: It was an overflow crowd of record size at this year's Executive War College on Laboratory and Pathology Management. Sessions that centered on such important healthcare reform topics as Accountable Care Organizations (ACO), Medical Homes, and Value-Based Contracting attracted plenty of attendees. Only seven months remain before the Medicare program begins to contract with ACOs, as authorized in the ObamaCare Bill that became law in 2010.

IN JUST SEVEN MONTHS, the age of accountable care organizations (ACO) begins. On January 1, 2012, the **Centers for Medicare and Medicaid Services** (CMS) will commence contracting with ACOs.

ACOs are one of the major reforms spelled out in the 2,700-page health reform law that President Obama signed into law on March 23, 2010. Thus, it should be no surprise that there was keen interest in the special extended session about ACOs, Medical Homes, and Value-Based Contracting that took place at the *Executive War College on Laboratory and Pathology Management* earlier this month.

Growing numbers of clinical laboratory executives and pathologists are realizing that their lab organizations must have a viable strategy to respond to ACOs and similar ObamaCare mandates. In coming years, these new healthcare delivery models can be a threat to stable laboratory finances if fees for lab tests are cut significantly.

On the other hand, clinical laboratories that step up and offer enhanced value to physicians practicing in ACOs, medical homes, and similar forms of integrated health delivery models may be rewarded by reimbursement that reflects the added value that such lab testing services contribute to improving patient outcomes while reducing the overall cost per episode of care.

It is this heightened interest in the consequences of the coming healthcare reforms that is one reason why attendance at this year's *Executive War College*—conducted on May 3-4 in New Orleans—was at record levels. More than 700 senior-

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level laboratory executives, administrators and pathologists were in attendance. More remarkably, almost 50 individuals showed up on site to register and attend during the 24 hours leading up to the start of the 16th Annual *Executive War College!*

Sales of Medical Practices

Since passage of the ObamaCare legislation in early 2010, many hospitals and health systems have declared their intention to create and operate ACOs. To that end, these hospitals and health systems are purchasing physician practices at a brisk pace.

This has not gone unnoticed by clinical laboratory executives and pathologists. Each time a hospital purchases a medical practice, that new hospital owner can dictate to the physicians in the group as to the specific clinical laboratory they must use. This is a short-term market challenge for laboratories and will be superceded by the long-term market challenge of how laboratories can profitably serve accountable care organizations and medical homes.

To help pathologists and laboratory administrators at this year's *Executive War College* understand the forces to be unleashed by the ObamaCare reforms, expert speakers on these topics participated in a special general session.

Discussion Of ACOs

Leading off this panel of speakers was Thomas Williams, Ph.D., MBA, who is Executive Director of the **Integrated Healthcare Association** (IHA), based in Oakland, California.

The IHA has been an active player in California's major pay-for-performance program during the past decade. It recently published a White Paper titled "Accountable Care Organizations in California: Lessons for the National Debate on Delivery System Reform." A PDF of this document can be downloaded at *www.iha.org*.

Williams was forthright in discussing the three decades of experience with forms of ACOs that operated in California during that time. "Keep in mind that ACOs are generally organized around three characteristics," he said. "There will be a performance measurement for quality and cost. Next, the ACO will publicly report on its performance. Third, linked to the performance of the ACO will be incentives and penalties.

"To meet the requirements of coordinated care, most ACOs feature four characteristics," continued Williams. "They are: 1) population management; 2) coordinated care processes; 3) a structure that includes electronic health records, registries, and staff; and, 4) continuous quality improvement (CQI).

"Studies of integrated delivery systems that act like ACOs," added Williams, "demonstrate that worthwhile improvement happens when these organizations combine substantial organizational and financial capability with strong leadership, a culture of improvement, and alignment with key payers."

Uses Of Lab Test Data

In discussing how laboratories could add value to physicians practicing in an ACO, Williams noted that "there are ways that laboratory test data can be used retrospectively to measure performance. For example, 13 of IHA's existing measures can be developed from laboratory test data, including cervical cancer screening, LDL-C screening, and HbA1c tests.

"In California, it was recognized that there was a need for data standards to increase efficiency and reduce errors in data exchange," he continued. "CALINX standards were developed to be a uniform set of standards for lab test data that can be used by providers throughout the state."

Williams was upbeat on the potential for laboratories to deliver value to ACOs. But he did have some words of caution. "Measuring and incentivizing providers for the total cost of care and quality is a potential game changer," he observed.

At Executive War College, Speakers Provided Useful Insights about ACOs and Medical Homes

Tom Williams, Executive Director of the Integrated Healthcare Association in California, provided information about Accountable Care Organizations:

Performance Measurement of ACOs under CMS Proposed Rules

Under proposed ACO rules, there are 65 performance measures that ACOs must collect and report in order to qualify for shared savings and they fall under these five domains:

- Patient/Caregiver Experience of Care
- Care Coordination
- Patient Safety
- Preventive Health
- At-Risk/Frail Elderly Population

CMS – Proposed ACO Shared Savings

- Shared savings bonus potential determined by total cost of care for Medicare population
- ACO receives points based upon results for 65 quality measures
- Shared savings bonus potential modified by level of quality points

James M. Crawford, M.D., Ph.D. Professor and Chair, Department of Pathology at North Shore-Long Island Jewish Health System (NS-LIJ), identified value points associated with medical homes that play to the strengths of pathologists and clinical laboratories.

Assisting in Patient Management:

- Pre-visit planning (Laboratory testing*, Radiology testing, Dietary restriction)
- Patients needing clinical review or action*
- Monitoring patients on specific medications
- Patients needing reminders for preventive care, specific tests, follow-up*
- Patients who might benefit from care management support*

Assisting in Population Management:

- Integrated clinical data from all care sites*
- Integrated ancillary data (e.g., all laboratory tests, all referrals)*
- Healthcare Resource utilization, including:
  - -Physician office visits, use of ancillaries, need for acute care*
  - -Real-time tracking of Claims data,* to include use of Pharmaceuticals*
- Real-time tracking of Safety and Quality Outcomes*
- Real-time tracking of the Patient Experience*
- Disease Management Outcomes*
- Biometrics (e.g., weight, body-mass index, blood pressure)*
- Laboratory values as primary data on patient status (e.g., HbA1c, lipids)*
- Data on Lifestyle management (e.g., activities, dietary education)*

**Pathology: source of primary data or potential coordinator*

"This will be uncharted territory as government health programs and private payers strive to find the right formulas for provider compensation."

Medical Homes

Medical homes was the next emerging model of integrated care to be addressed at the *Executive War College*. Speaking to this topic was James M. Crawford, M.D., Ph.D.

Crawford is the Professor and Chair, Department of Pathology and Laboratory Medicine and Senior Vice President for Laboratory Services at **North Shore-Long Island Jewish Health System** (NS-LIJ), in Lake Success, New York. He also chairs the working team at NS-LIJ that is developing the health system's medical home program.

"In general terms, the 'patient-centered medical home' describes the service rendered by a primary care practice," stated Crawford. "By contrast, the 'advanced medical home' is used where specialists may be delivering integrated care, including primary care, to a patient.

"A third term is the 'patient-centered medical home," he added. "This describes continuity of care through all sites."

Crawford emphasized that clinical information is the cornerstone for making the medical home care model succeed. More than that, Crawford predicts that pathologists and laboratory scientists are uniquely positioned to leverage that information on behalf of patients and physicians.

But this opportunity requires pathologists and clinical laboratory managers to be proactive if they are to play a part in a medical home. "The laboratory cannot be retrofitted into the Medical Home and ACO models," Crawford warned the audience. "For your laboratory to participate in a value-contributing role, you must participate in the design of that integrated care organization to pre-establish your value."

Crawford was bullish on the potential for pathologists to add value to medical homes and ACOS. "Among other things, pathologists and laboratory administrators should actively seek participation in demonstration pilots for patient-centered medical homes (PCMH), Coordinated Care, and electronic health record (EHR) deployment," he advised.

"Find the 'strongest signal' in your local healthcare environment and work with those stakeholders," continued Crawford. "During this time of reform and change, stay active with these organizers so that you can make your own business future."

Value Of Laboratory Testing

In his remarks about ways that laboratories can contribute value to ACOs and Medical Homes, pathologist George D. Lundberg, M.D., had specific comments. Currently Lundberg is Editor in Chief of *Cancer Commons,* and Editor at Large of *MedPage Today*, Collabrx, based in Los Gatos, California. Lundberg is widely recognized for his 17 years as Editor of *The Journal of the American Medical Association* (JAMA).

As clinical laboratories and pathology groups face the creation of new models of integrated care, Lundberg had blunt advice. "It is our opportunity and responsibility to preserve the best, and scuttle the worst, and build a new laboratory testing service," he stated.

Lundberg recognized that the laboratory medicine profession has traditionally been a quiet clinical service. That needs to change if laboratories are to play a greater role in delivering high-value lab testing services to ACOs and Medical Homes.

Striking a theme familiar to most laboratorians, Lundberg described the roles of Ordering, Interpretation, and Action and how each contributes value to the physician and the patient. "Clinical laboratory tests that matter are those that lead to actionable information that helps physicians improve patient health," he concluded. TDR

Why Toronto Is Site of Global Digital Path Center

GE Healthcare and Omnyx aim to demonstrate clinical and cost benefits of digital pathology

CEO SUMMARY: GE Healthcare and Omnyx chose Canada to be the location of their new Global Pathology Innovation Centre of Excellence (PICOE). PICOE's mission is to demonstrate that digital pathology can improve patient outcomes in a cost-effective manner. GE and Omnyx will use PICOE as a proving ground for the value of digital pathology, while also encouraging researchers to develop useful software algorithms that incorporate digital pathology images to improve diagnosis.

IT WAS NO ACCIDENT that the Canadian city of Toronto was chosen by **GE Healthcare** (GE) to be the location for the company's **Global Pathology Innovation Centre of Excellence** (PICOE).

A unique combination of circumstances makes the Province of Ontario an ideal test bed for new digital scanning technologies and digital pathology systems. Pathologists in the province are world leaders in their use of technologies in support of whole slide imaging (WSI) and digital pathology systems.

It was January when GE announced it would locate PICOE in Toronto, Ontario. Luigi Gentile was named as the Executive Director of PICOE. PICOE will have ample funding. GE and its digital pathology joint venture, **Omnyx, LLC**, are investing $7.75 million in the venture. Planned collaborative research and development partnerships will bring another $7.2 million.

Added to this funding will be a $2.25 million grant from the Health Technology Commercialization Program created by **HTX** (Health Technology Exchange) which is funded by the **Ontario Ministry of Research and Innovation**.

"One challenge with digital pathology today is that it means many different things to different people," explained Michael Becich, M.D., Ph.D., an expert in digital pathology and Chair, Department of Biomedical Informatics at the **University of Pittsburgh Medical Center** (UPMC). UPMC is a partner with GE in the Omnyx joint venture. Becich has a sponsored research agreement with Omnyx and sits on its scientific advisory board.

Digital Pathology In The Lab

"A primary goal of the Toronto digital pathology center is to bring clarity to what it means to operate a digital pathology laboratory," noted Becich. "In that way, the center aims to create a transformative health care IT environment around digital pathology."

PICOE is located in Canada because of the nation's ongoing effort to create an integrated healthcare informatics infrastructure. "Canada has a mandate to develop advanced pathology infrastructure," Becich explained. "This is to be accomplished, in part, through support from the **Canada Health Infoway** project,

which is an independent, nonprofit organization funded by the federal government, the independent provincial regional health authorities, as well as Ontario's **Health Technology Exchange** (HTX).

"For years, in several ways, the Canadian healthcare environment has been ahead of that in the United States," he stated. "In Canada, there has been considerable investment in advanced pathology systems—including digital pathology, telepathology, advanced imaging solutions, and software.

"Establishing PICOE in Toronto allows us to build on years of effort by Canada Health Infoway to develop the integrated health informatics environment that can make it easier for pathologists to use digital pathology systems in their daily practice," added Becich. "Pathologists across Canada have considerable experience with digital pathology systems. They are working collaboratively to further develop regional applications for digital pathology."

Rajiv Enand, Omnyx's Senior Vice President of Business Development, explained that PICOE's first round goals are to develop practical solutions that specifically advance use of digital pathology in day-to-day clinical settings. "The center wants to answer one big question," he noted. "What is required to be successful when deploying digital pathology solutions on a broad scale?

"PICOE will be evaluating what types of changes must be made to workflow in the pathology laboratory," added Enand. "There will likely be changes in histology and pathology workflow, with different job descriptions in histology. Pathologists and lab managers will need to re-assess the process required to deliver the best value from use of digital pathology systems.

PICOE As Global Incubator

"PICOE's staff will work closely with customers—not only from the technical standpoint, but also from all the other aspects of implementation—to determine what it takes for digital pathology technology to be successful in the real world," observed Enand. "As a global center, PICOE can function as an incubator within Canada's health system for the controlled study, deployment and development of digital pathology advances. This can aid in acceptance of these tools internationally."

"Our location in Toronto provides us two immediate benefits in support of these goals," he noted. "First, there are a number of pathology laboratories in the Province of Ontario already using digital scanners and digital pathology systems. They not only use this technology daily, but are actively looking for ways to expand its use throughout the department.

Integrated Health Informatics

"Second, Ontario and other provinces in Canada are making steady progress toward an integrated healthcare informatics infrastructure," continued Enand. "The goal is a universal electronic health record (EHR) and a paperless system. This creates many opportunities for digital pathology to contribute and to become part of the medical record, while reducing overall costs.

"Getting proof that digital pathology contributes value is an issue that must be addressed." added Enand. "Clearly there is value in digital pathology. But digital pathology differs from digital radiology in one important aspect. Radiologists were able to use digital imaging to replace film. Cost savings and speed to diagnosis were immediate and obvious benefits.

"In the case of digital imaging in pathology, there will continue to be the need to produce glass slides," Enand stated. "This is one reason why some people think digital pathology adds costs to the health system because it introduces one more step in the process.

"Interestingly, in retrospective studies on the gains from radiology-based PACS systems, the savings from not processing film were not significant," added Enand. "However, savings from increased efficiencies in a digital workflow were quite signifi-

For Digital Pathology, Ontario Offers Wealth of Longitudinal Data, Researchers, Grants

THREE COMPELLING REASONS ENCOURAGED GE Healthcare and its Omnyx joint venture to establish their Global Pathology Imaging Centre of Excellence (PICOE) in Toronto.

"The first reason is the availability of longitudinal data," explained Rajiv Enand, Omnyx's Senior Vice President of Business Development. "The Canadian cancer registries have extensive longitudinal data on all patients that start when they were first diagnosed with cancer until death. That data is one result of the single-payer healthcare system in Canada.

"The second reason is the center will take advantage of the vibrant and growing community of researchers in Canada actively working on algorithms to analyze digital images," stated Enand. "These researchers want to develop software algorithms that can find disease and can analyze and recommend treatment options.

"Conducting this type of research in the United States is much more difficult," Enand added. "That is because patient data in the United States is so fragmented. In Canada, the single-payer healthcare system means all of that data is maintained within each province.

"Third is the amount of investment that the government is making in the development of software algorithms," he noted. "The provincial and national governments in Canada are motivated to fund this research because these types of algorithms can be used to improve the quality of patient care while driving down the overall cost per healthcare encounter.

"In fact, one of our partners formed a new company in Ontario and received a grant for $13.5 million to develop algorithms for digital pathology," stated Enand. "This grant money will be used to hire software developers to work with the pathologists and clinicians to write the software. PICOE is involved in about a half dozen requests for grants with different clinical partners to develop algorithms that will utilize and evaluate digital pathology images."

cant—upwards of 15% to 30% gains in productivity! We believe the same analogies will be found in pathology and our goal is to gather data to prove this.

"For any IT system, including digital pathology, to succeed, it must show a positive return on investment in the marketplace," he said. "In healthcare, any new system has to save money as well as improve outcomes and quality.

"That's why our first goal is to work with those of our customers implementing digital pathology and have our researchers and engineers make these customers successful," Enand stated. "PICOE is a research and development organization that focused on taking digital pathology from the bench to the bedside, meaning taking what we know about how to be successful from our labs into our customers' labs.

"Success or failure does not result simply from installing new technology," Enand counseled. "Success or failure hinges on how that technology is deployed. The same technology can be a failure in one place and successful in another. We all know stories about failures of new technology in other markets and with other products.

"Around the world, you can find a number of digital pathology systems that are sitting in a corner unused," commented Enand. "You just don't hear about those failures. As such, PICOE will focus on defining best practices in implementing digital pathology to deliver success for all customers." TDR

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CEO SUMMARY: Lengthy wait times for patients at phlebotomy sites is a common problem for labs across the country. But the laboratory at WellSpan Health System in York, Pennsylvania decided to apply Lean methods to change this situation. Their Lean projects at two pilot patient service centers (PSC) produced a reduction in average waiting times by 80% and 75%, respectively. More impressively, the Lean time produced these outcomes at minimal cost and no increase in staff.

Identical layout and work flow used in all 13 of their PSCs

WellSpan's Lab Designs the "Ideal" Phlebotomy Center

In York, Pennsylvania, there is an unusual story about how an intrepid band of laboratory administrators and managers at **WellSpan Health** and **York Hospital** set out to create the "ideal" patient service center (PSC).

Their goal was to create a single optimal facility layout and a standard workflow that would be the template for each PSC operated in their laboratory organization. They would accomplish this ambitious goal by using Lean and similar quality management methods to meet and exceed patient expectations.

Many pathologists and clinical lab managers might consider these goals to be overly ambitious. After all, phlebotomy services in general—and PSC operations specifically—can be ongoing headaches for lab managers.

This is true for two reasons. First, patients must often wait for extended periods of time before their specimens are collected. At the same time, when the phlebotomist is not skilled and/or lacks a good bedside manner, then the venipuncture—coming after an unwelcome wait—can make the patient's experience at the PSC doubly unpleasant.

Second, phlebotomists who staff PSCs represent a distinct set of challenges for laboratory managers. Establishing a staffing schedule that properly matches when patients show up is an imperfect process. Often, the situation is compounded by other factors, including turnover in phlebotomy staff, no shows, and phlebotomists with poor skills or work habits.

Thus, the decision at WellSpan Health to use Lean and process improvement techniques to create the "ideal" PSC was an ambitious undertaking.

"We wanted to create the 'ideal' floor plan for a patient service that would support the 'ideal' workflow in the PSC," stated Steve Manzella, Ph.D., Technical Director of the Core Laboratory at WellSpan. "We would then remodel all our existing and new PSC facilities to conform to this physical layout.

"We expected two benefits from this accomplishment," he continued. "One, it would measurably improve patient satisfaction. Two, it would give us optimal productivity and cost savings in the daily operation of our PSCs."

However, for a laboratory organization committed to improving the patient experience and lifting patient satisfaction scores, there was another good reason to tackle this project. Recent patient satisfaction surveys conducted by WellSpan had identified areas where improvement by the laboratory could greatly enhance the patient experience. This made PSCs a rich target for improvement.

The Lean success story begins in 2009, after WellSpan Health did a system-wide customer satisfaction survey that included each of its two hospitals and all 13 of its patient service centers. These facilities are located in two counties in Pennsylvania.

Three Service Areas

"The patient satisfaction survey identified three service areas where our laboratories scored poorly," stated Manzella. "It gave us firm data that we used to plan our improvement strategy.

"The first area involved communication; how our lab communicated information to patients and whether they received test results in a timely and understandable manner," noted Manzella. "The second area involved coordination; this measured whether patients were told what personal information was needed prior to the visit and if they knew who to call if they had problems.

"The third area involved access," he explained. "This evaluates how long patients waited, as well as whether they were told the reason for a delay.

"Because of the granularity of the survey information, it allowed us to see that our patients were having unacceptable issues with our service," stated Tina Stover, MT(ASCP), who has administrative oversight of the patient service centers. Her colleague, Stephen Manzella, Ph.D., has technical oversight of the centers. Working together, they initiated a Lean project to: 1) understand the problems; and, 2) improve patient service.

"We operate two types of patient service centers," observed Stover. "About half of

our service centers have a traditional, two-step process. In step one, patients arrive and register at a reception window. In step two, the patients are then called for specimen collection.

"Our newer PSCs use a one-step process," she said. "As the patient arrives at the PSC, he or she will be called back to a private room. Here is where both registration and collection happen."

At the beginning of this Lean project, information about problems was collected. "We looked at patient complaints at each PSC," stated Stover. "It was recognized that the majority of patient complaints involved wait times.

Pilot Programs In Two PSCs

"We then chose two PSCs, one of each type, that had significant complaints," she said. "These sites were selected because we thought each could handle the disruption of the pilot improvement project."

Armed with these findings, Stover and Manzella took steps to engage the support of WellSpan's senior administrators. "We briefed the C-suite administrators about the problems and the goals of this Lean project," she noted. "It was essential to have their support from the beginning."

"Our administrators recognized the need to resolve these patient satisfaction issues," added Stover. "Some had used our PSCs as patients themselves, so they shared with us both their good and their bad experiences. They recognized the ways in which we were struggling to achieve a consistent and top service at each PSC."

Stover and Manzella next assembled the Lean team that would work on the project. Internally, WellSpan's quality management department was brought in. To get external perspectives, **BD Healthcare Consulting** was engaged. "The lab staff selected to be part of this Lean team also included front line employees that were in regular contact with patients at the patient service centers.

Frontline Staff At PSCs

"To gather data, the Lean team did direct observation," observed Stover. "Actual wait times were measured, as were door-to-door times. During this stage, one Senior Vice President spent two hours observing at one PSC. She wanted to fully understand the problems and see, first-hand, the patient flow at this site."

Similarly, Stover and Manzella worked alongside frontline staff at the pilot PSCs so that staff could show them the "current state" work processes. "There is no substitute for getting hands-on with a Lean project like this," said Stover. "Our Lean team was busy documenting problems, brainstorming solutions, and creating a list of action items."

The Lean team quickly identified an issue that will be familiar to every laboratory that operates a patient service center. "Problem number one was that patients were waiting when the doors opened, but no one was ready to serve them!" recalled Stover. "That happened daily because the staff also arrived at opening time and weren't ready to begin taking care of patients until several minutes after the official opening time.

Staffing Schedule

"This situation was further aggravated because full staffing at this PSC didn't occur until two hours after opening," she added. "It was obvious to the Lean team that this PSC was understaffed during its busiest time of the day!

"A second cause of delay in patient service turned out to be slow computers and printers. "During its observations, the Lean team recognized that PSC staff spent a lot of time watching the little whirling thing on the computer monitor, waiting for the computer to process the command," she stated. "Once the computer had completed such a task, staff was then required to spend significant amounts of time walking back and forth to the printer and the label printer, because each PSC only had one of each."

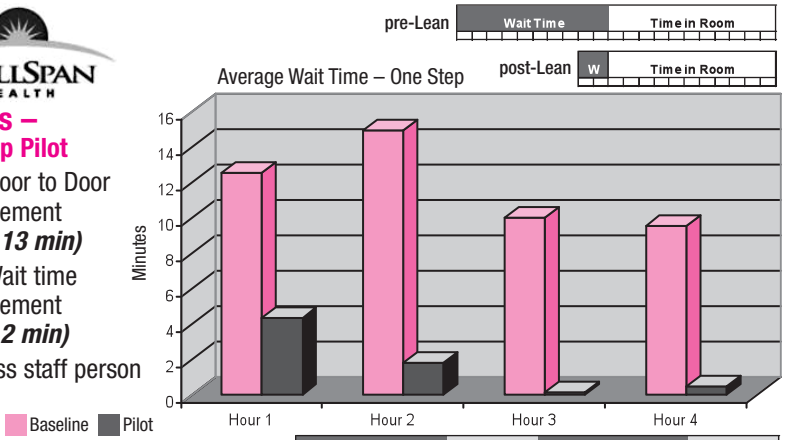
Lean Improvement Projects at Phlebotomy Sites Cut Wait Times and Boost Patient Satisfaction

At WellSpan Health in York, Pennsylvania, Lean teams in the clinical laboratory set out to identify the "ideal" floor plan for a patient service center (PSC), along with the "ideal" standard workflow. As this was accomplished, patient wait times were reduced by 80% in the one-step PSCs and 75% in the two-step PSCs. As a result, patient satisfication surveys recorded a big increase in patient satisfaction scores for the laboratory.

WELLSPAN HEALTH

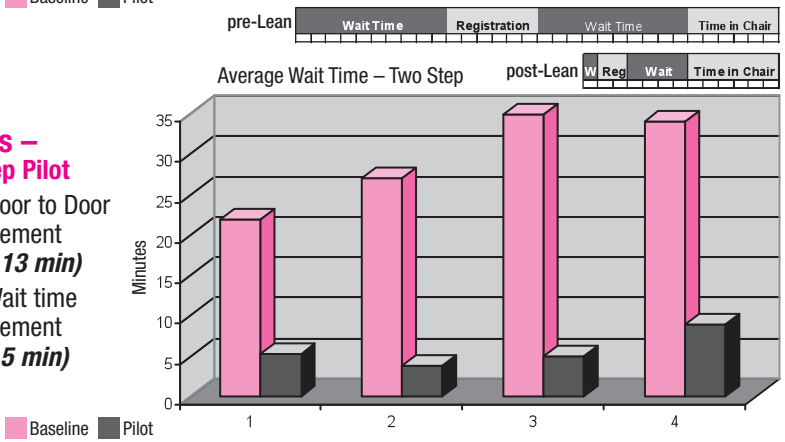
Results – One Step Pilot

- 38% Door to Door improvement ***(21 to 13 min)***
- 80% Wait time improvement ***(10 to 2 min)***
- One less staff person



Results – Two Step Pilot

- 59% Door to Door improvement ***(32 to 13 min)***
- 75% Wait time improvement ***(20 to 5 min)***



Ready access to supplies was identified as another problem. "The Lean team watched the amount of time staff in each PSC spent retrieving and replenishing supplies," commented Stover. "This was a considerable source of wasted time."

Upon completing direct observation and gathering data, the Lean team began evaluating new ways to re-design workflow and eliminate sources of waste and errors.

One immediate action was to change the way each PSC was staffed. "It seems obvious in hindsight," noted Stover, "but we established a new schedule so that each PSC was fully staffed during its busiest hours.

"Another key improvement was implemented," she continued. "Staff members were now scheduled to arrive 15 minutes before the opening time for the PSC. This allowed us to immediately begin serving the

waiting line of patients, many of who wanted a quick blood draw so they could then leave to break their overnight fast by eating something."

Each PSC's existing hardware and software configuration was assessed by the Lean team. "Our IT staff tested and upgraded the existing computers," said Stover. "Their goal was to increase speed. Additional printers and label printers were were purchased and installed in each collection room in the PSC.

"The additional printers not only reduced wasted time, but contributed to improved patient satisfaction in another way," she noted. "Having a printer at the phlebotomist's station made the process friendlier because the phlebotomist didn't have to walk away and leave the patient alone. It also was validating to the staff to know that they were important enough to deserve their own printers."

Work processes in each activity within the PSC were examined. The Lean team found numerous variations in how things were done. "The Lean team worked with the phlebotomists to design 'standard work' processes that reduced variation, eliminated waste, and made better use of staff time in each of the two prototype PSCs," added Stover.

Developing "Standard Work"

"Training all the phlebotomists to perform 'standard work' comes with another benefit," Stover said. "It allows us to more easily move staff between different patient service centers to fill gaps in staffing."

Another simple improvement to workflow significantly reduced patient wait times and improved phlebotomist productivity. "What the Lean team did was to assign a single individual in the PSC to be the 'patient expediter.' This person calls patients and then accompanies them back to the phlebotomy area," noted Stover, "where the patient was either ushered into the collection room or—in our PSC of the older design—assigned to the chair where the collection would take place.

"Under our prior workflow, each phlebotomist would go to the waiting room door and call their next patient," observed Stover. "Sometimes there would be a line of phlebotomists waiting at the door for their turn to call a patient.

Phlebotomists Waited In Line

"That meant the phlebotomists would all wait for the current patient to move from the reception area past that door before the next phlebotomist could call the next patient," she continued. "While this might seem polite, it also meant that we had phlebotomists just standing and waiting. And, don't forget, many patients are infirm, elderly, or using walkers. That means their walk to the door can be quite slow.

"The Lean team came up with a different workflow, based on having one phlebotomist utilize two rooms or two chairs," commented Stover. "In this arrangement, when they finished with one draw, the phlebotomist could walk over to the other room, or to the other chair where their next patient was waiting, and get ready for the collection.

"Meanwhile, our patient expediter in the reception room would fill that now-empty room or chair with the next patient," she said. "Initially, some phlebotomists didn't like this workflow arrangement. But once they saw its value in reducing patient wait times, they liked this improvement.

"Quick feedback was the strategy our Lean team used to implement these types of workflow improvements," recalled Stover. "The phlebotomists in the PSC were asked to try this new workflow for an hour and see how things went. Staff members were amazed how quickly the PSC's waiting room cleared out.

"We learned that quick feedback is very powerful in reinforcing these types of changes," said Manzella. "Some Lean projects are easier to get going than to keep going. You need the reinforcement of quick

feedback to sustain the successes of these Lean projects."

"Feedback in the form of follow-up customer surveys is another way to reinforce the value of new processes," noted Stover. "Our phlebotomists valued the positive customer comments. It was an affirmation that patients recognized the changes and liked them.

"Don't forget, many of these patients are regular visitors to a PSC," she added. "The ongoing relationships patients have with PSC staff add extra credibility to the comments they make in the follow-up patient satisfaction surveys."

Another strategy that turned out well for Manzella and Stover was the use of a Lean consultant. "As an outside consulting firm, with experience in many different laboratories, they can make suggestions or reinforce the proposed workflow redesign improvements in ways that staff will more readily accept, than, say, if these same suggestions came from our internal Lean team," observed Manzella.

Of course, the value of any Lean improvement project is how it changes the core metrics used to monitor service levels, staff productivity, and reduced costs. "To establish base-line data prior to starting this Lean project, the staff gathered data over about four days," noted Stover.

"At one PSC, they clocked average patient wait times at 20 minutes," she recalled. "Two days after changing work processes and overall workflow, the Lean team again collected data. Based on an observation of the new workflow for three consecutive days, they determined that patient wait times had dropped to an average of 11 minutes. That was a 45% improvement from a relatively simple and easy-to-implement Lean workflow redesign in our patient service center."

By the end of the pilot project, the two sites had dramatic improvements in both wait times and door-to-door times. At the site using the traditional two-step process, average wait times dropped from 20 minutes to five minutes, a 75% decrease, while door-to-door times dropped from 32 to 13 minutes, a 59% decrease.

At the one-step patient service centers, average wait times dropped from 10 minutes to two minutes, an 80% decrease, and door-to-door times dropped from 21 minutes to 13 minutes, a 38% improvement.

Manzella emphasizes that maintaining the changes will mean constant feedback to keep staff aware of their affect on the customer experience. "Now, when we get a positive customer comment, a senior staff member personally shares that comment with the employee in front of his or her peers. And we post individual site statistics weekly so that staff can see how they are doing." TDR

Contact Stephen Manzella Ph.D., at 717-851-2549 or smanzella@wellspan.org; Tina Stover, MT(ASCP) at 717-851-2696 or tstover@wellspan.org.—By Karen Branz

Minimal Capital Required To Create Changes in PSCs

EFFORTS AT WELLSPAN HEALTH TO DEVELOP an "ideal" PSC floor plan and workflow did not require much of an investment. "We spent some money to upgrade the computer and install additional printers," said Tina Stover, Operations Manager, Laboratory Services. "Our only other expense was to install a 'nanny-cam' in the waiting room.

"The image from this camera is displayed in the corner of each phlebotomist's computer screen," she explained. "This allows the phlebotomists to monitor the number of patients waiting in reception at any point during the day.

"That nanny-cam was a solution to the problem that happens in many PSCs during slow periods," commented Stover. "During a slow time, it is easy for phlebotomists to get distracted as they refill supplies or do other catch-up tasks. They can forget to check the waiting room. Now they can continously monitor patients in the reception area."

Obituary

Hospital Lab Operations Expert H.W. "Bud" Gandee, Jr., Dies

His career spanned Hospital Corporation of America in the 1960s to Quest Diagnostics in the 2000s

In Brentwood, Tennessee, the family of H.W. "Bud" Gandee, Jr., reported his death on April 30, at the age of 69.

Gandee was an early master of hospital laboratory operations and management. He trained as a medical technologist and had graduate training in immunohematology. Early in his career, he went to work for the original **Hospital Corporation of America** (HCA).

H. W. "Bud" Gandee 1942-2011

Gandee was quickly recognized to have a keen eye for effective clinical laboratory management. His particular strength was in assessing and improving the operational, financial, and clinical performance of hospital laboratories.

When HCA organized its clinical laboratory assets into **Allied Clinical Laboratories, Inc.** (ACL), and spun it off as a stand-along business, Gandee became an employee of Allied.

Two more lab acquisitions meant that Gandee would be an employee of **National Health Laboratories** (NHL-1994) after it bought ACL, followed by **Laboratory Corporation of America** (1995) after this company was formed by the merger of **Roche Biomedical Laboratories** with NHL.

Worked With Hospital Labs

At LabCorp, Gandee continued to draw upon his skills and experience at helping hospital laboratories. In his role as Director of the Management Services Division, Gandee worked with client hospitals to improve the performance of their laboratories.

This unique experience was the reason that Gandee was asked to speak, in 1996, at the first *Executive War College on Lab and Pathology Management*. He conducted a standing-room-only session about methods that hospital laboratories could use to assess operations and achieve a higher level of performance.

In 1998, Gandee accepted a position with **American Medical Laboratories** (AML) of Chantilly, Virginia. He again led a consulting team that served hospital laboratories. He was a regular and popular speaker at *Executive War Colleges* during these years. In 2002, the acquisition of AML by **Quest Diagnostics Incorporated** meant that Gandee once again had a new employer.

In 2007, Gandee retired from Quest Diagnostics, completing a 46-year career in laboratory medicine. He enjoyed an active retirement. In recent years, several health problems meant a slower pace for Gandee.

Over the course of his unique career, Bud Gandee was held in high regard by colleagues and clients alike. Known for his integrity and high standards, Gandee was deservedly recognized as one of the clinical laboratory testing industry's most knowledgeable experts in hospital laboratory operations. **TDR**

Lab Market Update

Mid America Clinical Laboratories Discusses Recent Lab Errors

Lab officials quickly invite television news reporters to tour the lab and see steps taken to address errors

IN FOLLOWING UP THE DISCOVERY of false positive results for Chlamydia tests it had performed on a limited number of patients, **Mid America Clinical Laboratories** (MACL) found itself the subject of news coverage.

This included interviews with an irate patient who told one television news reporter that, after receiving a positive result for her Chlamydia test, she had "kicked her husband out of the house" because she assumed her husband had cheated on her.

THE DARK REPORT provided an assessment of this situation in its issue of May 2, 2011, with lessons to be learned from these types of episodes. Mid America Clinical Laboratories was asked to provide someone for an interview. MACL declined that request, but did send a statement that arrived after THE DARK REPORT had gone to press.

This statement was signed by Nancy Bray Boggs, Vice President, Human Resources & Corporate Communications at Mid America Clinical Laboratories. That statement is reprinted here in full.

Chlamydia Testing AT MACL

Dear Editor:

There are many lessons other laboratories can learn through the recent experience of our laboratory, Mid America Clinical Laboratories (MACL) in Indianapolis. The public nature of the incident began with the media when a patient complained to a local television news reporter who focuses on complaint stories from the public.

While the corrected report had been previously issued to the physician, the patient remained dissatisfied and took her issue to the media, despite the offer for our laboratory to absorb the cost of all the laboratory testing related to the error, the offer to pay for additional physician office visits and prescription medications related to the incident.

Please note that eight laboratory errors were found and corrected out of over 1,000 tests performed during the period. Only one patient complained and that patient complained publicly.

In the media's drive for ratings, the word "botched" was used in the teaser headline at the beginning of the news broadcast and unfortunately that very strong, negative word continues to be used by the media and on line.

The reporter contacted the MACL Vice President of Corporate Communications for a statement and MACL determined immediately that the reporter needed to see the pristine, high quality laboratory we operate. The reporter accepted the offer to tour the laboratory.

In that tour and meeting, the situation was described to the reporter and explained how a situation like this could occur in any laboratory performing

molecular testing. The reporter was impressed with the laboratory and with the openness of the discussion. We are, and remain very proud of, our facility and the high quality and high volume laboratory testing we perform.

Second Reporter Did Tour

The story was picked up the next day by another news station in the city and again, that reporter was invited into the laboratory immediately and accepted that invitation. Both stories were reported in a fair manner.

Our laboratory did make a mistake and we admitted that mistake and took corrective action immediately. Our corporate philosophy is to keep the patient first in all that we do and when we get it wrong, make it right. That is exactly what we did in this instance.

On the technical side, we made changes to ensure the likelihood of this occurrence happening again would be remote. The instrument was moved from the main molecular testing area into a negative air pressure room. We are working closely with the vendor to minimize this from happening again in our laboratory.

Now, the environmental testing takes place every other day. We do not feel that standard of environmental testing monthly is adequate and had been testing once weekly but have now increased that to every other day.

It is our goal to ensure high quality testing and laboratory results at all times in our laboratory.

This statement was provided by: Nancy Bray Boggs, Vice President, Human Resources & Corporate Communications, at Mid America Clinical Laboratories; 2560 N. Shadeland Avenue, Indianapolis, Indiana 46219.

Editor's Comments: In instances where a laboratory discovers that it has reported erroneous results, various federal and state laws define many specific actions that laboratory must take. However, there is still plenty of discretion available to laboratory administrators and managers in how they deal with the range of consequences that surface after physicians and patients are informed about errors in laboratory tests.

Although uncommon, it does happen that local newspapers and television news stations can become aware of an episode of laboratory test errors. That is what occurred when a patient involved in the MACL lab test error incident decided to call up her local news outlets. News coverage of her complaints about the false positive Chlamydia test results had the potential to cast Mid America Clinical Laboratories in an unfavorable light.

Bringing Reporters On Site

But MACL laboratory managers responded with a policy of transparency and openness. The interested news reporters were invited to conduct a site visit to the laboratory and learn, firsthand, how workflow and long-established protocols are designed to produce accurate laboratory test results.

The news features produced by these reporters following their site visits to Mid America Clinical Laboratories did provide much favorable coverage for the lab—notwithstanding the comments made by the irate patient during these same news reports.

Thus, one useful lesson to be gained from the experience of MACL in its response to the disclosure of laboratory test errors is that it can do a better job of getting its side of the story out to the public if it will meet with reporters and members of the press, and provide them with relevant access and information. TDR

INTELLIGENCE

LATE & LATENT

Items too late to print, too early to report

The first sequencing of the whole human genome back in 2000 unleashed a tidal wave of research and development. Recently, *Fast Company Magazine* quantified the dollar impact of the Human Genome Project and now says it totals $800 billion! Their reporter communicates this so succinctly that THE DARK REPORT will quote two full paragraphs here:

The Human Genome Project—a $3.8-billion international human genome mapping project that ran from 1988 to 2003—wasn't just a money-sucking vanity initiative... The project has, in fact, driven $796 billion in economic impact and generated $244 billion in total personal income, according to a new report from Battelle. Sometimes, pricey long-term science projects are well worth it.

According to the [Batelle} report, the nascent genetic research industry generated $67 billion in U.S. economic output and created 310,000 jobs in 2010 alone. "We were surprised by just how large the economic impact had been," says Greg Lucier, CEO of Life Technologies (the foundation that sponsored Battelle's research). "What was even more interesting for me is that we're just getting going. The ability now to read genes quickly and economically is opening up entirely new vistas of opportunity."

MORE ON: *Human Genome Sequencing*

These are eye-popping numbers. It is remarkable that, just in 2010, the United States gained 310,000 new jobs as a direct result of developments associated with the Human Genome Project. This certainly points to a rosy future for clinical laboratory testing that incorporates human gene sequencing.

CASE OF EBOLA FOUND IN UGANDA

On May 15, public health authorities in Uganda announced that one case of Ebola virus had been diagnosed in a 12-year old girl. She died of the disease on May 6 at **Bombo Military Hospital**. About 30 people who had been in contact with her were under observation. This included healthcare workers. The **Uganda Virus Research Institute** ran the laboratory tests which identified the Ebola virus. The speed with which this outbreak was detected demonstrates how efforts to improve the capabilities of clinical laboratories in African nations such as Uganda are paying off. In Uganda, major Ebola outbreaks occurred in 2007 and 2000. That last outbreak killed as many as 224 people, including the medical superintendent of one hospital and other health workers.

DARK Daily
Clinical Laboratory and Pathology News/Trends

DARK DAILY UPDATE

Have you caught the latest e-briefings from DARK Daily? If so, then you'd know about...

...how Israel faces such a severe shortage of pathologists that physicians in the country predict that the integrity of cancer testing in that nation will soon be compromised as a result of this shortage.

You can get the free DARK Daily e-briefings by signing up at www.darkdaily.com.

That's all the insider intelligence for this report. Look for the next briefing on Monday, June 13, 2011.