

Winning teams: a common vision yields uncommon results

Edited by Carren Bersch, *MLO* editor

Each year, *MLO* sponsors a friendly competition among laboratories in conjunction with National Medical Laboratory Professionals Week (April 19-25, 2009). A three-judge *MLO* panel selects the winner as well as the first and second runners-up. Our April issue presents these three winning laboratories to *MLO* readers via some of their professional accomplishments. This year's selections are committed not only to making their laboratories more efficient and customer-friendly but also serving the communities in which they work and for whose citizens they care. To each of these — and to all nominees — thank you for bringing high-quality testing and world-class performance to America's laboratories.

E Pluribus Unum: from many, one

While all laboratories nominated for *MLO*'s Medical Laboratory of the Year Award must show competence in eight different areas: customer service, productivity, efficiency, quality control, creativity, contribution to patient care, innovation, and lab inspections scores. We focused this article on No. 8: teamwork. This year's winner has an exemplary record when it comes to that category.

No matter where you go at Children's Medical Center Dallas, you likely will find that members of the Department of Pathology are engaged with colleagues in some way. Take education, for example. A lab team conducts a unique weekly book study open to all staff (but targeted for managers, supervisors, and faculty). Book-study members read and discuss a variety of books: *The Anxious Organization* by Jeffrey Miller, *Monday Morning Leadership* by David Cottrell, *QBQ! The Question Behind the Question!* by John G. Miller, to name a few. The lab's education coordinator manages a "lending library" which makes other categories of books available to lab staff: compliance, management (LEAN), phlebotomy, and education.

"As I walk through labs, I never cease to be amazed by the complexity of the problems that arise, the energy of the staff in solving them, and the creative solutions developed. Thanks." —**Leland B. Baskin, MD, MS, FCAP, FACB, Division Head, General Laboratory, Calgary Laboratory Services, Calgary, AB, Canada.**

To keep lab staff and individuals throughout the hospital informed of laboratory events and accomplishments, the staff issues a monthly newsletter, the *Lab Informer*. The laboratory also expanded its clinical affiliates from two regional MT programs to six statewide programs not only to provide clinical rotations for students but also to offer opportunities for staff to participate in career-enhancing educational programs, both traditional and online.

To foster a more positive, collaborative work environ-



The Department of Pathology at Children's Medical Center Dallas is this year's Medical Laboratory of the Year 2009.

ment, other lab team members worked with the Emergency Department (ED) staff to examine the pre-analytical process for lab specimens, using LEAN's value stream analysis tool. Lab team members also participated with the Operating Room staff to address pre-analytical processes involved in collecting and transporting tissue specimens to anatomic pathology and microbiology. This effort lowered the specimen-rejection rate due to mishandling and eliminated rework to gather missing information. Another team consisting of lab personnel and members of the urgent-care area (First Care), the ED, and the hematology/oncology inpatient unit determined that

point-of-care testing (POCT) could be discontinued in the latter three locations without a negative impact on patient care. And this was achieved when the lab implemented processes that ensured quick turnaround times (TATs) on key tests like urinalyses and urine hCGs — freeing clinical staff to focus on patient care rather than performing POCT. All POCT, except hemocults (performed manually), has been interfaced on the Children's network so that the results are posted immediately in the patient's electronic health record. This also automates the process of workload accounting and billing, and for reviewing and adding missing information.

"In these uncertain times, it is reassuring to have reliable laboratory data from a laboratory staffed by highly educated and experienced personnel. We honor their laboratory with the *MLO* award."—**Daniel M. Baer, MD, Professor Emeritus of Laboratory Medicine, Oregon Health and Science University, Portland, OR.**

Quarterly meetings among various personnel teams maintain and improve processes hospital wide, based on its changing needs. Three LEAN-trained lab staff assisted Radiology staff on an initiative using LEAN's 5S (sort, set-in-order, shine, standardize, sustain) tool designed to de-clutter, organize, and make work areas more functional. As part of the LEAN culture, a mistake is viewed as a flawed process, and individual "blame" is discouraged, although accountability is strong. When mistakes occur, the process is examined to see what allowed the mistake to occur. Lab leadership accepts the responsibility. Individual error is simply defined as not following the standard process.

All lab staff, while expected to follow standard work processes, are also expected to offer suggestions to improve the work processes. The lab has idea boards in three different locations in the lab where staff members display their ideas using a standard card, making the process visible, and staff can see the progress of their suggestion through the process of 1) ideas, 2) to do, 3) doing, and 4) completed. Once completed, the idea is documented on

a "Kaizen Event" form to show the change, the benefit, those responsible, and posted for all to celebrate. This often spurs other ideas.

Laboratory information systems (LIS) leadership and laboratory staff developed and implemented an LIS team, comprised of a manager, subject-matter expert, PC-desktop specialist, and a systems analyst, which recognizes the critical IS needs of the lab and provides the resources to advance the success of both the lab and the IS departments. Ultimately, the patient is the winner in this structural change.

The lab's Transfusion Services worked with neighboring hospital, Parkland (Dallas County Hospital), and Carter BloodCare (regional supplier of blood products) to share platelet inventory — a precious community resource — in order to use the oldest unit in both Children's and Parkland's stocks to minimize the outdating of platelets at each facility. Begun in February 2008, this effort has *nearly eliminated* the waste of platelets due to outdating (platelets only have a five-day shelf life). The 2008 cost savings were approximately \$80,000 to Children's and well over \$150,000 for all three participants.

Children's opened a new morgue in May 2008. The lab took advantage of this new facility to develop a complete autopsy services program by developing an Autopsy Services Coordinator position and formalizing the service expectations. The program increases

the responsiveness and level of service provided caregivers; enhances the value of autopsy services in support of the pathology residency and fellowship program; and provides the pathologists with a state-of-the-art facility. This facility allows the promotion of more collaborative, supportive processes to partner with pastoral care as its sponsors interface with the families, caregivers, organ transplant organizations, the county coroner, and other relevant community services.

"Congratulations to all phlebotomists, those ambassadors of the laboratory who win respect for and trust in the laboratory day in and day out, one patient at a time."—**Dennis J. Ernst, MT(ASCP), Director, Center for Phlebotomy Education, Corydon, IN.**

The lab team sticks together in outside activities as well. In January 2008, Children's lab personnel participated in collecting 50 clean, usable coats for patients and families in need. In October, the lab sponsored a fundraising team for the 26th annual Susan G. Komen Race for the Cure, part of a national effort to support cancer research. In December, they joined the Children's Adopt-A-Family program for the holiday season, giving more than \$800 in cash and a \$250 grocery gift card, as well as gifts from the wish list of a mother and her five children.

In another endearing example, a



National Medical Laboratory Professionals Week (NMLPW) is a time of recognition for the approximately 300,000 medical laboratory professionals and 15,000 board-certified pathologists who play a vital role in every aspect of healthcare. NMLPW is a chance for medical laboratory personnel to celebrate their professionalism and be recognized for their efforts. Often, they use this time to inform and educate medical colleagues and the public about the medical laboratory. Since laboratories often work behind the scenes, few people know much about the critical testing they perform every day. Lab Week will be held April 19-25, 2009, with this year's theme of "Laboratory Professionals Get Results."

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lab tech and her mother (a resident of a nearby assisted living facility) coordinated efforts to provide handmade blankets to children who are ICU patients. While the lab provides the yarn for the knitting and crocheting, the assisted-living residents make beautiful blankets. Twice a month, a Child Life Specialist coordinates blanket distribution, relating information about each recipient's circumstances to the "Blanket Brigade" distribution by lab volunteer, who offer the children comfort and support during their visit.

These are but a few of the unique and outstanding projects of the laboratory staff at Children's Medical Center Dallas Department of Pathology, a winning crew that *lives* "teamwork."

No 'I' in 'TEAMWORK'

MLO's First Runner-Up for this year's Medical Laboratory of the Year 2009 is the Department of Pathology and Laboratory Medicine at Rochester General Hospital (RGH), part of the Rochester General Health System. This is the home of the hospital's School of Medical Technology — the second longest program running in the country — is celebrating its 75th year in 2009 with a total of 665 MT graduates as of July 2008. The accredited program was founded in 1934 with the express purpose of educating qualified students in the profession of medical technology/clinical laboratory science. Today, the program draws students from 11 academic affiliates. The hospital also offers a course in the School for Phlebotomy Technicians.

In 2007, the lab's average TAT for CBC and platelet for medical oncology patients was 20 minutes with 86% compliance; by the end of 2008, the average TAT was 13 minutes with 95% compliance.

Teamwork is the name of the Rochester General's Pathology and Lab Medicine highly refined game. Its nursing-laboratory liaison group representatives work to improve the quality of patient care and safety related to laboratory specimens (i.e., mislabeled phlebotomy or blood-bank samples and specimen sample errors). This team also aids in



Teamwork is the name of the Rochester General's Pathology and Lab Medicine highly refined game — which made them First Runner-Up in MLO's Medical Laboratory of the Year 2009 competition .

competency assessment of all nursing staff for blood draws, implementation of bedside labeling, and inpatient runners. A team subcommittee made up of the phlebotomy expert on each patient unit meets monthly to examine additional ways to improve patient care.

The microbiology lab staff — recognized this year for its support and rapid response during the busiest influenza season ever — works closely with staff from the infectious disease/infection control subcommittee and nursing to maintain blood-culture contamination rates far below the national benchmark of 3%. The average for RGH inpatients — who are collected by nurses — was 1.4%. This low score was reflected in decreased costs and improved patient care. The micro staff is also represented on this subcommittee, along with staff from infection control, infectious disease, pharmacy, critical care, and employee health, and meets biweekly to discuss any issue related to RGH's prevention and control of infections. The microbiology lab staff continually responds to the changing needs of this group related to surveillance testing, new antibiotic testing, and rapid reporting. The microbiology lab assisted infection control and cardiothoracic surgery in developing a pre-surgical screening program for MRSA. Those efforts have nearly eliminated MRSA infections in the cardiac surgical population and have been replicated in other departments both locally and nationwide.

ED physicians and the RGH lab team currently meet bimonthly to discuss/

resolve issues such as introduction of new tests and technology, POCT, sample collection, ED, lab computer problems, and lab turnaround times. The lab implemented an automated process for reporting and documenting critical test values from the time the test is determined as critical to the time the provider is notified. TAT is one hour or less, and the lab is currently in 99% compliance. In 2007, the lab's average TAT for CBC and platelet for medical oncology patients was 20 minutes with 86% compliance; by the end of 2008, the average TAT was 13 minutes with 95% compliance. Because of this, patient arrival time before appointments has been reduced by 15 minutes.

The lab is also represented on RGH's stroke team, which designed the protocol for the lab to respond to TPA candidates in the ED. Over the past year, point-of-care cardiac-marker testing (troponin I, CK MB, and myoglobin) and a rapid rule-out protocol were implemented in adult ED. Eliminating the need for sample transport and processing allowed ED to qualify for Chest Pain Accreditation status, which required results be turned around in less than 30 minutes. Patients that have results from zero time and two-hour sampling available by 3:15 p.m. are stressed the same day. The benefit is that patients can be discharged to home or appropriately triaged following their stress test — improving ED throughput and patient outcomes.

RGH's Education Council dedicates 10 minutes per monthly meeting to POCT to allow clinical resource nurses and lab personnel to discuss POCT, as

well as to consult unit representatives on how POCT initiatives can be rolled out and communicated effectively, and how best to notify units of updated policies and procedures prior to implementation. For example, in 2008, POC urine pregnancy testing was implemented in five pre-surgical units. Performing urine pregnancy tests on these units has eliminated the need for specimen transport and processing, and has improved throughput in the pre-surgical areas, which allows personnel to maintain efficient OR scheduling. Concurrently, the lab's chemistry and POC divisions implemented an improved urine pregnancy kit, which featured results that were easier to read.

Finally, the laboratory excellence team at RGH has implemented an exciting Lab Ambassador Program, which has resulted in improved communication and patient care. A lab representative is assigned an inpatient unit and makes rounds on this unit continually, and is available should any issue on the unit or in the lab arise. Rochester General's Department of Pathology and Laboratory Medicine is a shining example of what laboratory professionals can do when they join together for various "causes." Not only does RGH's legacy rest with its 75-year-old tradition of educating medical laboratory students but also with its modern, savvy attitude of teamwork for a patient-centered future.

Many hands make light work*

Our Second Runner-Up, CentraCare Laboratory Services (CCLS) in St. Cloud, MN, is comprised of two testing sites and one outpatient specimen-collection site. In addition, five other testing sites within the CentraCare Health System are *not* under the auspices or direction of CCLS. Working in collaboration with these other labs, CCLS standardized laboratory practices within the health system and met one of the goals: to have standardized instrumentation. The first success was achieved by implementing the same laboratory information system at all laboratory sites, which range from a single-provider clinic to additional hospitals and a large internal-medicine clinic

CCLS also now has a system-wide contract with one vendor to implement its chemistry testing system at all testing sites. This single instrument took the place of six instruments that

were performing a fragmented menu of tests. This new instrumentation allowed CCLS to switch to heparinized plasma as the primary chemistry specimen type, which significantly improved TAT by eliminating the clotting step.

"MLO and medical laboratory staff: an unbeatable combination for 40 years. More than ever, I just cannot imagine life without them!"—
Barbara Harty-Golder, MD, JD,
Pathology-Attorney Consultant,
Chattanooga, TN.

These acquisitions impacted patient care in that the new platform has allowed established standardized reference ranges within the health system, as well as eliminated confusion for physicians ordering tests — they no longer need to distinguish which test to order based on location. Previously, for example, the order code for troponin at

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one site was TRPM, at another TRPI, and for others TROP. The extensive menu on the new chemistry platform has reduced aliquoting, which was the cause of numerous relabeling errors. In conjunction with placement of the new instruments, the lab department remodeled its processing and core lab area for optimum (LEAN) specimen flow.

CCLS also implemented a relabeling policy and process to improve patient safety. When re-labeling a tube, the new label must be positioned so as not to obstruct the name on the original label, and the person re-labeling must sign his initials or tech code on the tube. This accountability has significantly reduced re-labeling errors, too.

To improve TAT, the lab department implemented team phlebotomy and single-piece flow, with specimens being sent to the laboratory through the pneumatic-tube system.

“Congratulations to all the nominees and especially our winner! It is great to see the number of laboratories that take great pride in the work they do. This year’s winner has a lot to be proud of.”—C. Anne Pontius, MBA, CMPE, MT(ASCP), Senior Medical Practice Consultant, State Volunteer Mutual Insurance Company, Brentwood, TN.

By implementing an automated specimen-collection solution, the lab can “receive” specimens before they are placed in the pneumatic tube, greatly reducing handling time; specimens now go directly from the pneumatic tube to the processing area. This solution reduced specimen-collection errors to virtually zero, down from 12 to 15 per quarter, and resulted in CCLS receiving first place in a competition sponsored by the Quality Resources Patient Safety Committee of St. Cloud Hospital to recognize the process changes that most improved patient safety.

To better meet the needs of the CCLS health system’s very large oncology population, the lab purchased a blood irradiator and now irradiates blood on site, rather than requesting it from the Red Cross, which once delayed transfusions by hours and days.

By now, you might ask what all this new equipment and standardization has to do with “teamwork.” Here are a few clues:



Local media have written several articles on the efficiencies and new technologies offered by CentraCare Laboratory Services to better serve its community members.

CCLS operates in partnership with an independent five-member pathology group. The pathologists meet formally with the CCLS management team on a bimonthly basis. At this meeting, discussions include reporting of quality-assurance monitors, process-improvement initiatives, and laboratory strategic planning. In addition, each pathologist is assigned oversight of a specialized laboratory department while working closely with that department’s technical specialist.

Further, CCLS employees participate in system-wide multidisciplinary committees, such as product value analysis, infection control, institutional review board, and education, to name a few. In addition, CCLS sponsors quarterly physician-advisory meetings where physician input is requested and used to plan the future direction and priorities for the laboratory. The CCLS website has a form titled “Laboratory Services Testing Changes/Additions Request” that is used by providers to request new testing or changes to current testing. A clinical laboratory scientist works with all areas of the health system on POCT. The hospital is also very involved in the large number of research studies that are being conducted within the health system. CCLS participates in all these studies by handling the specimens for the laboratory-testing portion of the study.

The management team meets weekly and the Minutes of the meeting are posted in various mediums and locations. All staff are expected to read the Minutes, which address resolution of various is-

ssues, staffing changes, and new policies and procedures. Quarterly employee meetings are held. To fit everyone’s schedules and not to miss anyone, generally there are eight sessions of these meetings, and all staff are encouraged to attend one of the sessions. Meetings are held every month with the support staff to build team dynamics. Every quarter, a CCLS support-staff member receives a “Support Staff of the Quarter” award.

CentraCare Laboratory Services has had the unique opportunity to share information through publishing. Local media have written several articles on the efficiencies and new technologies offered by the laboratory to better serve its community members. On a national level, CCLS has published articles on patient-safety initiatives and general process improvements in print and via Web-based media. Other means of idea sharing have included service tours for the community (Rotary Club, Scouting programs, health-career education groups, and other groups). Over the past year, CCLS also has provided collegial exchange through site tours, demonstrations, and other forms of collaboration.

Effective communication via publishing, standardization of instrumentation and practices, and regular meetings of staff and employees — accomplished through teamwork — have made CentraCare Laboratory Services a top-notch competitor in *MLO*’s Medical Laboratory of the Year 2009. □

**John Heywood (1497-1580, English playwright and poet)*