

A common goal worlds apart

Determination to help patients marks MLO's 2008 Medical Laboratory of the Year winners

By Carren Bersch, Editor

Each year, *MLO* sponsors a friendly competition among laboratories in conjunction with National Medical Laboratory Professionals Week (April 20-26, 2008). 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.



MCDH's lab has been named twice by the *Dallas Business Journal* to the Top 10 "Best Places to Work;" listed in *Texas Monthly* as one of the "50 Best Companies to Work For in Texas;" and received the Alfred P. Sloan Award for Business Excellence in Workplace Flexibility [to meet business goals and employee needs].

National Medical Laboratory Professionals Week (NMLPW)



is a time of recognition for the approximately 265,000 medical laboratory professionals and 15,000 board-certified pathologists who play a vital role in every aspect of health-care. 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 20-26, 2008, following the theme of "Laboratory Professionals: Delivering Today's Results for a Healthier Tomorrow."

Big Texas boots to fill

If Nominator Harvey Jones from the Medical Center Dallas Hospital (MCDH) Laboratory was excited two years ago when he learned that his was *MLO's* Medical Laboratory of the Year *2nd Runner-Up*, we wondered what he would do when we broke the news that his lab had *won* the 2008 competition.

Jones' response? "We have worked very hard these last three years to improve. I enjoy your friendly competition each year. We use your application as our annual QA effectiveness summary."

Worked very hard? This year's accomplishments — too numerous to list — made our heads swim. Yours might, too, when you consider that the lab was functioning up to speed the entire time it was making major improvements.

In May 2007, just two months after the completion of a 28-month lab renovation, the MCDH lab was very surprised that the upcoming surgery expansion would require each lab section to vacate its area for up to three weeks so contractors could complete asbestos abatement and construction in the ceiling and repair ventilation problems. Where and how could each section relocate temporarily and continue to assure timely and quality results? Quality-control systems were vital to the lab's success. The lab team responded by meeting weekly with engineers and contractors to discuss and plan any lab-associated moves, while each lab area planned its move, validated the moved

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systems, and completed critical monitoring of QC results. Each section — hematology, immunohistochemistry, chemistry, and blood bank — and each of its shifts monitored QC results, making timely, thorough adjustments using spot coolers and air flow so that temperature-sensitive equipment continued to provide quality patient results.

“The laboratory staff remains the key to accurate and timely diagnostic information. The laboratory continues to become more complex with greater demands for economy and timeliness. It is the staff that makes it meet these demands. Congratulations on a job well done.”—Daniel M. Baer, MD, Professor Emeritus of Laboratory Medicine, Oregon Health and Science University, Portland, OR.

In addition to all of that, the lab extended AFB and fungus testing to other labs in its integrated network when a reference lab could not provide initial results within 24 hours as recommended by CLSI standards; these two tests had a 95% improved turnaround time (TAT). MRSA testing was begun as part of the lab's HCA corporate initiative, with real-time PCR results 100% faster than CHROMagar culture (within one versus two days). Two other labs chose to send their MRSA screens to MCDH's lab after learning of its outstanding performance. For more rapid implementation of barrier isolation of colonized patients using the more rapid and sensitive molecular test, the lab moved Tacrolimus tests to its primary chemistry analyzer, improving turnaround time 100%. Then, AmniSure testing was implemented in Labor and Delivery to help diagnose rupture of fetal membrane. A bar-code phlebotomy system was installed and implemented for positive patient and patient specimen identification using two patient identifiers and bar-code technology; thus, the number of tests completed by 7 a.m. for the morning run improved from 85% to 96%; similar improvement has been noted for STAT test completion.

Quantitative CMV PCR test TAT suffered after the local esoteric lab was sold to a competitor and moved out of town. MCDH's lab chose to insource these tests, obtaining 1,200 square feet of space, adding two virology and molecular technologists, and purchasing more than \$150,000 in equipment for virology and PCR testing. The expanded test menu for CMV, rapid respiratory panel, viral culture, and enterovirus improved turnaround time 100% (from two days to one day), while reducing costs by \$100,000 annually. Additionally, the MCDH lab-information-system (LIS) team was responsible for implementing the changes associated with the esoteric lab's closing. The change brought better service and efficiency, especially by providing a new interface to the lab's LIS, and very high efficiency through recovery of lost test charges for the low-volume esoteric tests not previously built into its computer system. The LIS team is now moving on with the same level of dedication and efficiency to new projects for an LIS computer upgrade, ISBT bar-code printer, electronic cross match, and a shared point-of-care computer server.

MCDH's lab serves a system that boasts the Medical City Transplant Center, the first transplant center in Texas and second in the country to meet the new Centers for Medicare and Medicaid Services' guidelines for certification. Medical

City was the first hospital in the southwest United States to perform open-heart bypass surgery using robotic technology. Medical City was named an American Society for Metabolic and Bariatric Surgery Center of Excellence in November. Medical City Children's Hospital has one of the top craniofacial programs in the world; more than 15,000 procedures have been performed on children and adults from every state and 75 countries. Medical City continues growth in operating-room (OR) technology where minimally invasive surgery is becoming a mantra, where surgery is expanding from 21 to 30 OR suites with installation of new Storz integrated visualization systems, where LifePort Kidney Transporter is utilized and, last, where expectations are that it will be the first hospital in the nation to use microwave ablation of hepatic tumors. The Emergency Services Clinical Decision Unit at Medical City is recognized by the National Health Care Advisory Board as Best Practice for Observation Medicine; er² also features a completely separate children's emergency room, independent from the adult emergency room.

MCDH — established in 1974 by a premiere group of North Texas medical specialists — offers a level of service that has resulted in recognition on local, national, and international levels. People from 75 different countries have sought out their treatment here with more than 95 medical specialties being practiced by more than 1,200 physicians.

The lab team decided to share its knowledge and expertise in point-of-care testing by organizing the North Texas POC Network, providing a forum for the discussion of POCT as well as the complexities in the care and treatment of patients. After hosting a conference for members of the network, the lab POC team's new thinking is leading to new innovations in the emergency department (ED) where lab POC testing is being integrated as well as sample collection and labeling, lab-supply inventory, and sample transport in a lab-resource site there to be staffed daily from 9 a.m. until 2 a.m. to assure better-quality POC and lab support. Preliminary review shows that pre-analytic time has been reduced from 40 minutes from time of order to sample receipt in the lab to 20 minutes. The lab analytic time remains at 18 minutes. The lab, again, will utilize the bar-code technology to assure 100% positive patient and sample identification, as well as training ED users of the pneumatic-tube-system operation.

If all of this innovation under the duress of major capital improvements was not yet enough, MCDH lab personnel made

“Congratulations to all the winners. It takes a lot of hard work coupled with passion and creativity to succeed at improving services. There are lessons learned from each laboratory that can benefit everyone. Thank you for putting forth the effort. Your recognition is truly deserved!”—C. Anne Pontius, MBA, CMPE, MT(ASCP), Senior Director, Quality Systems, Expression Analysis Inc., Durham, NC.

certain that more than 100 organizations benefited from its philanthropic support. This year, the lab hosted a full-day education conference — with four presentations, 20 vendor exhibits, food sales, and a raffle — attended by 120 registrants. Funds totalling \$22,528 were donated to the Food Bank and designated for families in North Texas for hungry children programs: Food 4 Kids, Kids Cafe, and Summer Food Service program.

Take a cue from MCDH's lab professionals: You *can* do it all.

Small Texas town still making history

San Angelo, TX, is home to about 104,000 souls. And for a city that size, San Angelo has had its share of fame directly attributable to its citizenry. Jazz musician Jack Teagarden lived there. Fess Parker, the actor, grew up on a nearby ranch. Matthew McConaughey owns a ranch close to San Angelo and shops there. Football Hall of Famers, Major Leaguers, well-known tennis players, and professional basketball referees have been known to inhabit the town. Award-winning writers and Pulitzer Prize nominees were either born or live today in San Angelo, and Cormac McCarthy's novel *All The Pretty Horses* is set there.

And San Angelo has been popularized in popular culture through Ernest Tubbs' (Country Music Hall of Fame) local radio show before he went off to Nashville, TN. Marty Robbins recorded his song "San Angelo" in 1960, while Aaron Watson has a hit single by that

name on his album of the *same* name. Hank Williams, Jr., mentions San Angelo in his song "Texas Women," as does Mark David Mander in "Leaving San Angelo."

It is a town filled with winners, and this occasion adds another tenacious

group of "artists" to the long list: Shannon Medical Center (SMC) Laboratory, the medical laboratory performers who are this year's First Runner-Up in MLO's Lab of 2008 competition. For the past three years (2005, 2006, 2007), SMC's lab has consistently scored in the 99th

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"Here's to all phlebotomists, the face of the laboratory. You tirelessly collect and process specimens, making sure every drop you deliver to the laboratory for testing accurately reflects the patients' health status. Extracting laboratory values from the specimens you so skillfully draw takes highly sophisticated instrumentation, but your value to the care every patient receives is immeasurable."—**Dennis Ernst, MT(ASCP), Director, Center for Phlebotomy Education, Ramsey, IN.**



In 2001, SMC's lab was working at 0.21/billable test; this has been reduced to the current 0.15/billable test. [Nominator Cleve Moore stands at right front of photo.]

percentile in customer satisfaction with Press Ganey, including measurements of courtesy to patients and of skills of phlebotomists. [Press Ganey surveys are widely used to collect stakeholder perspectives.] The SMC lab has cut phlebotomy outpatient wait times to less

than a five-minutes on average.

According to Nominator Cleve Moore, "We have monitored the percent of labs completed by 7:00 a.m. for the past three years and are averaging 98%. This allows physicians to make real-time decisions about dismissing or keeping a

patient; they have current labs and not lab numbers from the previous day." Customer service and early-morning result charting have been accomplished with a team of phlebotomists and technologists working together. SMC lab has a group of phlebotomists who come in at 4:00 a.m. to begin early morning draws. Their dedication to being on time each day, along with that of the night-shift technologists helping the early day-shift technologists, has made this possible.

Shannon Medical Center's laboratory has consistently scored above 98% with all CAP proficiency testing each year for the past 10 years.

SMC lab utilizes pneumatic-tube systems with STAT indicator. The indicator not only allows notification of STATs coming through the tube system, the process helps get STAT lab results to needed areas. Moore's winning laboratory is using WiFi wireless technology throughout the hospital for patient identification by electronically scanning patients' hospital armbands for positive identification. Scanning patient armbands and patient order labels at bedside is one more way of ensuring patient safety.

To maintain and improve associate morale, teamwork, and pride among its laboratory professionals, SMC lab gives out "Shannon Shamrocks" — gold cards of varying denominations for lab associates who go "above and beyond" — to be used/traded for cafeteria snack items or full meals, movie tickets to a local movie theater, or gift cards to Outback Steakhouse. Not only does the lab throw monthly birthday parties with cake and punch but also announces a "Lab Associate of the Month" who receives two movie tickets and a \$25 gift certificate to a city restaurant. While the lab team presents annual Thanksgiving and Christmas pot-luck lunches each year, for National Medical Laboratory Professionals Week, the highlight is an in-lab catered barbeque buffet. And nowhere can a better barbeque buffet be found than in the heartland of Texas, in San Angelo.

By the way, it is 4:00 a.m. Do you know where your phlebotomist is?

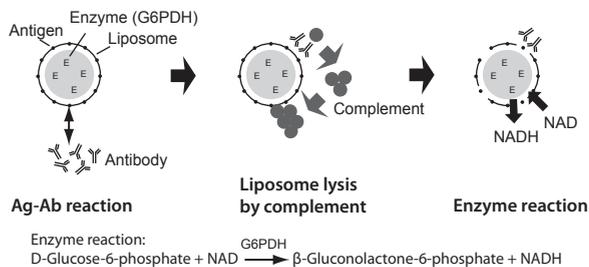
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On the HIV/AIDS front-line

Many clients refer to the Makerere University-Johns Hopkins University (MU-JHU) Core Laboratory as “family” because they have known some techs who have been there since its inception in 1988. The lab is located at Mulago Hospital complex in Kampala, capital city of Uganda — a country once ruled by Idi Amin, with 25 to 30 million citizens from at least 18 distinct ethnic groups, a similar number of languages, and several religions. Five teams made up of 45 professionals com-



In addition to performing many tests in chemistry, hematology, serology, urinalysis, flow cytometry, parasitology, pharmacology, and molecular pathology, the lab offers clinical and research lab services to over 72 different research studies, hospitals, and clinics.

“Laboratory performance —tests, consultations, support — has remained a wonderful island of consistency in a sea of medical change. Thanks to the folks that make it happen.”—**Barbara Harty-Golder, MD, JD, Pathology-Attorney Consultant, Chattanooga, TN.**

prise the total workforce: technical teams for two shifts, as well as processing, data-entry/lab-support, QA/QC, and administrative teams. The lab operates at least 14 hours daily during the work week, as well as on weekends and all holidays. With prior notice, a clinic or study needing services outside working hours can have technical lab staff available. The lab’s two main bench teams relay activities one to another via hand-over forms, while two runners transport items among clients within walking distance of the lab, equipped with two-way walkie-talkies for constant communication with the lab and clinical areas it serves.

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The MU-JHU Core Lab has a reputation for uncompromising standards of quality and excellent service in a developing country where sustained provision of basic infrastructure such as electric power and transportation is not always dependable. In the event of lab-operation interruptions, the lab collaborates in the areas of equipment maintenance, reagents supplies, operational policies, and back-up services with a number of organizations, laboratories, vendors, and stakeholders in the Ugandan Health Service.

“We are one of the busiest medical labs in Uganda, processing an average of 16,000 tests monthly. Although perhaps not a high number in comparison to U.S. labs, given the local environment and lack of fully computerized systems, our testing volume is fairly high for local laboratory standards,” says Elbireer.

The Core Lab imaginatively handles



When he heard his lab won as 2nd Runner-Up this year, Nominator Ali Elbireer, MT(ASCP), MBA, immediately took photos of the staff with bright smiles and thumbs up.

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often-meager resources to confront challenges such as finding suitable lab space, increasing costs for lab tests and supplies as well as fuel, and meeting staff-development needs. Without space for file cabinets, the data department bought and stacked locally made metallic cases for archiving records chronologically for easy retrieval. To help meet professional-development goals — given the limited funds for attendance at external programs — a scheme for monthly presentations allows staff members to share professional training, technical challenges, and academic reviews.

In 1999, without financial resources to purchase a comprehensive laboratory information system, the MH-JHU lab staff procured a “homemade” system

“As clinical laboratory personnel you must be proud of the fact that you create the vast amount of information in each individual’s medical record and equally awed by the responsibility that rests upon your shoulders.”—**Leland Baskin, MD, FCAP, Division Head, General Laboratory, Calgary Laboratory Services, Calgary, AB, Canada**

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to which the team keeps adding enhancements to improve productivity. Although LIS interface for automated instruments is a standard American lab practice, the Core Lab (now working with an LIS software company, along with their LIS manufacturer) will create an interface link with its automated instruments to ensure accurate, timely results with reduced turnaround times in order to eliminate data-entry errors. The lab now uses four different quality-assurance data-review levels before releasing results to clients. The lab created LIS downtime procedures because of the fluctuating electricity supply, and to get a technical rep for preventive maintenance or repair on lab equipment can take up to four weeks. Having two of each analyzer or instrument is part of the lab's back-up contingency plans in case of any failures.

"Continue to keep the quality high. That next sample comes from somebody's loved one. Congratulations on the great and dedicated work that you do every day."—Christopher S. Frings, PhD, CSP, President, Chris Frings & Associates, Birmingham, AL.

Nonetheless, the Core Lab has been accredited by the College of American Pathologists (CAP) since April 2003 and ended its June 2007 CAP inspection with a perfect score (i.e., *zero* deficiencies). The MU-JHU Core Lab is *one of only three labs on the African continent accredited by the CAP*. Presently, no laboratory licensing or accreditation is available or required in Uganda, but MU-JHU lab leadership decided to attain the highest world-class laboratory quality standards available.

It is hard to talk about health in Uganda, or Africa, without mentioning the HIV/AIDS plague. After the Ugandan government recognized the HIV/AIDS pandemic threat and spear-headed efforts towards prevention, prevalence rates have gone down from more than 20% to 7%. Uganda is a rare success in Africa in the face of a severe AIDS crisis. The Core Lab's most important contribution to patient care has been its landmark clinical trial, which

resulted in a more than 50% reduction in mother-to-child HIV transmission using single-dose Nevirpine. Nationally, the Core Lab validated the current HIV rapid-testing algorithm used by all Ugandan government lab facilities. It also serves as a center-of-excellence training site for clinical and lab personnel needing to monitor patients on HIV treatment. Because a CD4 count is an essential part test at HIV diagnosis, and should be repeated about two to eight weeks after starting or changing anti-HIV therapy and every three to six months if treatment is maintained, the lab undertook an effort to find a reliable, cheaper CD4-testing method for limited-resource settings. It hosted a research study, testing CD4 count utilizing three different methods to establish the level of accuracy, reliability, and value. Today, HIV/AIDS patients all over the world are benefiting from outcomes of laborious yet quality work of the dedicated MU-JHU Core Lab staff. □

Our esteemed MLO Editorial Advisory Board Members who served as judges for the Medical Laboratory of the Year 2008 Award are:

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