We’ve been warned. The ASCP Task Force Report on the Future of Pathology and Laboratory Medicine (see January 2008 Critical Values, pp. 28–34) states a stark reality: “The laboratory professional is endangered.” Laboratory test results and even anatomic pathology diagnoses are increasingly perceived as commodities—not services. Like general practitioners, anesthesiologists, and pharmacists before them, pathologists and laboratory professionals must reinvent themselves by becoming indispensable to the patient. How? By changing the commodity to a service.

The Task Force recommended several strategies to ensure the viability of our profession, among them,

- Become the patient’s best source of information about laboratory results.
- Advise the health care team on what tests are appropriate and how to interpret them.
- Develop practice guidelines for appropriate use of laboratory services in cooperation with those who use laboratory test results.
- Further harness informatics to make laboratory results more useful in medical decision-making.

This issue of Critical Values is devoted to the value of service. Inside this issue are stories about efforts to provide service directly to patients, expansion of U.S. service internationally, exemplary leaders who have advanced the profession through service in ASCP, and ASCP’s efforts to enhance service to members and thereby to the profession.

Other stories revisit research on critical values and present repeated calls for a consensus conference and practice guidelines on this challenging issue. Arts in Culture features two women who have capitalized on—or perhaps driven—popular interest in forensic pathology to increase public awareness of medical laboratories. William G. Finn, MD, FASCP, a member of the ASCP Board of Directors, puts it all in perspective in his cover story, “The Customer Service Culture in Pathology and Laboratory Medicine.”

The July issue of Critical Values will tackle the value of technology. We hope you like our effort.

Dr. Hilborne is president of ASCP
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The increasing commoditization of medical information means that practitioners of pathology and laboratory medicine must compete in the health care marketplace by focusing on the delivery of outstanding service to patients and clients—service not only in the sense of quality of medical judgment and accuracy of diagnosis, but also in the classic business sense.

—William G. Finn, MD, FASCP

**The Customer Service Culture in Pathology and Laboratory Medicine**

by William G. Finn, MD, FASCP

**M**edicine is moving beyond “Doctor knows best.” Patients are more informed than ever about their own medical conditions and their own medical care. Third-party payers (including the federal government) are encouraging an era of medical consumerism in which physicians and health care facilities compete for patients based on quality, price, and level of service. These trends are shifting the focus in pathology practice to a new model of engagement, centered on patient and client service and satisfaction.

With the recent intense focus on the impact of medical errors, quality initiatives in health care are taking center stage, and consumers—patients and, in the case of laboratory medicine, client hospitals and physicians—are demanding greater transparency in health care. The federal government is encouraging this trend. In August 2006, President Bush signed an executive order designed to increase transparency in health care. This order was based on four principal goals:

- Increasing transparency in pricing
- Increasing transparency in quality
- Encouraging the adoption of health information technology standards
- Providing options that promote quality and efficiency in health care.

As information on the performance of individual medical centers and physicians becomes easier to obtain, there will be pressure on health care providers to move toward a culture of customer service.

There is much debate surrounding the “commoditization” of health care, particularly in the field of pathology and laboratory medicine. This debate will no doubt continue. However, whether or not the overall delivery of medical care is treated as a commodity by patients, it is becoming increasingly clear that medical information is very often treated as a commodity by patients and by third-party payers. Patients and clients often assume that information is generally not released to medical records before regulatory checks and balances have ensured that the information has met an acceptable minimum level of accuracy and integrity. This assumption has a particularly potent effect on pathology and laboratory medicine, since it routinely creates and processes enormous numbers of individual reports of medical information, from numerical results of serum analyte levels to descriptive surgical pathology reports.

HMOs and other third-party payers often establish contracts with clinical laboratories based mainly upon price and level of service (including turnaround times, frequency of testing, hours and availability of service) without formal assessments of the quality of the medical testing being performed (beyond general regulatory compliance). The newly proposed competitive bidding process for laboratory services by the Center for Medicare and Medicaid Services is said to be based upon both “price and non-price criteria” (quality, capacity, and geographic coverage). However, the main objective of this proposed reform involves the determination of whether competitive bidding can be used to “provide Part B clinical laboratory services at fees below current Medicare payment rates while maintaining quality and access to care.” The main concerns continue to be reduction in costs and increase in service levels.

The increasing commoditization of medical information means that practitioners of pathology and laboratory medicine must compete in the health care marketplace by focusing on the delivery of outstanding service to patients and clients—service not only in the sense of quality of medical judgment and accuracy of diagnosis, but also in the classic business sense. This means providing patients and clients with the breadth and depth of consultative assistance and clinical tests that they want, when they want them, and with full accountability to their level of satisfaction. For some centers, this shift occurred years ago and is now in full force. At the other extreme, some centers have actively avoided this shift.

The monitoring of customer satisfaction is a routine part of the balanced scorecard by which many businesses audit their performance, but this model is not widely practiced in pathology and laboratory medicine. There was a time when the eschewing of patient or client satisfaction with service was tolerated. I remember, back in the days of my own residency training, some senior attending pathologists who wore their ignorance of the “business” of pathology as a badge of honor. We will not survive as a specialty if that attitude is allowed to persist. The most successful pathology and laboratory medicine services in the nation are making patient and client satisfaction a strategic priority in their day-to-day operations. Operations improvement and quality assurance concepts such as Lean Enterprise and Six Sigma are working their way into the established medical literature. The “business” of pathology is taking center stage as an effective vehicle for improving patient and client service and the quality of medical care that we provide.

We are becoming more and more accountable not only for the quality of our medical judgment, but also for the satisfaction of our clients.

**Dr. Finn is Clinical Associate Professor of Pathology, Director of Hematopathology, and Associate Director of Clinical Pathology in the University of Michigan Health System.**
At Rice Memorial Hospital, a 120-bed hospital in a rural area of central Minnesota, laboratory services have been expanded to include outreach testing for smaller hospitals and clinics in the region. Nontraditional types of services are being offered, such as outreach laboratory management for clients, courier services that traverse the region for other facilities that pay into the system, and pickup services for specimens for Rice. A direct laboratory access (DLA) program was initiated in 2001 to allow the public to access a small menu of laboratory tests without a physician’s order. Research conducted prior to starting the program found that many supermarkets and pharmacies were offering selected laboratory testing without physician orders. This testing was done in less-than-optimal conditions by non-laboratorians, usually by fingerstick methods. Rice wanted to offer the same testing at competitive prices but with the high quality provided by its certified laboratory professionals. Research also discovered that Minnesota state law is silent on the question of who can order laboratory testing, and Rice does not prohibit patient test ordering.

One obstacle to implementing this program was payment, that is, being able to accept cash and checks when the testing was ordered. Laboratories are “non-cash” departments and are rarely set up to handle cash payments. Thus, a system was needed for handling cash in the laboratory and bringing the cash to the business office periodically to receive credit for the department. This was difficult to arrange, but since then there have been many situations in which the ability to handle small cash payments has benefited the department. This system has also become a way of handling money from other sources.

Another obstacle was convincing physicians that patients want to have some control over their medical testing and be able to make some decisions on their own. Having the testing done at the hospital laboratory ensures patients of high-quality testing. Patients are encouraged to talk to their physicians if they have questions about the results. Most patients have the testing done and then discuss it with their physicians. The program is particularly popular with patients on cholesterol-lowering medications who have been instructed to repeat their lipid profile periodically. In addition, the hospital is in an area where people vacation in the summer months, and they come in to have their international normalized ratio (INR) checked between visits to their regular provider.

The DLA program is not actively advertised, but does exhibit at health fairs and various community events. Local chiropractors think it is a great service and refer their patients. Many people hear about the program from their friends. The prices are reasonable for those with no insurance or with high deductibles. And the program has grown, even though it is not actively advertised. Some physicians have also started recommending DLA testing to their patients who cannot afford regular clinic visits but need some type of follow-up.

Overall, we are very happy with our DLA program. We receive many positive comments from people who use the DLA tests. We believe we have met our goal of offering a program that benefits the public.

Junell Petersen is Technical Consultant for Laboratory Services at Rice Memorial Hospital, Willmar, Minnesota.
Marilyn S. Held, SpM, MT(ASCP)DLM, a model of service to the profession through her work as a volunteer and leader for ASCP, passed away December 25, 2007, after an eight-year battle with breast cancer.

Held will be remembered for her continuous and dedicated service to ASCP and its Associate Member Section (AMS, now the Council for Laboratory Professionals). She was a member of the ASCP Board of Directors, past chair of AMS, and a director of ASCP workshops.

“Marilyn had great vision,” Best said. “She could weigh technology, pathology, and the laboratory profession in an objective manner. She was there to represent non-physicians but was able to balance that need with the big picture. It was a big test for AMS, and it had to be somebody who had the knowledge, experience, and leadership to be on equal footing with physicians and colleagues in the lab.”

When laboratories experienced a staff shortage in the late 1980s, Held helped forge the ASCP AMS/BOR Task Force on Laboratory Recruitment, Retention and Image. She chaired the task force from 1988 to 1991.

“Marilyn had great vision,” said Michele Best, MT(ASCP), System Director for Clinical Laboratories, Dimensions Healthcare System, Cheverly, MD. “We wanted to be sure that one of the top leaders in AMS with a strong voice was on the board. We would not have evolved without having that first key strong, articulate board member.”

Held worked for 22 years at St. John Hospital and Medical Center in Detroit. She held positions as a medical technologist, manager of the microbiology laboratory, administrative director of the main laboratory, and manager of the medical technology teaching program.

In 1984, Held was the first person to receive the ASCP Technologist of the Year Award, later renamed the Lifetime Achievement Award. She also served on the ASCP Commission on Associate Member Activities (CAMA), the precursor to AMS. She received the 1999 ASCP AMS Distinguished Service Award.

“Marilyn had a positive attitude, a great sense of humor, and an amazing ability to collaborate with diverse groups to advance the recognition and value of laboratory professionals.”

Held received a bachelor of science degree in medical technology from the University of South Dakota in 1975 and specialist degrees in pathology from the University of Iowa in 1979 and in microbiology from the University of Arizona in 1981. She is survived by her husband, pathologist Frank N. Bever, MD, Assistant Director at St. John Health Laboratories and Medical Director at St. John Riverview Laboratory, Grosse Pointe Woods, MI.

Terri Yablonsky Stat is a freelance health writer in Northbrook, IL.
Three Honored with ASCP Laboratory Professional Awards

These awards were presented at the ASCP Leadership Exchange on Saturday, March 1, 2008 at the Palace Hotel, San Francisco, CA.

Marian J. Cavagnaro, MS, MT(ASCP)DLM

Marian J. Cavagnaro, MS, MT(ASCP)DLM, was honored with the ASCP 2008 ASCP Member Lifetime Achievement Award. The award was established to honor an ASCP laboratory professional Member who has demonstrated a commitment to the profession through work, attitude, and Society activities.

A laboratory professional since 1975, Cavagnaro has been the Director of Laboratory Services at Memorial Hospital, in West Pembroke Pines, FL, since 1994.

From 1997 to 1998 she served as Chair of the ASCP Associate Member Section (AMS, now known as the Council of Laboratory Professionals). In 2001, she became a member of the Board of Registry (BOR) Board of Governors representing the CLMA. She still holds the position today. She also serves on the ASCP BOR Finance Committee and is Co-Chair for the ASCP BOR Research and Development Committee, a member of the Commission on Public Policy, a member of the Check Path Committee, and a member of the ASCP Institute’s Advisory Committee. She serves on the Editorial Review Board for LABMedicine.

Cavagnaro says her most profound personal experience with the ASCP has been her recent trips to Africa in the fight against AIDS. “I have never been so proud to be a laboratory professional and a member of ASCP as I have been providing hematology training to the laboratory professionals of Ethiopia,” said Cavagnaro. “We’re the perfect organization to carry this mission.”

Carol A. Gomes, MS, MT(ASCP)HTL, DLM

Carol A. Gomes, MS, MT(ASCP)HTL, DLM, was given the ASCP’s 2008 Member Excellence in Management Award. The award was established to honor an ASCP laboratory professional Member who is actively engaged in laboratory management or supervision and has demonstrated effective leadership skills and management strategies regarding personnel, finance, and operations.

A patient safety advocate for many years, Gomes is Associate Director for Quality Management and Continuous Quality Improvement Director at Stony Brook University Medical Center.

A past chair of the ASCP Associate Member Section (AMS, now known as the Laboratory Professionals Council), Gomes has served the ASCP in numerous ways. She was chair of the ASCP-AMS Professional Affairs Committee, wrote for LABMedicine and Tech Sample®, served on the ASCP-AMS Plan & Scope Committee, served as an ASCP representative to the Health Professions Network, and presented many ASCP workshops.

More recently, Gomes was a member of the CLMA/ASCP Conference Committee, the LABMedicine Editorial Advisory Board, the ASCP Leadership Exchange Committee, and the ASCP Task Force on Facing the Future. She has presented numerous workshops in the areas of quality management and performance improvement for ASCP and other organizations. She is a lecturer in the Stony Brook School of Health Technology and Management and in the Harriman School of Management and Policy/School of Professional Development.

Perthena Latchaw, MS, MT(ASCP)

Perthena Latchaw, MS, MT(ASCP), was awarded the ASCP 2008 Member Excellence in Education Award. The award was established to recognize an ASCP laboratory professional Member who is actively involved in a medical laboratory education program and has demonstrated outstanding performance in teaching through work in the classroom or clinic, or through development of effective teaching methods and instructional materials.

Latchaw has been the Medical Laboratory Technology Program Director at Seminole State College in Seminole, OK, since 1982. She is involved in the education of medical laboratory professionals on the local, state, national, and international levels. In addition to her teaching and administrative responsibilities there, she recruits, advises, and mentors students.

Her commitment to educating laboratory professionals has taken her on regular trips to Africa with the ASCPs program to fight AIDS. Since June 2005, she has participated in eight trainings: five Training-of-Trainers and three rollouts, all in African countries.

Latchaw has served the ASCP in other capacities as well. She was a member of the ASCP Board of Registry Joint Generalist Examination Committee from 1996 to 2001 and served on the ASCP Government Relations Committee from 1991 to 1995. She has been serving on the BOR Board of Governors since October 2006 and is now the Board Liaison to the Joint Generalist Committee.
The ASCP Institute has joined forces with the World Health Organization Regional Office for Africa (WHO-AFRO) and the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) to develop consensus standards on laboratory tests, instrumentation, and supplies to help countries in their efforts to overcome HIV/AIDS, tuberculosis, and malaria.

Major global partners supporting the effort are the World Bank, the U.S. Centers for Disease Control and Prevention (CDC), the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Bill and Melinda Gates Foundation, and the Clinton Foundation.

The effort began with a consensus conference January 22–24, 2008, in Maputo, Mozambique. Jorge Tomo, MD, Permanent Secretary of the Ministry of Health of Mozambique, chaired the conference under the theme “Helping to Expand Sustainable Quality Testing to Improve the Care and Treatment of People Infected with and Affected by HIV/AIDS, TB and Malaria.” This event followed two earlier African laboratory network meetings (in Addis Ababa, Ethiopia, November 2006, and Harare, Zimbabwe, September 2001) organized by WHO-AFRO and CDC.

As many as 120 experts representing 33 countries, including 28 sub-Saharan African countries, as well as Cambodia, Haiti, India, Thailand, and Vietnam, attended the conference. ASCP President Lee H. Hilborne, MD, MPH, DLM(ASCP)CM, FASCP, FCAP, and Executive Vice President John R. Ball, MD, JD, MACP, led the ASCP delegation, which included Michele Best, MT(ASCP), Anna M. Murphy, MT(ASCP)CM, and ASCP Institute staff Barbara Hoffman, MA, MT(ASCP), and Stacy Kancijanic, MA.

The three objectives of the workshop were as follows:

• To review and agree on a list of supplies and tests needed at each level of the integrated, tiered laboratory network
• To develop a consensus to guide standardization of laboratory equipment at each level of the laboratory network
• To develop a consensus on key considerations to guide maintenance and service contracts at various levels of the laboratory network.

Before the conference, ASCP experts gathered information from the CDC and the Clinton Foundation to draft an initial consensus document, which served as the starting point for discussions at the conference. They were Murphy, MT(ASCP)CM, Roland Guidry, and Bette Jamieson, MEd, MT(ASCP)SH. During the conference, Best was named Master Rapporteur, responsible for leading the development of the final consensus report, which is tentatively due for completion this summer.

Another outcome of the conference was the release of a written declaration that established the global commitment to strengthen integrated national laboratory systems in a public health perspective.
International Certification Expands in 2007

by Jennifer Young, CT(ASCP)

In today’s global economy, competence within the medical laboratory is an international issue, and one that ASCP is addressing through international certification. The mission of protecting the health and safety of the public has been extended internationally to such countries as South Korea, the Philippines, Panama, and the city of Hong Kong. Following is a look at ASCP Board of Registry activities overseas this year.

2007

January. ASCP continues to receive a positive response from applicants in the newly approved Philippines. ASCP finalizes an international version of the Phlebotomy Technician (IPT) certification.

March. National members of the Globalization Taskforce convene at ASCP Chicago headquarters, prior to the Board of Governors meeting. Members review international examination statistics, eligibility requirements, marketing campaigns, and various resources for globalization. The Globalization Taskforce becomes a Standing Committee, reflecting the continued commitment of ASCP BOR to international pursuits.

April. Ellen Hope Kearns, PhD, SH(ASCP)H, presents “International Certification through ASCP” to laboratory professionals in Guyana during National Medical Laboratory Professionals Week. Kearns meets with Leslie Ramsammy, PhD, Guyana Minister of Health (MOH); Yvette Irving, MOH Director of Standards and Technical Services; University of Guyana faculty; Guyanese laboratory professionals; and Valerie Wilson, Manager of the Laboratory Division of the Caribbean Epidemiology Center (CAREC). Kearns appears on two television talk shows to discuss international certification. Andrew Boyle, owner of Eureka Labs in Georgetown, Guyana, extends an invitation to Kearns to attend the St. Lucia Association of Medical Technologists Biennial General Meeting (BGM) and Scientific Symposium of the Caribbean Association of Medical Technologists (CASMET).

May. An advertisement for ASCP appears in the Philippine Daily Inquirer (the national newspaper), and informative articles appear in The Manila Bulletin and Philippine Star.

June. E. Blair Holladay, PhD, SCT(ASCP)HM, speaks to medical technology professionals and educators at the Panama Association of Clinical Laboratory Personnel. A Panama Advisory Board of the International Consortium for ASCP is formed.

MT(ASCP) certification is recognized as an approved examination for the purposes of California licensure.

July. Vincent Gallicchio, PhD, MT(ASCP), President-Elect of the International Federation of Biomedical Laboratory Scientists (IFBLS), is appointed to the ASCP Globalization Committee. IFBLS is dedicated to the international promotion of clinical laboratory science in 40 countries.

August. At the South Pacific Congress for Medical Laboratory Scientists in Auckland, New Zealand, Globalization Chair Kathy Becan-McBride presents information about ASCP. She describes how the region may have ASCP certified professionals immigrating to New Zealand in the future with this credential.

September. ASCP celebrates the 100th internationally certified MT(ASCP) candidate.

The ASCP Advisory Board in South Korea, led by K.J. Cho, PhD, announces completion of the first review course for ASCP.

October. Holladay, Hope-Kearns, and Jennifer Sherdan, ASCP BOR Assistant Manager of International Certification Activities, participate in the Caribbean Association of Medical Technologists (CASMET) Biennial General Meeting in St. Lucia. CASMET represents over 1,500 medical laboratory professionals, with branches in seven territories: Bermuda, Trinidad & Tobago, Jamaica, Guyana, Curacao, Bahamas, and St Lucia.

ASCP welcomes in the new year with a celebration of more than 700 applications for international certification. ASCP BOR approves Hong Kong and Panama for international certification. Eligible international applicants can now receive scholarships to subsidize examination fees in resource-limited countries.

In April, the Globalization Committee convenes in Panama, where goals are set for progress in countries such as India, China, Japan, and Taiwan. The meeting allows committee members and staff to meet with Panamanian colleagues to further discuss options for improving global health care through international certification. Agenda items considered include issues of international security for ASCP examinations, future countries with interest in ASCP examinations, and discussion with several chairs of ASCP International Advisory Boards, including K.J. Cho of South Korea, Agnes B. Medenilla of the Philippines, and Chantziantioniou of Saudi Arabia.

Jennifer Young is International Manager for the ASCP Board of Registry.
Cancer of the cervix is the most frequently reported cancer of women in developing countries. In most of these countries, the facilities to diagnose and treat this disease are scarce or nonexistent. In many developing countries women have not been educated about the importance of the Pap smear as a means of preventing cervical cancer; thus, it is not unusual to find less than one percent of women who have ever had a Pap smear.

Forty years ago in the United States, cancer of the cervix was the leading cause of cancer-related deaths in women. Today, since the introduction of the Pap smear, this cancer is not among the top 10 causes of cancer-related deaths in women.

Founded in 2001, Professionals Analyzing Pap Smears, Inc. (PAPS Team International) is a volunteer health care team comprising physicians, nurses, and cytotechnologists who travel to developing countries and screen for cervical and breast cancer. The mission of this California-based nonprofit organization is to:

- Establish permanent cervical cancer-screening clinics in developing countries
- Screen for cervical cancer and treat appropriately during on-site visits
- Train personnel to ensure the continued operation of a clinic
- Provide necessary equipment and supplies so each clinic is self-sustaining
- Educate women about the importance of the Pap smear in disease prevention
- Decrease the incidence of cervical cancer in a host country.

When the PAPS team arrives at a new facility, it sets up equipment and supplies. Within one or two days, instruction begins for nurses who will examine patients and obtain Pap smears and for physicians who treat patients with abnormal results. While instruction for these professionals proceeds, PAPS team members also begin screening waiting patients for cervical and breast disease. PAPS plans to screen 800 to 1,000 patients a year.

Newly trained professionals then continue screening and treating patients after the PAPS team has returned to the United States.

Mark Titus is Laboratory Director for PAPS Team International. He can be reached at mtitus@ahs.llumc.edu.
inquiries, which totaled 36,827 last year. Bold Chats numbered 13,831.

Customer service is part science, part art. With each interaction, the Society’s reputation is on the line.

“We are goodwill ambassadors for the society,” says Yvette Spriggs, Customer Service Manager. “With the launching of new service technologies on our website, it can be particularly challenging when a member calls to say he or she is uncomfortable using these technologies. It’s extremely rewarding when I can coach a member on the convenience of services on our website and then they respond, ‘Wow, that was really easy after all!’ Then we both feel a sense of accomplishment.”

ASCP’s front-desk receptionist Tedoria Leavell estimates she speaks with about 100 callers on any given day. One conversation stands out. An emeritus member called one day and started talking about the weather and other general topics. As Leavell began to wonder why exactly he had called, he mentioned that he was a widower. “I remember the despair and loneliness I felt when I became a widow, and I thought maybe he was just lonely, too,” she said. So she took the time to listen. “And I remember how he thanked me just for speaking with him. That’s a call I remember.”

Call ASCP in 2007

Phone calls: 114,399
E-mails: 36,827
Bold Chats: 13,831
Faxes: 2,890
ASCP BOR Calls: 2,415/month

*April-December 2007
A Musing Retirement: Forensic Pathologist Inspired Best-Selling Crime Writer

by Terri Yablonsky Stat, MA

From the first time she stepped inside the Cuyahoga County (Ohio) Coroner’s Office as a medical resident, Marcella F. Fierro, MD, FASCP, was captivated by forensic pathology. For her, it was a chance to see classic natural disease unaltered by medical treatment. Fierro went on to become one of the country’s first female medical examiners and a leader in forensic pathology, volunteering her time to ASCP and serving as a consultant to best-selling mystery/crime writer Patricia Cornwell.

Fierro retired in January 2008 as Chief Medical Examiner for the Commonwealth of Virginia and as Professor of Legal Medicine at the Medical College of Virginia. In her 32 years as a forensic pathologist, she served as a model for the profession by bringing visibility to the field and paving the way for other female medical examiners.

By serving as consultant to Cornwell, Fierro helped raise national awareness of forensic pathology and its contribution to the public health and criminal justice systems. She advised Cornwell on the technical and scientific aspects of her books, which feature the fictional female forensic pathologist Dr. Kay Scarpetta.

Fierro and Cornwell met in the 1980s, when the latter was working as a crime reporter ready to try her hand at writing crime novels. “I wanted to meet a real medical examiner and was referred to Dr. Fierro by a local doctor,” said Cornwell. “Had I not met her, I would not have been interested in forensic medicine. Dr. Fierro is so enthusiastic and quite brilliant. She brought in this aura of energy that completely woke me up. I spent three hours with her and learned what a medical examiner does. She gave me a tour of the morgue and discussed technology that was down the road, like DNA.”

Cornwell’s fascination with forensic medicine and science was just taking hold when she asked Fierro to let her see an autopsy. Fierro told her, “It’s not a spectator sport.”
in the medical examiner's office while writing novels at night. "I followed Dr. Fierro every day like a puppy dog and took notes because forensics is a very difficult world for a nonscientist," the writer said.

In turn, Fierro credits Cornwell with bringing twentieth-century technology to her office. "Patricia had experience with word processing as a reporter and was elected amongst our employees to set up our word processing system and the first database for the office that allowed us to search our records," she explained. "I used to keep a notebook of interesting cases, but with the database we were able to conduct searches. We could pull up all the fire deaths and then do some serious epidemiology. We could take all this death data and use it for things like prevention. From a public health point of view, it was extremely important to set that up."

Fierro continued to champion Cornwell's writing pursuits. "My first four novels were rejected by publishers," Cornwell explains. "Marcella always was encouraging. She'd say, 'Get over it—just do it.' She always believed in me." Eventually, Postmortem was published in 1987 with great success. Cornwell quit her day job, and other best sellers followed. Fierro continues to offer technical advice on Cornwell's books.

"She is incredibly inspiring and eloquent and a brilliant teacher," the writer said. "I followed Dr. Fierro every day like a puppy dog and took notes because forensics is a very difficult world for a nonscientist," the writer said.

Fierro is gratified to see increasing numbers of women entering forensic pathology. "Today almost a quarter of forensic pathologists are women," she said. "That's quite astounding from when I joined and there were three or four of us. When we became forensic pathologists in the 1970s, we would have lunch whenever we attended the National Association of Medical Examiners conference. We called it the Femme Fatale Luncheon. The boys had their network and the ladies needed one, too."

Today, Fierro lives in Richmond, VA, with her husband, Robert, a gynecologist. They have two adult children. She plans to fill her days teaching for the Virginia Institute of Forensic Science and Medicine and for Virginia Commonwealth University.

"I used to keep a notebook of interesting cases, but with the database we were able to conduct searches. We could pull up all the fire deaths and then do some serious epidemiology. We could take all this death data and use it for things like prevention. From a public health point of view, it was extremely important to set that up."

As chief medical examiner for Florida's District Nine in Orlando and inspiration for the Discovery Health Channel's hit series Dr. G: Medical Examiner, Garavaglia is shedding new light on forensic pathology. Each episode features at least three unexplained cases Garavaglia has handled. Viewers get a firsthand look, through re-enactments, at sudden and unexpected deaths and the cutting-edge forensic science techniques she uses to determine cause and manner of death. Early on, Garavaglia planned to enter internal medicine, with psychiatry holding special interest. All that changed when she heard lectures by George E. Gantner, Jr., MD, Professor of Pathology and Director of the Division of Forensic and Environmental Pathology at St. Louis University School of Medicine. "What he did was absolutely fascinating," she said. "He dealt with police and courts and medicine and combined all those realms to put the pieces together to solve the puzzle."

Forensic pathology had captured her interest. "I became disillusioned with internal medicine because there wasn't enough problem-solving," she said. "I seriously considered forensics..."
Garavaglia received her medical degree from St. Louis University School of Medicine and completed an internship in internal medicine and residency in anatomic/clinical pathology at St. Louis University Hospitals. She also completed a fellowship in forensic pathology at the Dade County Medical Examiner’s Office in Miami. She is board-certified in combined anatomic and clinical pathology and forensic pathology.

Since Garavaglia graduated from medical school in 1982, there’s been an upturn in forensic pathology. “Nobody knew about it back in the early 1980s,” she says. Best-selling writer Patricia Cornwell fueled interest with her popular series of crime novels featuring female pathologist Dr. Kay Scarpetta. “When my advisors found out I was leaving internal medicine to go into forensic pathology, they thought I’d lost my mind,” Garavaglia says. “Even my mom questioned what I was doing. There’s nothing greater than finding things you’re good at and that you like.”

She’s been working for District Nine in Orlando since 2003. Her office, which includes four doctors, performs 1,150 autopsies per year on anyone who dies suddenly or accidentally or under suspicious circumstances or trauma. She works with detectives, attorneys, crime scene investigators, and physicians. Garavaglia’s career took an interesting twist when the publisher of Redbook magazine decided to do an article about a female medical examiner similar to Dr. Kay Scarpetta but more like its reader demographics. Redbook found Garavaglia through the National Association of Medical Examiners. “When they called, I picked up the phone and thought I was answering general questions about forensic pathology,” she said. “The next thing I knew a woman followed me for three days.” The article appeared in Redbook in 1997.

Several years later, the Discovery Health Channel decided to do a pilot about a female “Quincy-type” and found the Redbook article. Garavaglia was invited to do the pilot for Dr. G: Medical Examiner. The pilot was a hit, and the series debuted in 2004. The show is ranked No. 1 for Discovery Health and is broadcast in Europe and South Africa. Garavaglia, or Dr. G, has appeared on Larry King Live and The Oprah Winfrey Show.

“I can’t believe I’m explaining necrotic bowel on national TV and it’s a hit.” — Jan Garavaglia, MD

Garavaglia was invited to do the pilot for Dr. G: Medical Examiner. The pilot was a hit, and the series debuted in 2004. The show is ranked No. 1 for Discovery Health and is broadcast in Europe and South Africa. Garavaglia, or Dr. G, has appeared on Larry King Live and The Oprah Winfrey Show.

“Juggling a job as chief medical examiner and starring in a hit television show keep Garavaglia busy. She’s in the office every day and works every fourth weekend. The 51-year-old divorced mother of two, ages 13 and 18, tapes her show Wednesday nights after work.”

“I help choose the cases, read the scripts to make sure the science is right, and do the interviews that set up what’s going on,” she said. “I have a lot of input. I don’t have a script. I just talk. They make the script around what I say.”

Garavaglia says, “I go about my business and talk to my producer as if the camera is not there. It’s all ad-libbed, so you need to be certain you get it right.”

Garavaglia believes people learn a valuable lesson when they see someone die unexpectedly. “Some people don’t understand the severity of common conditions,” she said. “My secretary saw the episode depicting a man with high blood pressure collapsing while carrying groceries upstairs. She never had her blood pressure checked. We talked about how hypertension is a silent killer. It hits home when you see it enacted.”

For Garavaglia, a book is in the works about health and common-sense ways to avoid premature death. The book will be a continuation of the show. She advises those who are thinking about a career to ask themselves, “What is it that really lights my fire? What kind of thinking do I enjoy? Take a chance and see if you can incorporate these things into a career,” she said.

“Forensic pathology is not the best paid specialty because you’re employed by the county, but it’s a lot more fun for me and that’s worth it.”
Critical Values in Pediatric Surgical Pathology: Definition, Implementation, and Reporting in a Children’s Hospital


Abstract: Timely communication of significant or unexpected findings in surgical pathology can significantly improve patient care. Although surgical pathology critical values have been published, no systematic assessment in pediatric surgical pathology has been published. We surveyed pediatric pathologists and pediatric subspecialists to develop pediatric surgical pathology critical values for verbal reporting before the final pathology report. A policy and process for reporting and documentation were implemented, with retrospective and prospective quality review. Critical values cases constituted 9.4% of surgical pathology accession. Retrospective analysis revealed that 80% (73/91) had been reported and documented before policy implementation. Following implementation, 97.3% (402/413) were verbally reported and documented. A multidisciplinary group provided valuable information about critical values that might not have been obvious to pediatric pathologists but were important for patient care. Although the term critical values has become embedded in the surgical pathology literature, we propose an alternative term for significant or unexpected findings that require timely communication and documentation.

Critical Diagnoses (Critical Values) in Anatomic Pathology

Association of Directors of Anatomic Surgical Pathology. This report was prepared by an ad hoc committee comprised of Jan F. Silverman, MD, and Virginia LiVolsi, MD (co-chairs), Christopher D.M. Fletcher, MD, William J. Frable, MD, John R. Goldblum, MD, Telma C. Pereira, MD, and Paul E. Stawiski, MD. Vol. 125, No. 5 / May 2006

Abstract: Similar to critical values in clinical pathology, occasional diagnoses in surgical pathology and cytology may require urgent contact of the physician to facilitate rapid intervention or treatment. However, there are no established critical value (critical diagnosis) guidelines in anatomic pathology. As discussed herein, the Association of Directors of Anatomic and Surgical Pathology (ADASP) believes that establishing anatomic pathology critical diagnosis guidelines represents a practice improvement and patient safety initiative. ADASP also recognizes that a generic anatomic pathology critical diagnosis guideline such as this should be used only as a template because the list needs to be customized at each individual hospital following consultation with relevant clinical services. Based on surveys of the membership of the ADASP, this document provides examples of possible critical diagnoses in anatomic pathology.

Evaluation of Serum and Whole Blood Sodium Critical Values


Abstract: Laboratories are required to have critical values policy as a patient safety measure. Serum sodium commonly is included in critical results lists, but a wide range of values are used. We studied all critical serum and whole blood sodium results called to clinicians during a 6-month period. Patients’ electronic medical records were reviewed for clinical responses and patient outcomes. Of the 111,545 sodium results occurring during the study, 615 (0.6%) were critical. By using criteria of 120 mEq/L (120 mmol/L) or less and 155 mEq/L (155 mmol/L) or more, we found 166 critically low results and 449 critically high results. In hypernatremic and hyponatremic patients, the lengths of stay were increased above our average, and clinicians responded to more than 50% of results within 4 hours. The mortality rates of hyponatremic and hypernatremic inpatients were 19% and 48%, respectively. Disease severity as measured by length of stay and mortality indicated these critical limits should not be broadened.

Critical Values in Anatomic Pathology: How Do We Communicate?

Virginia A. LiVolsi, MD. Vol. 122, No. 2 / August 2004

Excerpt: I suggest that national pathology organizations develop guidelines for identifying the critical diagnostic categories in anatomic pathology. These guidelines should be developed by the laboratory in conjunction with the pathologist, patient, and hospital administration.

Critical Values in Surgical Pathology

Telma C. Pereira, MD, Yulin Liu, MD, PhD, Jan F. Silverman, MD. Vol. 122, No. 2 / August 2004

Abstract: Analogous to critical values (CVs) in clinical pathology, occasional diagnoses in surgical pathology should be rapidly communicated to the patient’s physician. In any individual pathology practice or laboratory, the pathologists should discuss and reach consensus about what types of diagnoses are deemed critical; policies should be developed by the laboratory in conjunction with the patient institution and medical board.

Analysis of Laboratory Critical Value Reporting at a Large Academic Medical Center


Abstract: Reporting of laboratory critical values has become an issue of national attention as illustrated by recent guidelines described in the National Patient Safety Goals of the Joint Commission on Accreditation of Healthcare Organizations. Herein, we report the results of an analysis of 37,503 consecutive laboratory critical values at our institution, a large urban academic medical center. We evaluated critical value reporting by test, laboratory specialty, patient type, clinical care area, time of day, and critical value limits. Factors leading to delays in critical value reporting are identified, and we describe approaches to improving this important operational and patient safety issue.
Lab Tests Online: Designed for Success

by William E. Schreiber, MD, FASCP, and George B. Linzer

Lab Tests Online (www.labtestsonline.org) is an online resource that provides current, peer-reviewed content on clinical laboratory testing. The site contains general information as well as structured articles on more than 230 tests and 95 conditions and diseases, which are readily accessible from the home page. News articles about recent developments in laboratory testing are also featured on the home page. Now in its seventh year, Lab Tests Online averaged more than one million visits per month in 2007. The general public and health care providers regularly access its content.

The website had its origins in spring 2000, when the site’s producer, the American Association for Clinical Chemistry (AACC), conducted a market study that revealed a gap in the availability of up-to-date patient information on clinical laboratory testing on the Internet. AACC moved ahead with the development of original content for a noncommercial, patient-centered, and peer-reviewed website dedicated to improving patient understanding of testing and to raising the visibility of the laboratory profession. Other professional associations, including the American Society for Clinical Pathology, joined the effort. Today, 17 laboratory professional associations, including the American Society for Clinical Pathology, joined the effort. Today, 17 laboratory professional associations, including the American Society for Clinical Laboratory Science (ASCLS) respond to these questions.

Lab Tests Online has received the APEX Award of Excellence for Web Site Content, an eHealthcare Gold Leadership Award for Best Healthcare Content, and the Aesculapius Award of Excellence for Healthcare Communications. The site has also received kudos from publications ranging from The Washington Post to Prevention magazine to Consumer Reports on Health.

Perhaps the greatest sign of its success has been the globalization of Lab Tests Online. A British version, adapted to the Queen’s English, was launched in 2004. Six new versions were launched last year in the national languages of Spain, Germany, Poland, Hungary, Italy, and Australia. Greece recently agreed to develop Lab Tests Online-GR, and discussions are ongoing elsewhere in Europe, South America, and Asia.

Bette Jamieson, MA, SH(ASCP), an ASCP representative on the Editorial Review Board, said the site is essential for consumers to know about their laboratory tests, their meaning, and relative values. “Being a member of the editorial board has strengthened my knowledge in new areas and made me appreciate the amazing collaboration on this board,” she said. “Having people with expertise from all disciplines ensures quality management of the website.

The technical authors from AACC are remarkable in their ability to research the scientific literature and develop the first draft of the test information. On the conference calls, everyone contributes their corrections, ideas, and scientific knowledge. No one is afraid to express his or her concerns or acknowledge the need for a change in a report. Lab Tests Online is a wonderful resource for both laypeople and the scientific community.”

Dr. Schreiber is an ASCP representative to the Lab Tests Online Editorial Review Board. He is a consultant pathologist at Vancouver General Hospital with responsibilities in the area of clinical chemistry. He also serves as medical director for the Tumor Marker Laboratory (BC Cancer Agency) and for the Provincial Toxicology Centre, and as Professor of Pathology & Laboratory Medicine, University of British Columbia. George Linzer is Executive Producer of Lab Tests Online.

The following information was inadvertently omitted from the top of page 28 in “The Future of Pathology and Laboratory Medicine” report in the January 2008 issue of Critical Values. We regret the omission.

Genomic identification is nearing its mature phase, with a broad range of assays for bacteria, viruses, and other microorganisms—for viral load monitoring, viral genotyping, rapid detection, and STD detection, and as an adjunct to traditional methods. Genetic testing for the existence of or predisposition to disease is now common, with over 500 genetics laboratories testing for up to 900 diseases. Future applications will include analysis of disorders of complex inheritance and analysis of pharmacologic therapy. The payoff for genomics in oncology is especially great, as the field moves from predisposition testing and diagnosis to prognosis and therapy selection—‘theradiagnostics.’ At the least, molecular identification can parse subgroups distinctly differently than morphologic identification and can determine targeted therapy. The safety and efficacy of cancer therapy, and thus the prognosis for the patient, depend on therapy choice, tumor genomics, and patient genotype. The question for the laboratory professional is which component of the health care system and what group of health professionals will own this technology. Pathologists and laboratory professionals should take ownership of the technology for the best interests of patient care.

Digital imaging

Parallel to the development of molecular pathology has been the development of digital imaging. Less than a decade ago, there was no portable storage device (floppy disc, CD-ROM) that could hold all the necessary information on one glass slide. Now, small collections of slides fit on CDs, Zip drives, and memory sticks, and the compressibility of information continues to follow Moore’s Law; that is, computer processing power doubles every 18 months. The work of several commercial companies now enable, at least in theory, proficiency testing of cytology performance to be virtual, since Z-axis (three-dimensional) information can now be placed on portable storage devices. As compressibility has increased, so has image clarity. Digital cameras are now used by professional photographers not only because of the convenience and infinite editing possibilities, but also because the image itself is as good as that of film. The digital database, as compared with glass, is compact and manipulable and does not deteriorate. Perhaps most importantly, the digital image database is quantitative rather than qualitative.

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