Editorial Advisers
Kathleen Doyle, PhD, MLS(ASCP)CM, Chair
Thomas J. Bollinger, MD, MPH, FASCP
Barbara S. Ducatman, MD, FASCP
Teresa Y. Harris, MT(ASCP)SBB(M), CQA, CQA (ASQ)
Irina Lutinger, MPH, MASCAP, H(ASCP)DLM, FACHE
Christina P. Nickel, MHA, MLS(ASCP)CM
Ossama W. Tawfik, MD, PhD, FASCP
Eric Yee, MD

ASCP Staff Advisers
E. Blair Holladay, PhD, SCT(ASCP)CM
Executive Vice President

Steven F. Ciaccio, CPA, CAE
Chief Operating Officer

Editor
Ellen J. Sullivan, MSJ

Managing Editor
Sara S. Patterson, MSJ

Art Direction and Design
Martin Tyminski, MFA

Copy Editors
Barbara Simmons, ELS
Agnes Zarkadas

©2012 Copyright by the American Society for Clinical Pathology (ASCP). Critical Values is published quarterly by the American Society for Clinical Pathology, a nonprofit professional society with more than 100,000 members working as pathologists and laboratory professionals. Free to members of ASCP, Critical Values presents news and feature stories about issues of compelling interest to all members of the laboratory team. Publication of an article, column, or other item does not constitute an endorsement by ASCP of the thoughts expressed or the techniques, organizations, or products described therein.

American Society for Clinical Pathology
33 W. Monroe St., Suite 1600
Chicago, IL 60603
Phone: 800.267.2727 | 312.541.4999
Fax: 312.541.4998
Feedback: ascp@ascp.org.
Put “Critical Values” in the subject line.

Cover Illustration by Tom Payne
Test Right

Approximately $6.8 billion of medical care in the United States involves unnecessary testing and procedures that do not improve care and, in fact, may even harm the patient. Unnecessary or inappropriate use of laboratory testing robs the federal government, taxpayers, third-party payers, and, most important, the patient of valuable resources. Healthcare spending now represents 17.3 percent of the gross domestic product and is expected to reach nearly 20 percent within the next seven years. Aggressive measures must be taken to prevent a catastrophic collapse of the world’s most renowned healthcare system. ASCP, as your professional organization, has an ethical responsibility to help stop this “runaway train.”

This year ASCP celebrates 90 years of service to the profession, pathologists, and laboratory professionals. It is more crucial now than ever that ASCP, as a 501(c)(3) association organized for patient welfare, protect the interests, rights, and needs of patients with affordable, accurate, and appropriate diagnostic tests, which currently average more than four billion per year. This goal is squarely within our mission and woven into our foundational pillars.

With the impending implementation of the Accountable Care Act and accountable care organizations, aligning best practices with outcomes measures will be essential in the fast-approaching evolution of health care. It is our responsibility to ensure evidence-based practices, underscored by the axiom, “right test, right patient, right time, at the right cost.”

Examples of inappropriate and overutilized tests are pervasive throughout both anatomic and clinical pathology and laboratory medicine, such as use of low-risk human papillomavirus testing for cervical cancer screening1 (proven to have no relationship to the development of cervical cancer), and the practice of unnecessary preoperative testing panels unrelated to the corresponding surgery (antinuclear antibodies testing for lupus and rheumatoid arthritis, hepatitis A and B, and a myriad of others).

ASCP is working strategically on collaborative projects with our sister medical association partners to heighten the awareness of cost-prohibitive poor practices and eventually garner the attention of government and third-party payers. Our partners include the American College of Physicians, College of American Pathologists, Association for Molecular Pathology, Council for Medical Specialty Societies, and the Institute of Medicine (of the National Academies). ASCP has also joined with several major national organizations in the Choosing Wisely campaign, which aims to help healthcare practitioners, patients and other stakeholders develop sustainable solutions to stop the overuse or misuse of medical tests and procedures that provide little or no benefit.

I am pleased to dedicate this edition of Critical Values to the issue of appropriate laboratory testing, with many provocative articles, including those from ASCP President C. Bruce Alexander, MD, FASCP; Curtis A. Hanson, MD, FASCP; James L. Wisecarver, MD, PhD, FASCP, and Thomas L. Williams, MD, FASCP; and Kent B. Lewandrowski, MD, FASCP, and Anand Dighe, MD, PhD, FASCP. In the near future, watch for communications updates from the ASCP Center for Health Services Research and Delivery and the Center for Public Policy, so you can assist ASCP, your professional home, in reducing healthcare spending by eliminating unnecessary laboratory testing practices.

Enjoy this issue of Critical Values and please let us know your thoughts. I can be reached directly at blair.holladay@ascp.org.

References


Dr. Holladay is Executive Vice President of ASCP.
Reducing Healthcare Costs through Appropriate Test Utilization

The ‘Cost’ of Unnecessary Testing

Departments

3 About Critical Values
   E. Blair Holladay

6 Leadership Messages
   Reducing Healthcare Costs through Appropriate Test Utilization
   C. Bruce Alexander

10 Crusade to Order the Right Tests
   M. Sue Zaleski

14 The ‘Cost’ of Unnecessary Testing
   Christopher H. Cogbill

34 Arts in Culture
   Palliation
   Nathan Dahl
Helping Clinicians Maneuver through the Diagnostics Maze

p.16

Profile: New LabMedicine Editor
Roger L. Bertholf

p.32

in this issue

Test Right

16 Helping Clinicians Maneuver through the Diagnostics Maze
Curtis A. Hanson

20 Strategies to Reduce Overtesting in the Age of Accountable Care
James L. Wisecarver and Thomas L. Williams

24 Clinical Pathologists Needed to Implement Utilization Management Programs
Kent B. Lewandrowski and Anand Dighe

28 Leading Scientists Collaborate to Update Guidelines for Cervical Cancer Screening
Sara S. Patterson

30 ASCP News

32 Roger L. Bertholf: New LabMedicine Editor-in-Chief and Clinical Scientist Devoted to Solving the Puzzles of Diseases
Sara S. Patterson
Healthcare expenditures within the United States continue to rise despite numerous attempts to control costs. The Organization for Economic Cooperation and Development estimates that 17.4 percent of the U.S. gross domestic product was spent on health care in 2009, significantly more than that in any other developed nation. More important, spending continues to grow.

A major component of U.S. healthcare expenditures is an estimated $65 billion spent each year to perform more than 4.3 billion laboratory tests.

Primary care physicians control up to 80 percent of healthcare costs with the decisions they make, and more than half of these decisions are influenced by laboratory data. This is understandable. In an ideal setting, laboratory tests provide information that helps clinicians establish a diagnosis and a prognosis, make decisions about possible therapeutic interventions, and determine the etiology, or cause, of a disease and the severity and extent of the disease process. Thus, pathologists and laboratory professionals are in a good position to help reduce healthcare expenditures, but that goal can be achieved only through cooperation with clinicians and other healthcare providers.

Causes and Perils of Overtesting

In order to eliminate unnecessary testing, as pathologists and laboratory professionals we need to understand and address the reasons for the problem. One target, although not well supported by data, is defensive medicine—clinicians ordering tests of questionable value to protect themselves from malpractice suits. Another factor is the poorly characterized definitions of test use. In other words, clinicians are unclear about when or how to use many tests and thus may not make the best use of them. This problem could actually get much worse. With approximately 4,000 tests coming on board during the next five to 10 years, it will be even more difficult for clinicians to stay abreast of them all.
Unnecessary testing can also result from duplicate orders and rework. Duplication often occurs when a patient is transferred from one health system to another without reciprocity (a sharing of test data). Duplication can also happen when more than one physician is involved in a patient’s treatment and the other physicians do not understand what has already been ordered. “Recurring tests,” those that are automatically redone at a specific interval, are another cause of overtesting, particularly when physicians forget to cancel standing orders for these tests.

Besides wasting money, overtesting does not benefit patients. Research indicates there is no connection between the amount of laboratory testing done and the quality of care. In fact, excessive testing can be detrimental. Collecting tissue or blood samples involves varying degrees of patient discomfort and, in some cases, real risk. There is also a chance of “false findings,” anomalies that incorrectly suggest a patient has a medical problem. Approximately 5 percent of healthy patients get abnormal test results. False findings can lead to unnecessary testing and potentially risky treatments.

Search for Solutions

Although reducing healthcare costs is a necessary goal, it should not be the sole focus. Failing to do a test or procedure when it is appropriate can delay a correct diagnosis and treatment, and subsequently increase healthcare expenditures over the long haul. Instead, the goal should always be to provide the best health care possible; this means doing the right tests at the right time for the right reasons.

Several different approaches are being considered for reducing unnecessary testing. The new federal healthcare legislation includes money for comparative effectiveness studies, which provide evidence-based guidelines that indicate which tests and treatments are better than others. Medicare is considering pilot studies that would pay physicians more for delivering better care at a lower cost, thus removing any incentive to order unnecessary tests.

This is where laboratory professionals can greatly assist clinicians. Pathologists provide a number of important patient care services. Among them is “utilization review,” a review of how various laboratory tests are used to determine whether the use was appropriate. If inappropriate use of laboratory tests is identified, we then look for ways to correct the problem.

I believe we must create a new “paradigm for cooperation” between the clinicians who decide what tests to order and the laboratory staff—primarily pathologists but also medical laboratory scientists and medical laboratory technicians. In essence, we must help create an atmosphere that encourages and promotes dialogue with clinicians about test selection and use. We must be both readily accessible and genuinely helpful.

If you would like to comment on these or other issues or if you would like to get more involved in shaping the future of the profession, please email me at President@ascp.org.

Dr. Alexander is Professor and Vice Chair of Pathology and Residency Program Director at the University of Alabama at Birmingham, Birmingham, Ala.
The American Society for Clinical Pathology has partnered with Capital One® to offer you three credit card options to fit your needs. Choose a card that earns you great rewards, one with a low introductory APR or another to help build your credit. Plus, you can choose an image for your card that highlights your support for ASCP.

Apply today!

www.ascp.org/capitalone
Reducing healthcare costs while ensuring patient safety and improving quality is the goal of most healthcare reform efforts. Unfortunately, there is a great deal of disagreement over how to achieve this goal. One thing most experts agree on, however, is that eliminating unnecessary tests and procedures is a good place to start. At many institutions, including my own (the University of Iowa [UI] Hospitals and Clinics), laboratory test management has become a crusade aimed at helping physicians order the right tests for the right patient at the right time and at the right cost. In this article, I share my own experiences with a new test management program at UI.
Computerized Physician Order Entry

Recently passed healthcare reform legislation offers incentives to healthcare institutions that want to invest in information technology (IT) designed to provide safer, more cost-effective delivery of healthcare services. A key component of this kind of IT solution is computerized physician order entry (CPOE), a system that allows physicians to submit medical orders for items such as tests, medications, and special procedures on a computer. In May 2009, a CPOE system was installed at UI.

Knowing that laboratory data drive most patient care and influence treatment decisions, we hoped CPOE would help eliminate unnecessary testing and enable us to respond and treat patients more quickly. We realized it would take time for physicians to learn and get used to the new system, so we were not surprised when there was an 8 percent drop in test volume from July through December 2009. As physicians became more proficient with the new system, test volumes returned to normal.

Test Selection Simplified

Ongoing rapid growth in the number and complexity of laboratory tests can make it difficult for physicians to stay current. As a result, they may fail to order better or less costly tests because they are unaware of their availability or do not understand when it is appropriate to use them. This can lead to both under- and overutilization.

A good CPOE system, however, can help physicians with test selection in several ways. One is by using the search function. To check a patient’s vitamin D status, for example, the physician types “vitamin D” into the search box, and a list of all tests with vitamin D in the name pops up. If two or more tests are available, a prompt requires the physician to read information on the use of the test and respond to the prompt before placing the order.

The combined use of “order sets” and physician “preference lists” also helps manage test utilization. An order set is a menu of tests that can be used when a patient has certain
symptoms or a specific disease. All laboratory tests in an order set are reviewed by pathology to ensure they are appropriate. A preference list, in contrast, is a list of laboratory tests created by an individual physician or department that is not subject to pathology oversight. Physicians select the tests they want done from these two lists.

Best practice advisories (BPAs) can be embedded in a CPOE system and used to help ensure quality and control costs. BPAs are standardized clinical guidelines that outline the best approach for diagnosing and treating patients with specific medical conditions or symptoms. The clinical guidelines are developed by medical experts, but they are also reviewed and approved by a hospital oversight committee that includes representatives from pathology.

**Other Benefits of CPOE**

A particularly valuable feature of CPOE is its preventive and health maintenance component. For example, a physician who prescribes methotrexate for a patient is prompted to order periodic liver function tests as well. A physician ordering a hepatitis B surface antigen test, on the other hand, is directed to make sure the patient has not had a hepatitis B vaccination within the last two weeks.

CPOE can also help reduce test duplication. Suppose a physician orders a basic metabolic panel and then tries to order a glucose test for the same patient. Because the panel already includes a glucose assay, the physician will get a pop-up noting the duplication and asking him or her to cancel or confirm the order.

It is common for physicians to issue “standing orders” for laboratory tests, but the practice can lead to unnecessary testing when they fail to cancel tests that are no longer clinically indicated. The CPOE system reminds physicians of their standing orders and gives them the option to cancel. A physician who wants to place a standing order for a basic metabolic panel or CBC receives a pop-up describing the limited value of this kind of routine daily testing. CPOE systems can also set time limits for standing orders. When the time limit expires, the physician must issue a new order or provide an explanation for the standing order.

CPOE is a useful tool in the struggle to achieve the nation’s healthcare goals. But it cannot be the total solution for managing test utilization. The key to successful management is an integrated, systematic approach that includes the laboratory team and physicians in an environment that fosters collaboration, communication, and mutual respect for the expertise each brings to this challenge.

I welcome your feedback. Please send your questions or comments to me at MemberChair@ascp.org.

Ms. Zaleski is Clinical Pathology Laboratory Manager, University of Iowa Hospitals and Clinics, Iowa City, Iowa.
The Art & Science of Cytopathology
2nd Edition

Richard Mac DeMay, MD, FASCP

“"If there is a perfect book for cytology, this is it.”

Fang Fan, MD, PhD,
Doodly’s Review Service®

4 Volumes • 2,076 Pages • 6,849 Images • More than 25,000 References
ASCP Member: $475 | List: $575 | Order#: 6449 | ISBN: 9780891896449
www.ascp.org/books or 800.267.2727, option 2

Finish Your Bachelor’s Degree Completely Online

The University of Cincinnati online Bachelor of Science in Clinical Laboratory Science is designed for working Laboratory Technicians who want to complete their bachelor’s degree from a NAACLS* accredited program and learn the skills necessary to become a Medical Laboratory Scientist/Medical Technologist/Clinical Laboratory Scientist.

Online Bachelor of Science in Clinical Laboratory Science
800-556-4280
www.clsonline.uc.edu/criticalvalues

*The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS); 5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119;
Phone: 773-714-8880; Fax 773-714-8886; Email: info@naacls.org; Web: http://www.naacls.org
Leadership Messages

Message from the Chair of the Resident Council

By Christopher H. Cogbill, MD

The ‘Cost’ of Unnecessary Testing

Virtually all medical students develop, to varying degrees, a health anxiety disorder called hypochondria. This is the belief that one’s physical symptoms, real or imagined, are signs of a serious illness, even without supporting evidence. I was no exception. Like most other medical students, I imagined I had all kinds of ailments. Then about eight years ago, during my second year of medical school, I thought I discovered a testicular lump. Although other false alarms had been concerning, this experience was the most personal and terrifying. It was something I have, until now, shared only with my family. But the way in which the events unfolded should be anything but private.

My Own Experience

Along with general human physiology, anatomy, and pathology, the typical medical student learns early on about guidelines for preventive care, a major focus of today’s cost-conscious healthcare system. When I learned the screening guidelines for breast, colon, and prostate cancer, I was quick to recommend and give advice about them to members of my extended family. After all, these diseases have a strong correlation with age—nothing I had to worry about in my 20s.

Testicular cancer was another issue, however. While in college I did some serious cycling, and Lance Armstrong’s story inspired me to push my training limits. Because of his battle with testicular cancer, I was acutely aware that healthy young cyclists like him (and me) are at risk for testicular cancer.
After learning the pathological intricacies of this type of cancer and the testicular self-examinations used to detect them, I was scared silly. I was certain I would find an abnormality.

The Fear Factor

It was not a painful mass like the one Lance Armstrong experienced nor was it big. It was about the size of a pencil tip and felt like it was on the outer surface of the testicle, but I was frightened. Complicating the matter, I was alone, 200 miles from home, and outside my parents’ health insurance provider network. I was embarrassed about such an intimate finding and did not want to involve my family, so I scheduled an appointment with a provider at my medical school.

The nurse practitioner who examined me was also concerned about the possible lump. Consequently, she ordered dozens of blood tests and an ultrasound and referred me to a urologist. Several hundreds of dollars later, mostly out-of-pocket because I was outside my parents’ provider network, my worst fears were relieved. All test results were within normal limits, and the ultrasound disclosed nothing worrisome. My visit to the urologist was also reassuring. However, the explanation I got for the possible lump was something of a shock.

I was told it was an appendix of the testis. Did I read about this in my anatomy class and forget that such a thing existed? Sure enough, my anatomy textbook reported that a testicular appendage is a normal anatomical structure found in every male, a remnant of development that is typically just a millimeter or two in size. I was terrified over a normal anatomical structure.

Assessing the Total Cost

I eventually told my parents everything, knowing they would find out anyway when they got the accumulated medical bills. Thankfully, they forgave me for the excessive cost. Although many of the tests performed were unnecessary, someone had to pay the bill—me, my parents, or the insurance company. Considering the nodule’s benign characteristics, perhaps the referral to a urologist or a watch-and-wait strategy would have sufficed.

Nevertheless, there were several ways to manage my case without breaking the bank. Instead, it was an illustrative example of how medicine is often practiced today—a type of “shotgun” approach in which myriad of tests are ordered to cover every condition that might be the source of an abnormal (or presumed abnormal) finding. Providers throw the laboratory “kitchen sink” at a problem for various reasons. Sometimes appointment times are too brief. In other cases, providers are concerned about delays in diagnosis or fear malpractice claims.

Spending on health care is expected to reach $4.4 trillion (about 20 percent of U.S. gross domestic product) during the next seven years, a cost that is unquestionably not sustainable. Using maximum resources for every individual patient risk erodes the entire healthcare system. Alternatively, with reductions in unnecessary care (as in my case), resources for beneficial—even expensive—care could become available to many more patients.

Monetary cost is not the only issue, as my personal experience demonstrates. Every test performed yields a result that has the chance to be abnormal, even in healthy patients. Reference intervals are set up so that, by definition, 5 percent of the healthy population falls outside the limits. Labeling healthy patients as “diseased” because of such results can have serious adverse consequences and lead to further, potentially unnecessary, tests and increased expense. Because inappropriate laboratory utilization contributes to high healthcare costs, it is essential that the laboratory play a major role in reducing this expense. Reform will not be easy, but as laboratory experts we must be an integral voice in the conversation for change.

I welcome your feedback. Please email questions, comments, or suggestions to me at ResidentCouncil@ascp.org.

References


Dr. Cogbill is a fourth-year pathology resident at the Medical College of Wisconsin, Milwaukee.
There has been a palpable upswing of interest in the role of laboratories to ensure that laboratory tests are appropriately utilized in clinical practice. This enthusiasm may be driven by financial realities as laboratories try to control laboratory costs. Or it may be a response to programs and policies from the Centers for Medicare and Medicaid Services (CMS) and other payers that reduce payments to providers.

More nobly, laboratories are also discovering that they have to provide medical guidance and direction for clinicians as they try to maneuver their way through the increasingly complex world of genetic-driven diagnostics and therapeutics. Regardless of the driving reason, be it financial or medical, the clinical laboratory is indeed in a pivotal position to provide the leadership and direction for a successful test utilization initiative.

**Definition of Test Utilization**

To be successful, test utilization must be defined as more than simply a cost-control measure. A test utilization program must be centered on good patient care and should involve both the cancellation of inappropriate test requests and the addition of appropriate tests—with both actions ultimately leading to a more efficient and cost-effective laboratory diagnostic approach that answers the clinical questions being asked.

The major questions that laboratories encounter when trying to implement a test utilization program are simple: “How do we do it?” and “Where do we start?” The fact that there are these
very basic questions points out that no simple answers exist. A successful solution requires a multipronged approach that must involve the clinician, the laboratory, and the clinically engaged pathologist. The key is to understand how the clinical laboratory test cycle works, the roadblocks that invariably exist, and how laboratories can insert themselves into these processes and overcome them.

**Reasons for Laboratory Test Utilization Issues**

A myriad of reasons underlie today’s test utilization issues. The explosive growth of medical knowledge and technology has led to varying levels of understanding among clinicians of how to use laboratory assays. Beyond reasons centered in medical practice, it is clear that the healthcare profession has poorly aligned incentives in medicine that actually encourage increased testing, because laboratory assays are a high-margin revenue source for hospitals and practices. No incentives exist for clinicians to order fewer tests, and incentives are lacking for hospitals to ask for less. Simply put, we are getting what we pay for.

Laboratories are not immune from criticism. As new laboratory tests become available, there is often little guidance from the laboratory to aid the clinician in understanding how these tests should be utilized in the context of other existing assays or in the evaluation of a disease process. Laboratory systems and processes are often set up to make it easy to order any assay, and there are usually no in-laboratory processes that review test requests or sequentially add or delete tests after initial results are determined.

**Laboratory Test Cycle**

Figure 1 highlights the test cycle and the points at which the laboratory and the pathologist can become engaged in a test utilization effort. If overutilization is not attacked from the beginning to the end of the test cycle, the outcome will be disappointing.

**An Approach to Developing a Utilization Program**

A utilization control process starts when clinicians begin to consider what tests they may want to request to evaluate their patient—whether for diagnosis, follow-up, therapeutics, or exclusion of disease. Appropriate ordering depends on the clinician having the correct core knowledge to make that decision. The laboratory enters into the process early on as it provides the clinician with the tools to order that test, and the ordering process may be oriented
Clinical suspicion of MPN

Peripheral blood testing begins with:
- Complete blood count (CBC)
- Erythropoietin (EPO), Serum
- JAK2 V617F Mutation Detection, Blood
- BCR/ABL, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Qualitative, Diagnostic Assay OR BCR/ABL, Translocation 9;22, FISH (D-FISH)

JAK2 V617F Mutation

Positive

* CBC
* EPO
* Physical examination

PV
Not supportive of PV

Bone marrow study indicated

Positive

Bone marrow study indicated

Positive

If bone marrow study must be avoided, order MPL Exon 10 Mutation Detection, Blood

Bone marrow study indicated

Positive

Positive for BCR/ABL

Chronic myelogenous leukemia

Negative or Equivocal

* CBC
* EPO
* Physical examination

PV possible

JAK2 Exon 12 and Other Non-V617F Mutation Detection, Blood

PV

Bone marrow study indicated

Positive

Bone marrow study indicated

Positive

Bone marrow study indicated

Positive

Low

Not supportive of PV

Clinical suspicion for ET or PMF?

Low

Negative

High

No further testing

Legend
PV: Polycythemia vera
ET: Essential thrombocythemia
PMF: Primary myelofibrosis
MPN: Myeloproliferative neoplasm

Figure 2. This is an example of the laboratory/pathology disease algorithm in use at the Mayo Clinic to guide the peripheral blood evaluation of a patient with a possible myeloproliferative neoplasm. This algorithm was developed jointly by the Divisions of Hematopathology, Laboratory Genetics, and Clinical Hematology. Used with permission from Mayo Medical Laboratories. The algorithm is available online at www.mayomedicallaboratories.com.
available is the first step in the laboratory engaging the clinician in test utilization. Today the expectations are that the information is available in an easy electronic format, that is, linked to the electronic medical record, the electronic ordering system, other available electronic tools, or smart phone apps.

Test-ordering guidelines or algorithms are the next necessary step in helping clinicians know what to do. Guideline success depends on clinicians taking the first step of “pulling” that information toward them. In the world of today’s busy clinician, the time or willingness to pull that information is often missing. The reality is that guidelines or algorithms are just one small piece of the puzzle. They are a very necessary step, but clearly incapable by themselves of achieving anything significant or lasting. Figure 2 shows an example guideline that has been developed and implemented at Mayo Clinic.6

The laboratory needs to have a review process in place for tests considered important. It may be all send-out tests; it may be selective inside tests based on costs; or it may be tests or clinical scenarios known to generate utilization problems. This very critical step often determines success or failure.

Several tools can be used in this process including guidelines or algorithms (as described above) and test formularies. A test formulary is analogous to the pharmaceutical formulary present in most institutions and can be used in many ways.5 It may simply outline what tests a clinician can order or what tests are “allowed” to be sent to outside reference laboratories. However, formularies do not have to be a simple yes-or-no process. They may list tests by those available to all clinicians, tier tests into groups that restrict their ordering to certain subspecialists, mandate that particular tests be assessed through a guideline or algorithmic approach, or identify tests that require review and discussion with the laboratory pathologist. Layering these approaches within a test formulary requires an understanding of the clinical value of the test, the cumulative financial impact, and whether or not there is a track record of the test being poorly utilized. Outsourced tests should also prompt an evaluation whether that particular laboratory has a Clinical Laboratory Improvement Amendments license and an appropriately validated assay. The bottom line is that a successful laboratory review process requires active engagement by the laboratory to ensure that the most effective testing strategies and review processes are being used to answer the clinical question being asked.

Sometimes it may be necessary to use a “send and hold” process, in which a specimen is sent to the laboratory but is held until another initial test result comes back. For example, it is very appropriate that flow cytometry, molecular assays, and genetic studies in hematologic diseases be held until the bone marrow aspirate and biopsy are reviewed by the pathologist.6 Then a decision can be made as to which test needs to proceed or not proceed to answer the clinical question.

Finally, auditing the results is critical. Pathologists and laboratory professionals need to know whether their system, the people they have in place, the guidelines they are using, and the formulary they have instituted are actually working as intended. Excellent guidelines can be created, but a successful guideline is one that is implemented, used as intended, and ultimately ingrained in the medical practice. Only by auditing can a laboratory prove whether or not it has been successful at what really matters.

**Conclusion**

As pathologists and laboratory professionals, all of us must be engaged with the test utilization process. It is not easy and requires interactions with our clinical colleagues that we may not be comfortable with (e.g., questioning them, advising them that they should not order that test, and telling them that they need to order another test instead). Our clinical colleagues have few incentives to order fewer tests and certainly are not being trained with that intent in mind.

In a recent article in the *New England Journal of Medicine*, Sean Palfrey, MD, put it very succinctly, “…by mistrusting our hard-earned clinical skills and knowledge, and by giving into the pressures and opportunities to test too much and treat too aggressively, we are bankrupting our healthcare system.”7 A successful laboratory test utilization program requires the entire laboratory team to use its skills and knowledge to identify utilization issues, implement a program that will achieve more effective laboratory testing, and establish processes from the beginning to the end of the test cycle.

**References**


Dr. Hanson is Professor of Pathology and Laboratory Medicine in the Division of Hematopathology at the Mayo Clinic College of Medicine, Rochester, Minn.
A frequent assertion in the current healthcare reform discussion is that there is significant “waste and inefficiency” in the current delivery system. The former administrator of the Centers for Medicare and Medicaid Services, Donald Berwick, MD, has identified this as the central problem with the U.S. healthcare system.1

There is evidence suggesting that the laboratory may contribute to this waste through test overutilization. Several studies suggest that somewhere between 20 percent2 and 95 percent3 of the laboratory tests performed in the United States are unnecessary. While the latter number seems unrealistically high, most laboratory leaders would agree that a significant number of tests performed each year are difficult to justify on a medical necessity basis. Thirty percent seems to be the consensus estimate.4 Examples of such overutilization can be found anecdotally in both the inpatient and outpatient settings.

Reference Laboratory Tests

Of particular concern is the recent proliferation of molecular-based tests and genetic tumor profiling that has produced some exceptionally expensive reference laboratory, or “send-out,” tests, for which data justifying clinical utility are limited.5 Many of these esoteric tests are offered by a single vendor—either the test developer or another reference laboratory through exclusive licensing arrangements.

Intellectual property rights prevent hospitals and freestanding clinical laboratories from developing and marketing these tests, which could directly contain costs and also introduce competition into the marketplace. In some instances, these esoteric laboratories have begun to direct-market these tests to physicians. Patients have also learned of these tests through marketing initiatives or through online advertisements or search engines, which
Further drives demand. In appropriate clinical situations the test may have merit. However, the patient’s physician may not be aware of the test’s limitations or may simply order the test to satisfy an insistent patient.

As hospitals struggle to contain costs in the face of declining reimbursement, the utilization of all diagnostic services, including laboratory services, is coming under increasing scrutiny. The proposal of a global payment approach for healthcare services, implicit within the accountable care organization (ACO) model, promotes alignment of physician financial interests with those of hospitals. The challenge will be to develop a system that can continue to provide access to appropriate laboratory tests, including newer esoteric tests, and at the same time discourage overutilization of routine laboratory tests and the inappropriate use of expensive reference laboratory tests when there is insufficient evidence to suggest that they offer any substantive benefit or when they may even result in harm to the patient.

This concept is not new. In 1980, George D. Lundberg, MD, MASCP, examined the reasons behind physician laboratory test-ordering patterns. Their results suggest that roughly 30 percent of these tests did not provide new diagnostic information or alter patient therapy.6

More recently, in a 2005 review on this topic, Michael L. Astion, MD, PhD, listed several factors that contribute to the overutilization of laboratory resources.7 He attributed many of them to what he termed “cognitive deficits,” meaning either a lack of understanding of the appropriate clinical situation in which to order a test or a deliberate disregard for the established utility of the test. Dr. Astion further discussed proposed strategies to address these cognitive deficits, ranging from simply providing clinician education programs to restricting or even denying certain types of tests. Studies have suggested that multiple interventions working in concert are more effective in bringing about desired changes in ordering habits.8

Computerized physician order entry (CPOE), if implemented with a strategy to prompt physicians at the time of test ordering, has been shown to decrease utilization of some commonly ordered tests in the inpatient setting. In one study, physicians were prompted after 72 hours of hospitalization whether they wanted to continue their daily metabolic panel order. The implementation of this computer-generated prompt reduced testing by 24 percent.9 These methods have proven to be very effective in the inpatient setting.

Accountable Care Organization Strategy

The University of Nebraska Medical Center and Nebraska Methodist Hospital are developing a strategy initially to address overutilization of “esoteric,” send-out reference laboratory tests within its ACO. This ACO model is a cooperative working relationship between a tertiary academic medical center and a large community hospital. It was one of the first ACOs in the country and was formed with the goals of improving the quality and efficiency of patient care while reducing costs to the patients.

The laboratories from both organizations have been at the forefront of this collaboration, working on several initiatives to reduce costs. Included is a joint effort to develop an evidence-based
approach to control misuse or overuse of expensive laboratory send-out tests. Since some physicians practice at both hospitals, a uniform method for handling test requests prevents one hospital from assuming a disproportionate burden associated with send-out testing costs.

In some institutions, the laboratory assumes or is assigned the task of controlling access to costly send-out tests. This positions the laboratory between the clinician (and sometimes the patient) wanting the test results and the hospital administration pressuring the laboratory to control costs.

A preferred approach would be to gain physician acceptance by aligning laboratory technical professionals and subject matter experts from the hospital medical staff to develop guidelines for the use of specialized laboratory tests. These guidelines could serve as a model for a hospital formulary committee that approves a list of drugs available for inpatient use. For purposes of this article, this committee is designated the Test Utilization Oversight Committee. Similarly, a menu of approved send-out tests could be developed and preferred vendors selected based upon performance and pricing parameters. For selected tests and clinical indications, a recommendation to seek consultation from specified medical staff experts may be presented. These experts could guide interpretation and patient management decisions.

Advantages of Utilization Committees

To function effectively, the Test Utilization Oversight Committee would require access to the most timely, accurate, and complete data describing the clinical indications and utility of relevant tests. Ideally, these data would tap the same sources that guide Medicare’s and private insurance carriers’ reimbursement decisions. Such information sources are currently quite limited. The laboratory medicine community is now realizing the need for better data on test utilization patterns and is identifying opportunities for reducing unnecessary testing. More resources to assist with these activities will likely become available in the future.

The Test Utilization Oversight Committee would initially focus on expensive esoteric send-out tests. Physicians would be encouraged to order these types of tests in the outpatient setting, because the data obtained usually affect long-term management decisions, rather than inpatient hospital treatment, and test expenses do not post to diagnosis-related group reimbursement unless ordered within 72 hours preadmission. In the outpatient setting, it would be important to systematically alert the ordering physician concerning the likelihood of insurance acceptance or denial; any requirements for preauthorization, advance beneficiary notice of noncoverage completion, consent, or counseling; and potential out-of-pocket expense.

Eventually, the Utilization Committee’s scope would expand to the inpatient setting, including routine tests, frequently given as “standing orders.” Strategies in this setting can usefully leverage CPOE and electronic health record systems to generate computer prompts, rules, and hard stops to reduce repetitive test ordering. Periodic inquiries as to whether the provider wishes to continue standing orders could also be implemented. Similar guidelines could also be extended to radiographic procedures, electrocardiography, and other diagnostic services that are also often overutilized.

In the future, reduced reimbursement for all healthcare services, including for the laboratory, is a certainty. Global payments for services will generate a sense of urgency for this issue. Healthcare organizations will turn to pathologists and laboratory professionals to develop processes to control these costs. Laboratory directors who reach out and engage key members of the medical staff to assist with this process will likely achieve better outcomes. The use of the ACO model can lead to a standardized approach to test utilization that can help clinicians improve the quality and reduce the cost of care throughout the community.

References


Dr. Wisecarver is Professor of Pathology and Microbiology at the University of Nebraska Medical Center and Medical Director of Clinical Laboratories at The Nebraska Medical Center, Omaha, Neb. Dr. Williams is Laboratory Medical Director at the Nebraska Methodist Hospital and Clinical Assistant Professor of Pathology and Microbiology at the University of Nebraska Medical Center, Omaha.
Please update your contact info, so others can reach you.

Login to www.ascp.org and click the ‘Profile & Settings’ Icon to review and update your contact information, as well as update your demographic information and privacy settings. ASCP respects your privacy and gives you the right to decide what information, if any, you choose to share with other ASCP members.

Keeping you current with members—ASCP Stronger Together.

www.ascp.org/log-in
Managing laboratory test utilization has potentially far-reaching consequences. Many studies in the literature have described utilization management initiatives focused on controlling one or a limited number of tests. These efforts, although laudable, will not be sufficient to address the systemic underlying causes of excessive laboratory test overutilization.

Looking ahead, we believe it will be increasingly important for each institution to develop an ongoing utilization management program (UMP). Ideally such a program will not be limited to simply reducing unnecessary testing but will also encourage appropriate testing to improve the quality of care and provide decision support to assist clinicians in selecting the correct studies from an ever-increasing test menu.

**Incentives for Stakeholders**

Classic examples of tests that may be underutilized include Pap smears for cervical cancer screening and hemoglobin A1c for the diagnosis and management of diabetes. The proliferation of new laboratory tests, particularly expensive molecular diagnostic testing, increases the need for robust decision support tools to direct clinicians to the most appropriate test.
choices for a given clinical situation. As one example, Ricky Grisson, MD, MBA, and coauthors observed an unusually high number of test orders for an expensive send-out test, 1-25-dihydroxyvitamin D. A “pop-up” message was added in the provider order entry system alerting the clinician that in most cases a less expensive test, 25-hydroxyvitamin D, is the most appropriate test for assessing vitamin D status. The pop-up message reduced requests for 1-25 dihydroxyvitamin D by 71 percent (most orders were changed to 25-hydroxyvitamin D).

Implementing a UMP requires consideration of the differing and sometimes conflicting incentives affecting various stakeholders. For example, consider the situation of an independent physician practice operating in a fee-for-service reimbursement environment. The practice sends its specimens to a for-profit laboratory. Neither the physician nor the laboratory has any incentive to control test utilization. The payer has a strong incentive to reduce unnecessary testing but does not have the ability to influence test-ordering behavior beyond denying or reducing payments to the laboratory.

Next, consider a physician practice employed by a hospital-based healthcare provider operating in an accountable care (capitated) reimbursement environment. The practice sends its specimens to the hospital laboratory. In this case the provider organization receives only a single global payment, and the incentives of all the stakeholders are aligned.

In most situations, the incentives affecting different stakeholders are less clear-cut than in these two scenarios.

It is therefore important to consider the underlying reimbursement structures and incentives when a utilization management program is proposed. Fortunately, in our experience, most clinicians are aware of the issues concerning healthcare cost containment and have a genuine interest in doing the right thing.

Structure of a Utilization Management Program

In establishing a UMP, it is essential that the institution establish an organizational structure to review and approve utilization management initiatives. The structure in place at the Massachusetts General Hospital is described in detail by Ji Yeon Kim, MD, MPH, and her coauthors. Key attributes of the laboratory utilization management committee (UMC) are as follows:

- Clearly defined leadership structure
- Broad representation of clinical specialties
- Institutional authority to approve and implement utilization management initiatives.

This authority should be defined and recognized by senior leadership of the hospital and physician organization.

For committee leadership, the chair of the UMC should possess the necessary background, access to information, and skill set to be an effective leader. Although most clinicians have an interest in appropriate test utilization, this is not usually part of their defined responsibility, nor do they understand laboratory operations, cost structures, or patterns of test ordering from other clinical specialties. In this regard, the clinical pathologist is uniquely positioned to lead the UMC, as shown in Table 1.

In our experience, most laboratory utilization management ideas come from pathologists in the laboratory, probably because clinical pathologists are responsible for laboratory budgets and have access to data on test volumes, costs, and ordering patterns. Utilization management is also a recognized professional activity for laboratory-based pathologists, whereas for nonlaboratory physicians, utilization of laboratory testing is not typically part of their recognized activities.

Implementation of a Utilization Management Program

Each utilization management initiative has unique features, necessitating a customized approach to implementation. There is no single best approach that is suited to all initiatives. For example, establishing a mandatory laboratory approval gatekeeper function might work well for an expensive low-volume test with a defined but limited utility. However, such an approach would fail completely to control over-utilization of high-volume common laboratory tests. The utilization committee should assess which of the available management tools best fits the individual initiative, as outlined below:

- Banning of certain tests
- Gatekeeper functions
- Restrictions on the allowed frequency of specific tests

Table 1. Attributes of the Clinical Pathologist Suited to Leadership of a Utilization Management Committee

<table>
<thead>
<tr>
<th>Executive Leadership Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Has experience directing large organizations (laboratories)</td>
</tr>
<tr>
<td>• Frequently serves in role as physician executive</td>
</tr>
<tr>
<td>• Frequently serves on hospital and physician organization committees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Identified professional responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Has professional duties such as utilization management, budgeting, and cost containment</td>
</tr>
<tr>
<td>• Is accountable to the hospital and healthcare system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge and experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Understands the use and limitations of laboratory testing</td>
</tr>
<tr>
<td>• Understands laboratory operations</td>
</tr>
<tr>
<td>• Understands cost and reimbursement structure for laboratory testing</td>
</tr>
<tr>
<td>• Understands test-ordering patterns</td>
</tr>
<tr>
<td>• Has access to laboratory test volumes, trends, and ordering patterns</td>
</tr>
<tr>
<td>• Understands informatics</td>
</tr>
</tbody>
</table>
- Practice guidelines
- Admission and treatment templates
- Order entry “pop-ups”
- Online decision support to guide test selection at the time of ordering
- Clinician education
- Physician profiling (“report cards”)
- A laboratory “formulary”
- Service-specific initiatives involving agreement from a limited number of specialists who use a specific test

In the past, many utilization management initiatives at the Massachusetts General Hospital targeted selected lower volume tests that had marginal clinical utility, for example, bleeding times, five-hour oral glucose tolerance test, and selected tumor markers. Choosing targets for utilization management usually involved little more than reviewing the test menu and meeting with the clinical services staff who were ordering them. More recently, our laboratory has been growing more reliant on informatics for assistance in gathering and analyzing data, as well as implementing the order entry system.

Looking ahead, we believe it will be increasingly important to have a robust informatics capability to analyze utilization patterns and track the success of individual initiatives. This capability extends beyond a basic order entry system. It also must include decision support functions, an online laboratory handbook, real-time data analytics, and the ability to intervene in real time when the test is actually being ordered. Ideally, the laboratory should have control over the system, so that timely interventions can be accomplished without the need to have initiatives enter the long queue of a separate information technology (IT) department.²

Over time, a well-established UMP will accumulate a number of successes such as isolated management of one or a few selected tests and management of overall test volumes including high-volume automated testing. To evaluate the success of the overall program, it is useful to establish a dashboard for utilization management that is benchmarked to the level of clinical activity, for example, hospital admissions and outpatient visits. Initiatives targeting individual tests can be tracked over time to determine whether the intervention has been successful or whether recidivism has occurred necessitating further action. To assess its overall program, the laboratory at Massachusetts General Hospital historically has used the number of inpatient tests ordered per hospital discharge. Over time, the laboratory demonstrated a 26 percent decrease in this metric.¹ Although there is no hypothetical “ideal” target value for this measurement, it does provide an aggregate measurement of testing trends over time.

Cost Savings

A final comment concerns cost savings resulting from utilization management initiatives. Laboratory professionals are often asked how much an organization will save if the volume of a particular test is decreased by some percentage. The answer of course is, it depends. Consider the following scenarios.

Scenario 1: An outpatient test sent to a reference laboratory (unit cost $50, volume 2,000 per year). In this case the reference laboratory bills the hospital, and the hospital attempts to collect reimbursement from the respective payers. Eliminating this test will reduce the operating budget by $100,000 per year. However, revenues to the hospital will also be reduced, albeit in many cases, hospital billing departments collect far less from payers than the cost of the test. If this were an inpatient test, there would be essentially no offsetting revenues to consider because most inpatients are covered under global payments determined by diagnosis related groups.

Scenario 2: Reducing volume of automated chemistry tests by 10 percent. In this situation the economy of scale works in reverse. J.W. Winkelman, MD, showed that a reduction in automated test volume of 10 percent would reduce operating costs by only 2 percent because these tests are being removed at the margin from an operation with a defined fixed cost.³ The real savings from reducing high-volume automated testing comes from decreasing the pervasive impact of these “extra” test results on the overall cost of the episode of care. These downstream costs include the cost of unnecessary workups for falsely abnormal results and the opportunity cost of the time needed to collect specimens, perform the testing, and review the results.

In conclusion, ongoing success in utilization management requires establishing a UMP. Laboratory-based pathologists are ideally suited to lead this effort. Informatics, including order entry and real-time decision support, will play an increasingly important role in tracking test-ordering patterns, targeting interventions, and providing physicians with test-ordering guidance.

References


Dr. Lewandrowski is an Associate Chief of Pathology at Massachusetts General Hospital and Associate Professor at Harvard Medical School, Boston. Dr. Dighe is an Associate Professor of Pathology and Director of Core Laboratory at Massachusetts General Hospital and Harvard Medical School, Boston.
Leading Scientists Collaborate to Update Guidelines for Cervical Cancer Screening
Guidelines for the early detection of cervical cancer have been updated to include recommendations on testing for human papillomavirus (HPV) in addition to the traditional Pap test. The updates, which revise guidelines released in 2002, were developed by leading scientists working through a collaboration of several U.S. medical societies that includes ASCP, the American Cancer Society (ACS), and the American Society for Colposcopy and Cervical Pathology (ASCCP). The revised guidelines are based on a systematic evidence review, contributions from six working groups, and a recent symposium cosponsored by ASCP, ACS, and ASCCP and attended by 25 organizations. The full guidelines are published in the April 2012 issue of the American Journal of Clinical Pathology.¹

The new screening recommendations encompass age-appropriate screening strategies, including the use of cytology (Pap test) and high-risk HPV testing alone or in combination, follow-up testing for women after screening, including the use of genotyping, and future considerations for HPV testing alone, as well as screening strategies for women vaccinated against HPV.

“This was a remarkable multidisciplinary effort that, in terms of cervical cancer screening, focused on doing what is best for women at every life stage, regardless of cost.”

During the past 60 years, regular Pap testing and treatment of the women with abnormalities has been responsible for cervical cancer dropping from being the No. 1 cause of cancer death among women, to a rank of 14 for all cancer deaths for women in the United States.¹ Despite these advances, in 2011 an estimated 12,710 cases of invasive cervical cancer were diagnosed and an estimated 4,290 women died.² Pap testing is less effective in identifying women who are at risk of adenocarcinoma, a rarer histologic type of cervical cancer than squamous cell carcinoma, but one that represents approximately 20 percent of cervical cancers in the United States.

Now scientists and physicians know that persistent cervical infection with high-risk HPV genotypes is necessary for the development of cervical cancer and its immediate precursor lesion cervical intraepithelial neoplasia grade 3 (CIN3). It is clearly the treatment of pre-cancer (CIN3) that prevents the development of cancer, and the process that led to the revised guidelines focused on how to best identify patients with pre-cancer who need treatment while minimizing the potential harm to patients from extensive screening.

Two types of cervical cancer screenings, the Pap test and molecular tests for HPV, often work well in tandem. The Pap test has successfully lowered cervical cancer deaths. However, false-negative results are common, and any single test is not as sensitive as previously thought for detecting CIN3. On the other hand, HPV tests are more sensitive than the Pap test for precancer and may also be better at forecasting which women will develop CIN3+ over the next five to 15 years.

The following is a summary of the scientists’ key recommendations:

- Cervical cancer screening should begin at age 21.
- Women 21 to 29 years old should be screened with Pap test alone every three years.
- Women 30 to 65 years old should be screened with Pap and HPV tests (co-testing) every five years (preferred) or with Pap test alone every three years (acceptable).
- Women who co-test HPV positive but cytology negative should be followed with either (1) repeat co-testing within 12 months or (2) immediate HPV genotype-specific testing for HPV 16 alone or for HPV 16 and HPV 18. If co-testing is repeated at 12 months, women testing positive on either test should be referred to colposcopy; women testing negative on both tests should return to routine screening.

- In most clinical settings, women ages 30 to 65 years old should not be screened with HPV testing alone as an alternative to co-testing at five-year intervals or Pap test alone at three-year intervals.
- Women at age 65 with adequate negative screening in the last 10 years and no history of cancer may stop screening.
- Women at any age following a hysterectomy with removal of the cervix who have no history of CIN2+ should not be screened for vaginal cancer using any modality.
- Recommended screening practices should not change on the basis of HPV vaccination status.

References


By Sara S. Patterson, MSJ, Communications Writer at ASCP
Women’s Health Proponents Laura W. Bush and Barbara Bush to Speak at 2012 ASCP Annual Meeting

Laura W. Bush, former First Lady, and Barbara Bush, Founder and CEO of Global Health Corps, will be featured at the 2012 American Society for Clinical Pathology (ASCP) Annual Meeting, Nov. 1, in Boston. Both are proponents for women’s health and are actively engaged with the Pink Ribbon Red Ribbon Initiative.

Through the George W. Bush Institute, Mrs. Bush and Barbara Bush participated in the recent launch of the Pink Ribbon Red Ribbon partnership to expand critically needed breast and cervical cancer interventions in sub-Saharan Africa and Latin America. The cervical cancer partnership will leverage the platform and resources of the President’s Emergency Plan for AIDS Relief (PEPFAR)—established under President George W. Bush and a cornerstone of President Barack Obama’s Global Health Initiative—and will draw from lessons learned in the significant scaling up of access to human immunodeficiency virus (HIV) interventions since June 2004.

“ASCP shares Laura Bush’s and Barbara Bush’s commitment to global health,” said ASCP President C. Bruce Alexander, MD, FASCP. “We applaud them for their part in the Bush Institute’s bold and visionary creation of the Pink Ribbon Red Ribbon initiative with their public and private partners.”

Similarly, ASCP is developing a program to establish and sustain new cervical cancer prevention and treatment programs, as well as strengthen existing programs, in medically underdeveloped African countries, as well as other countries of need. Since 2005, ASCP has been involved in PEPFAR and has received funding annually from the Centers for Disease Control and Prevention (CDC) for the Society’s volunteers to train thousands of laboratory professionals, improve medical laboratory curriculum, and strengthen laboratory standards in resource-limited countries, resulting in improved patient outcomes.

LabMedicine: New Leadership, New Plans for Engaging Print and Online Content

Dynamic changes are ahead for LabMedicine with a new Editor-in-Chief and a new Director of Scientific Journals. ASCP selected Roger L. Bertholf, PhD, as the Editor-in-Chief of LabMedicine for his extensive experience with medical journals, such as editorial board member for the Journal of Analytical Toxicology, co-editor of Chromatographic Methods in Clinical Chemistry and Toxicology, and prolific author of scientific papers. (See feature story about Dr. Bertholf on page 32.) In addition to Dr. Bertholf, ASCP chose Michelle Hoffman, MBA, for the new staff position of Director of Scientific Journals. She will oversee the work of the managing editors of ASCP’s three journals—American Journal of Clinical Pathology, LabMedicine, and Critical Values. Previously, she was Editorial Director, Pharmaceutical Drug Development and Manufacturing Group, at Advanstar Communications, Iselin, N.J. Starting this summer, LabMedicine will become the exclusive journal for laboratory professionals. Laboratory professional members will receive four issues of LabMedicine per year, as well as access to enriched content on a dynamic new website. Pathologist members will have full access to the new website and as well as the option to subscribe to the print edition.

ASCP Call for Abstracts Deadline: April 30

The April 30 deadline for abstracts at the 2012 ASCP Annual Meeting in Boston, Oct. 31–Nov. 2, is quickly approaching. For the first time, ASCP will accept Educational Practice Abstracts, as well as Laboratory Practice and Scientific Abstracts. All accepted abstracts will be presented as board posters, and some will also be selected for oral platform presentations. The 2012 abstract competitions will offer a wide variety of categories, including “Best Poster by a Resident,” “Best Education Practice Poster,” “Best Lab Practice Poster,” “Best Scientific Poster,” and “Best Oral Abstract.” The deadline to submit abstracts for the 2012 ASCP Annual Meeting is midnight April 30, 2012. Read more at http://bit.ly/yLAz2U.

ASCP Joins CGI to Tackle Workforce Shortage

ASCP has made a Commitment to Action at the 2011 Clinton Global Initiative (CGI) America Meeting in Chicago to alleviate the shortage of laboratory professionals. Expanding the Laboratory Workforce for the 21st Century is a five-year ASCP commitment to expand the capacity of the clinical laboratory workforce in the state of New York, with implications for future similar initiatives across the nation. ASCP’s commitment activities include the expansion of current
educational programs, the development of curriculum for both classroom and distance learning, the establishment of a coordinated network of clinical rotation sites, the creation of an accelerated technician-to-technologist career pathway, and the development of an electronic instrumentation simulation laboratory. As a result of these activities, ASCP and its CGI partners seek to increase the number of graduating laboratory professionals in New York by approximately 10 percent each year over a five-year period. www.ascp.org/ClintonNY

MedPage Today Videos Feature ASCP and WASPaLM Leaders

MedPage Today Editor-at-Large George D. Lundberg, MD, MASCUP, interviewed John E. Tomaszewski, MD, FASCP, ASCP Immediate Past President, about molecular pathology and targeted diagnostics in a video interview posted Nov. 27 on MedPage Today. Dr. Tomaszewski discusses how understanding the molecular pathways that drive disease and coordinating them with image and structure allow pathologists to predict very specifically and precisely a patient’s prognosis and response to therapy. View videos of Dr. Tomaszewski and Dr. Blair Holladay, ASCP Executive Vice President; Michael Oellerich, MD, president of the World Association of Societies of Pathology and Laboratory Medicine; and Deiter Duff, MD, of the University of Missouri School of Medicine, Pathology, and Anatomical Sciences. These video interviews about the decline in autopsies in hospitals are part of a series called “Conversations with ....” held during the 2011 ASCP Annual Meeting, Oct. 19–22, Las Vegas, with leaders of the Society. Go to http://bit.ly/siHag2.

ASCP Joins Campaign to Improve Use of Medical Tests

ASCP has joined the ABIM Foundation’s campaign to start physicians, patients, and other healthcare stakeholders thinking and talking about the overuse or misuse of medical tests and procedures that provide little benefit and, in some instances, cause harm to patients. Called Choosing Wisely, the campaign will provide resources for consumers and physicians to engage in these important conversations. That means helping patients choose care that is supported by evidence, not duplicative of other tests and procedures already received, free from harm, and truly necessary. National medical specialty societies that join the campaign will identify five tests or procedures often used in their area, whose use could be debated. The resulting lists will spark conversations about the need or lack of need for many frequently ordered tests or treatments.

The following organizations joined the campaign in late 2011: American Academy of Allergy, Asthma & Immunology; American Academy of Family Physicians; American College of Cardiology; American College of Physicians; American College of Radiology; American Gastroenterological Association; American Society of Clinical Oncology; American Society of Nephrology; and the American Society of Nuclear Cardiology. Consumer Reports is also working with the campaign to develop and disseminate materials to patients to help them engage their physicians in these conversations and ask questions about these test and procedures. Additional partners were expected to be announced in early April.

Choosing Wisely is part of the ABIM Foundation’s goal of promoting wise choices by clinicians to improve health outcomes, provide patient-centered care that avoids unnecessary and even harmful interventions, and reduce the rapidly expanding costs of the healthcare system. www.choosingwisely.org.

ADVOCACY NEWS

ASCP, AIM Pressing for Reform of Self-Referral Law for Pathology Services

ASCP recently signed an Alliance for Integrity in Medicare (AIM) letter to key leaders in Congress as part of an effort to remove pathology services from the Stark Law’s In-office Ancillary Services (IOAS) Exception. The IOAS Exception outlines exceptions, or safe harbors, to the Stark Law’s ban on the self-referral of physician services. Removing pathology services from the exemption is intended to prevent inappropriate self-referral and potentially abusive billing of pathology services.

Congress Approves Physician Fee Fix Extension Bill, Cuts CLFS $2.7 Billion

ASCP members last week sent more than 3,600 letters urging Congress not to cut a $2.7 billion Medical Clinical Laboratory Fee Schedule (CLFS) and eliminate the technical component grandfather provision. ASCP wishes to thank the thousands of members who responded to the Feb. 16 ASCP Action Alert. On Feb. 17, Congress approved a compromise agreement to extend the payroll tax deduction and unemployment insurance. The measure also reverses a 27-percent cut in the Medicare a physician fee rate, which was scheduled to go into effect on March 1. While the reversal of the impending cut in physician payment rates is indeed welcome news, ASCP is greatly disappointed that Congress imposed a $2.7 billion cut in CLFS and eliminated the technical component grandfather provision to help pay for the physician fee fix. The technical component grandfather provision, which will end on July 1, allows independent clinical laboratories, under certain conditions, to bill Medicare for anatomic pathology services provided to hospital patients.

CORRECTION

In the January 2012 issue of Critical Values, the article “ASCP Certifications Open Doors to a Brighter Future” (page 24) incorrectly stated that “the Pathologists’ Assistant certification requires a bachelor’s degree and pathologists’ assistant internship.” The correct eligibility requirement to take the ASCP Board of Certification Pathologists’ Assistant (PA) certification examination is a bachelor’s degree from a regionally accredited college or university and successful completion of a National Accrediting Agency for Clinical Laboratory Sciences-accredited PA program within the past five years. Critical Values regrets the error.
While delving into scientific research captures his imagination, Roger L. Bertholf, PhD, is equally at home in the classroom or at a keyboard writing or editing scientific papers. His life has taken unexpected detours that have enriched his career as a clinical chemist, Medical Laboratory Director, and Professor in the Department of Pathology at the University of Florida Health Science Center, Jacksonville, Fla.

“My first exposure to the medical laboratory fascinated me and captivated my imagination,” Dr. Bertholf said. “It’s a fulfilling career. I’ve also found teaching to be very rewarding and a natural fit for my abilities.”

A prolific author of wide-ranging scientific papers, he also served as co-editor of a book with one of his former students, Ruth E. Winecker, PhD, D-ABFT, Associate Professor at the University of North Carolina, Chapel Hill, N.C., and Chief Toxicologist for the Office of the Medical Examiner, titled Chromatographic Methods in Clinical Chemistry and Toxicology, published in 2007. On the editorial side, Dr. Bertholf has served on the editorial boards of the Annals of Clinical and Laboratory Science and The Chemist. Currently, he is an Assistant Editor of the Journal of Analytical Toxicology.

Roger L. Bertholf: Clinical Scientist Devoted to Solving the Puzzles of Diseases

Dr. Bertholf is the new Editor-in-Chief of LabMedicine.
Because his medical laboratory and editorial experience dovetailed with requirements for Editor-in-Chief of *LabMedicine*, Dr. Bertholf was selected for that position. He began his renewable four-year term on Jan. 1, 2012, at a time when the journal is undergoing an editorial renovation spurred by members’ feedback.

“Being selected to edit a journal for my profession is a great honor,” he said. “*LabMedicine* has a wide circulation to my colleagues.”

“Roger is the triple threat as an excellent researcher, teacher, and leader,” said William E. Winter, MD, a Professor at the University of Florida, Gainesville, Fla. “He bases his decisions on good practice, evidence-based medicine, and the best outcomes for patients. His opinions are highly valued.”

**Career Path Diversion**

His career encountered unexpected terrain when Dr. Bertholf was a graduate student. He was offered a job in the medical laboratories at the University of Virginia Hospital, Charlottesville, Va., which permanently changed his perspective. That is when Dr. Bertholf decided laboratory medicine would be his career.

Finding mentors such as John Savory, PhD, a giant in clinical chemistry who served as his graduate adviser, propelled his decision. “As I worked with laboratory professionals, I developed a profound respect for what they do,” Dr. Bertholf said. “Medical laboratory technologists deserve more respect from their medical colleagues who often underestimate their knowledge. They receive rigorous training and make great contributions to medical care.”

“Roger did some beautiful work in aluminum toxicity that showed how aluminum binds to proteins,” said Dr. Savory, who is now retired after serving for many years as a Professor and Director of Clinical Chemistry, Toxicology, and Core Laboratories at the University of Virginia School of Medicine, Charlottesville.

**Renaissance Scientist**

Dr. Bertholf has explored many aspects of the human condition, from Alzheimer’s disease, to drug testing in pain management, to the detection of prenatal cocaine exposure. He sought to solve the puzzle of Alzheimer’s disease because of its tragic consequences for individuals and society.

“Alzheimer’s disease is very common, and the cost of care is high, as well as taking an enormous emotional toll on individuals and their families,” Dr. Bertholf said. “Can we possibly do something?”

Using the brain cells of rabbits, he examined how exposure to aluminum was affecting the brain on the molecular level of neurons. Dr. Bertholf researched how to defer or reverse the course of this progressive disease, trying to determine whether exposure to aluminum was the main driving force.

Diabetes is another disease that can be helped through clinical chemists evaluating blood glucose tests. “The ability of diabetics to control glucose is the key to treating the disease, preventing ill effects such as problems with circulation and damage to the kidneys,” Dr. Bertholf said. Currently, he is Medical Director of the Point of Care (POC) Testing program at Shands Jacksonville Hospital and has lectured on the limitations of using POC devices to achieve glycemic control in hospitalized patients.

**Eclectic Pursuits**

Dr. Bertholf joined ASCP as a clinical scientist in 1995 and has become progressively more involved. Additionally, he has actively participated in the Association of Clinical Scientists and National Academy of Clinical Biochemistry, as well as serving as a Laboratory Inspector for the College of American Pathologists.

Outside of the laboratory and classroom, Dr. Bertholf is a serious golfer and an avid sailor. He sings in the choir at Lake-wood United Methodist Church and several times served as the interim choral director.

“Roger is very versatile individual,” Dr. Savory said. “He plays the trombone pretty well. He’s a very cultured person from a very close family. I’ve taught many graduate students, and Roger is one of the few that I stay in touch with.”

Married to a pathologist, Dr. Bertholf and his wife, Marsha Bertholf, MD, have two children: their son is a chemical engineer and their daughter is studying to become a registered nurse. Following their parents’ encouragement, both are also accomplished instrumental musicians.

“Roger is exceedingly dependable, capable, and wise, and he stands by what’s right,” Dr. Winter said. “He is known in the field of clinical chemistry. What I like best about him is that he’s a guy you can depend on. Roger always completes what he says he will do.”

Chance played a large role in Dr. Bertholf’s career, particularly at the beginning. For him, the result has been fortuitous.

By Sara S. Patterson, MSJ
During the summer months following my first year of medical training, I found myself walking the halls of our city’s regional medical center with its palliative care team. I had taken the rotation as part of an elective track, hoping to see firsthand what medical care looked like at the end of life.

It was here that I met Katherine Dawson, the Nurse Practitioner who cochaired the team and served as my mentor during the experience. She is a small woman, unimposing, and yet her cordial affect was such that one could not help but feel a sense of camaraderie and ease after even the smallest of interactions.

Over the course of our weeks together, Ms. Dawson introduced me to the life and obligations of a palliative care provider. We rounded on patients throughout the hospital, with ailments ranging from malignancies to heart failure to terminal degenerative diseases. We consulted on new admissions with particularly dire prognoses, and we followed up with previous patients after they had been discharged to home or hospice.

Ms. Dawson taught me the rationale behind using various opiates in pain management, highlighted the balancing act between pursuing treatment and ensuring quality of life, and discussed the ethical considerations in alleviating suffering. My mind struggled to keep up with a laundry list of painkillers, sedatives, antinausea drugs, and other medications used to bring relief to the terminally ill, but my repertoire as a practitioner grew daily as a result.

What Ms. Dawson impressed upon me, however, was not merely her expertise in juggling medications, it was her uncanny ability to perceive her patients as human beings. She read each chart not as the totality of a patient’s existence but as a single chapter in a long and often unexplored tale. She would talk to patients about their homes, their families, what they still wanted to do with their lives, and what they were most afraid to leave behind.

We would spend 20 minutes with one man on the regrets he had toward his children, and an hour with a 90-year-old lady as she told us about her art. Ms. Dawson showed me how broad the scope of human suffering could be, and how much of a person we could miss buried underneath the tests and laboratory values. Management of pain or nausea was important, but only inasmuch as it stemmed from addressing the needs of the person in front of you. She stressed that we were treating people, not diseases, and that people required more than medicine. It was a slow understanding for me to come to a difficult concept to internalize after months where life could be

**Editor’s Note:**

This essay won first prize in the 2011 Arnold P. Gold Foundation Humanism in Medicine Essay Contest (www.humanism-in-medicine.org). Participants were instructed to reflect on the following: “Good teaching cannot be reduced to technique; good teaching comes from the identity and integrity of the teacher.” The essay was originally published in *Academic Medicine* (2011;86:1558–1559). www.humanism-in-medicine.org
described fully in terms of physiology and biochemistry. Toward the end of my time with the palliative care team, we saw a gentleman who was admitted for a late-stage lung cancer. His prognosis was poor, and he was experiencing a great deal of pain and agitation. At several points he was delirious and panicked, a combination of the aggressive medications he was on and the metastases of his cancer to his brain. He would claw at his gown and oxygen mask, firing imaginary weapons at enemies long since gone.

These episodes were physically and emotionally draining, not only for him but for his extended family who never left his bedside. Their vigilance was matched only by their sorrow at seeing him in this state.

During one particularly bad bout, our palliative team was paged and arrived to find his wife and daughter crying as his eyes once again darted fearfully around the room. Ms. Dawson went to fetch a sedative, and as I obediently turned to follow, she stopped me. With her voice hushed, she implored me to stay, saying that a mindful presence was what this family needed more than anything.

So I turned back toward the man, now thrashing sporadically against some foe unseen. My white coat belied my utter lack of experience in the hospital setting; my stomach turned to ice as a half dozen tearful family members looked to me to do something, anything. Slowly recalling what I’d witnessed a dozen times over the past few weeks, I walked over and sat on the edge of his bed, placing my hand reassuringly on his shoulder.

With a speed that caught me completely off guard, he grabbed both of my arms and locked his eyes on mine with a frantic gaze, breaking his stare only to blink. His eyes were still fearful, but as I watched, he drew peace from that touch, as though his grip on me served as an anchor through whatever chaos he was fighting. We exchanged words, but what we said I don’t remember. The words didn’t matter. I held him like that, his eyes latched on mine, until Ms. Dawson returned with the sedative. We laid him down to rest, and Ms. Dawson quietly assured the family that we would do everything in our power to see that he did not suffer further.

That man passed away the following day, and my time with Ms. Dawson, now Katherine to me, ended shortly thereafter. I still remember some of the dosing guidelines for morphine, but it is not what I took away from that rotation.

Ms. Dawson imparted the human aspect of medicine, the need to bear in mind that patients are more than the sum of their illnesses. I remember clearly that the difference I made for that man had nothing to do with medicine, nothing to do with my labs or data or science; it came from the ability to recognize a patient as a human being and to reach out accordingly. The profound realization that the person on the other side of the chart is just that, a person, is something that cannot be conveyed through a textbook, not really. It is a subtle revelation born only from experience, from humility, and, sometimes, from a walking example of what empathy in medicine can look like.

Mr. Dahl is a second-year student at the University of Nevada School of Medicine.
SPECIAL EVENT
Laura W. Bush and Barbara Bush to Speak at the 2012 ASCP Annual Meeting!

Join us in our excitement at welcoming Mrs. Bush and Barbara Bush to the Annual Meeting as they help us expand our knowledge base on global health.

www.ascp.org/2012AnnualMeeting