Critical Values

News for the Entire Laboratory Team

January 2015

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Test Utilization Management in Today’s Healthcare Environment

Every day we witness changes to our country’s healthcare system, and with each shift, pathology and laboratory medicine become more complex, with many challenges and uncertainties. Proactively representing the needs and interests of the laboratory medicine community and advancing the understanding of our profession as the base for providing better patient care is one of ASCP’s four values, and it requires extreme diligence and foresight.

In recent years, both the Affordable Care Act and test utilization management have been highly debated and discussed topics, and the Society is at the forefront of the conversation. We work side by side with lawmakers, policymakers, and other influential leaders to ensure that the contributions of our membership are valued and well understood and represented in legislation, practice, and payment developments. This issue of Critical Values probes the various influences test utilization management and healthcare reform have had on the laboratory and on patient care as we work in an ever-changing healthcare environment.

Since 2012, ASCP has been a partner with the American Board of Internal Medicine (ABIM) on the Choosing Wisely campaign. We’ve been deeply involved in promoting the ordering of the right test for the right patient at the right time, and ensuring that clinicians and patients are aware of the recommendations regarding tests that are performed often but offer no benefit—or may, in fact, cause harm.

The campaign has been successful thus far, and ASCP continues to work with ABIM and other organizations on the next steps for Choosing Wisely. One key part to that is evaluating how bringing awareness to test utilization is affecting patient care. In her article, “Choosing Wisely: Is it Working? How We Can Measure Success,” Andrea Bennett, director of ASCP’s Center for Public Policy, discusses three broad areas used to evaluate Choosing Wisely and the challenges within each, such as developing clear terminology definitions and determining the clinical impact and ensuing outcomes of tests.

In his article, “The ACO Era: A Role for Pathologists and Laboratories,” ARUP Laboratory’s Ronald Weiss, MD, MBA, takes a look at the current state of accountable care organizations (ACOs). Dr. Weiss examines the cost and reward of ACOs, noting that, “ACOs, and other alternative care delivery/payment models, continue to be works-in-progress. Their evolutionary trajectory is still fluid and unpredictable, with many obstacles hindering the benefits originally envisioned.” He also emphasizes the need to have pathologists in chief ACO governance positions so the profession can solidify its role as a strong, indispensable voice at the table.

In her article, “Putting Test Utilization Management into Practice,” senior editor Molly Strzelecki looks at health systems across the country that have implemented test utilization management teams and protocols, and the challenges and encounters they’ve experienced. From establishing buy-in from all departments to being leaders in educating others about the benefits for clinicians and patients, it is up to pathology and laboratory professionals to foster cooperation.

There are myriad ways laboratory medicine can improve patient care and outcomes and create a better system overall. ASCP works constantly and consistently to promote patient safety and laboratory quality, ensure the future of pathology and laboratory medicine, and protect payment for services. Raising awareness of and promoting test utilization management and understanding the era of health care in which we are involved are just two ways we as scientists can help direct the course. While we may not know what the future of science and medicine hold, ASCP is determined to be continually active with policymakers, monitoring the issues, formulating positions, articulating members’ views, and advocating for your best interests.

Thank you for your continued support of ASCP. Please send me your comments and suggestions at Blair.Holladay@ascp.org. My very best to each of you.

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Dr. Holladay is CEO of ASCP.
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Driving Change
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One year into full enactment of the Patient Protection and Affordable Care Act (ACA), we are beginning to see the effects of healthcare reform on the cost and quality of medical services. Many reforms often attributed to the ACA are in fact the products of legislation passed years earlier. (For example, the HITECH Act [2009] produced meaningful use requirements for electronic health records, and the Physician Quality Reporting Standards originated as the Physician Quality Reporting Initiative under the Tax Relief and Health Care Act of 2006.) Regardless, the products of ongoing healthcare reform—new coordinated care models, quality reporting systems, and programs such as the Centers for Medicare and Medicaid Services’ Shared Savings Program—mean healthcare organizations are now rewarded for improving patient outcomes and controlling costs. For the first time since 1997, healthcare spending is growing at a slower rate than the overall gross domestic product. The cost curve is apparently beginning to bend.

This issue of Critical Values looks at the contributions, challenges, and opportunities of pathology and laboratory medicine in ongoing healthcare reform initiatives. The clinical laboratory has always been a bargain in the broader world of health care. The clinical laboratory team contributes an enormous amount of crucial data to the patient medical record, while consuming a very small proportion of total healthcare spending. Still, the laboratory is and will continue to be central to the overarching goals of increasing the
Quality of patient care, enhancing the patient experience, and controlling costs.

Discussions of the laboratory team’s role in these initiatives tend to center around a few common themes: utilization (reducing the use of unnecessary laboratory testing, and assuring the right test for the right patient at the right time for the right cost), innovation (advances in analytical diagnostics and information technology that lead to transformative leaps in productivity and quality), alignment with broader goals of quality and cost (no two medical centers will have exactly the same needs based on individual mission, patient base, size, etc.), engagement (bringing the laboratory team out beyond the borders of the lab, and into the role as consultants on the best use of laboratory resources for the diagnosis and management of disease), and optimization (assuring lean laboratory function to eliminate operational waste and maximize value).

There is considerable overlap among these principles. Engagement may mean chairing a medical center’s peer-reviewed laboratory formulary committee, thereby assuring the most appropriate utilization of laboratory resources and bringing rules governing ordering practices up to the level of systemwide medical affairs—not simply the level of the laboratory “gatekeeper.” Innovation may be linked with optimization—for example, designing novel rules-based autoverification algorithms to assign numerical tasks (delta checks, computational tasks) to information systems, thus improving operations by freeing up medical laboratory scientists to perform interpretive tasks that only they can do. Molecular epidemiology laboratories may combine the principles of engagement, innovation, and optimization to control nosocomial outbreaks and decrease lengths of hospital stays.

These principles are also situational. Alignment may mean one thing to a rural clinic that needs to broaden the availability of basic laboratory services, and another to a university-based cancer center needing to optimize the application of companion diagnostics and next-generation sequencing to oncology practices engaged in clinical trials. Innovation in one center may mean sequencing a tumor genome; in another center it may mean exploring creative ways of expanding point-of-care testing to remote or resource-limited areas. Technology platforms, test menus, and diagnostic algorithms will need to be a pragmatic amalgamation of sophistication and parsimony.

Pathologists and laboratory professionals will need to take the lead on applying these principles to the changing landscape of medicine. Our ability to provide evidence-based, data-driven leadership will serve us well in embracing a future defined by the quality of medical information we produce, not simply the quantity of testing we perform.

Dr. Finn is Medical Director of Warde Medical Laboratory and a partner at IHA Pathology and Laboratory Management in Ann Arbor, Mich.
Around ASCP Journals

The American Society for Clinical Pathology offers information and education that can aid your practice as pathologists or laboratory professionals. Whether you read the printed journals or get your information online, the American Journal of Clinical Pathology (AJCP) and Lab Medicine provide the latest research, reports, and studies. Digital editions of the journals are available to download for both Apple and Android devices. Here are some highlights from recent issues.

AJCP
The November issue of AJCP has another article in its Pathology Consultation series, this one by Dr. Michael Ward and colleagues regarding urine compliance testing and drug abuse screening. The December issue includes an article by Drs. Lawrence Goodnough and Neil Shah that reviews emerging strategies for improving blood utilization. And the January issue has the last in the Journal’s yearlong series on education and training in pathology and laboratory medicine. Drs. Cindy Hsieh and Norris Nolan relay the results of a survey to document the pathology learning experiences of pathology residents prior to residency and to determine how confident they are in their knowledge and technical skills. These articles and others can be accessed at www.ajcp.com as part of your ASCP membership.

Lab Medicine
The Fall 2014 issue of Lab Medicine features a review article on an update of the DEL Variant by Dr. Pornlada Nuchnoi and colleagues. The journal also includes multiple Laboratory QA articles. Dr. Andres Quesada and colleagues look at interpreting coagulation test results using a Web-based system, while Dr. Danyel Tacker and colleagues provide a workflow analysis that compares manual and automated specimen processing for vitamin D testing.

The Ebola outbreak in West Africa raises a lot of questions for laboratory professionals in the United States, and Lab Medicine has answers. Doctors and laboratory professionals at two facilities (Emory University in Atlanta and Nebraska Medicine in Omaha, Neb.) discuss how their facilities approach laboratory testing for patients infected with the Ebola virus. You can read the Emory paper on the Lab Medicine website here (http://labmed.ascpjournals.org/content/45/3/e109.full) and the Nebraska paper here (http://labmed.ascpjournals.org/content/45/4/e146.full).

In addition, Dr. Nancy Cornish from the Centers for Disease Control and Prevention in Atlanta and Dr. Lance Peterson from NorthShore University HealthSystem in Chicago discuss laboratory concerns when dealing with a potential or confirmed Ebola patient. You can listen to their informative podcast here https://ascpcdn.s3.amazonaws.com/media/podcasts/Ebola-preparation-Cornish-Peterson.
Actively Responding on the Front Line of Test Utilization Activities

The advancement of test utilization efforts is a critically important activity in many healthcare organizations, adding recognizable value by ensuring quality and reducing unnecessary costs. Laboratories are responding to the urgency to improve test utilization through involvement in computerized physician order entry designs and by collaborating in the provision of evidence-based information to aid in test selection.

Test utilization efforts continue to evolve, and additional specific recommendations will be made to continue reducing unnecessary diagnostic testing. Patient education efforts on test utility will receive even greater attention as the need to better inform consumers grows.
Multidisciplinary and Multipronged: A Systems Approach

Although laboratory test utilization committees were on the scene prior to the Affordable Care Act, it is reasonable to assert that the work of these organizational structures has advanced under economic pressures to further reduce unnecessary expenditures of resources in our healthcare systems. More important, advancing this work is the right thing to do to ensure patient testing includes only what is necessary to reach a diagnosis, monitor treatment, or provide effective screening for various conditions.

Test utilization committees are typically comprised of individuals from multiple disciplines from within and outside the laboratory. A successful multidisciplinary team is made up of individuals who are committed to the purpose of doing the right test for the patient and who will act to influence desired changes. In collaboration with laboratory professionals, participants bring their expertise to the table to design innovative approaches to test utilization issues. Nonphysician representatives may include a lab administrator, personnel from the lab’s referred test area, laboratory information system (LIS) report writing, pharmacy, electronic medical record (EMR), and finance. Along with
pathologist leadership, essential physician participants are individuals who lead patient care improvements or champions from clinical specialties who are pertinent to the content under discussion. Utilization committee forums are excellent ways to share and discuss evidence-based criteria on why and when certain laboratory tests should be ordered.

Test utilization improvement schemes can be quite sophisticated in terms of processes and the use of information technology. They cover a wide gamut, including guiding appropriate use of genetic testing, designing reflex testing protocols, developing policies for ordering a specific test versus panel orders, restricting certain test orders, restricting high-cost testing through an approval mechanism, canceling duplicate orders where duplicate orders are inappropriate, and reducing same test frequency by eliminating or reducing standing order frequencies. To successfully implement these initiatives, a rethinking of order entry designs often happens, instituting new processes at the point of the physician placing the order, and at times at the point of the test result, by employing middleware for reflex tests. Displaying a snapshot of relevant patient information such as the last lab result can also aid physician decision making to determine the necessity of a test, right at the point of placing the lab order in an EMR.

Keeping ease of use in mind cannot be underestimated and is an important factor in test order entry designs in electronic medical records. Designs must be streamlined, having the least number of screens or computer clicks to navigate and yet still be an effective workflow. Feedback from physician users of the institution’s EMR is absolutely necessary to implement a successful order entry design aimed at changing practice patterns. Once implemented, reporting data from various approaches is critical to understand the impact and whether further refinements of the implemented tactics need to be considered.

**Patient and Lab Resource Impact**

Whenever there is a reduction in blood test overutilization, one immediate expected outcome is that fewer blood samples will be collected from patients, thereby reducing blood loss. It is reported in the literature that excessive phlebotomy occurs especially in critical care units due to frequency of laboratory testing. An interesting suggestion has been made to develop computerized feedback to report the total amount of blood collected from the patient. Reporting the cumulative amounts of blood withdrawn for lab testing is a quick way to recognize the patient impact from excessive phlebotomy due to frequent test orders, and it can be quite powerful. As medical practice becomes more attentive to test utilization patterns and appropriately reduces unnecessary redundancy or frequencies of tests, the collection of blood samples should more often be occurring only as absolutely required. Also as a result, phlebotomy workload may begin to change. This change in workload can be viewed as an opportunity to more effectively deploy laboratory resources to enhance service—for example, phlebotomy response time for emergent requests.

**Informational Needs**

Addressing patient information needs is important and should be initially considered in test utilization improvement efforts within the laboratory. This is an area where laboratory professionals can enhance the work on test utilization. This side of the test utilization equation directs us to think about the viewpoint of the consumer and what the consumer would deem valuable in terms of test utility information.

As patients become even savvier about their healthcare choices, and are encouraged to ask more questions to ensure the best care experience, laboratory professionals should consider ways to continue to assert themselves and contribute to consumer information needs in this important dialogue.

For example, patients seeking information may typically ask, Why is this test being ordered, or Why do I need this test? The patient-physician interaction is often the primary place to answer these questions. A 2014 survey of 600 physicians showed that 85 percent of respondents believed that evidence-based information would aid in the discussion with the patient and would be effective in reducing unnecessary tests. Laboratory professionals are resources for evidence-based test information on appropriate utilization. Consider opportunities to collaborate with physicians to develop patient information, improve accessibility, and bring awareness to relevant test information to address the patient’s needs at the right time and at the right place. Today, it is not uncommon for patients to have electronic access to their laboratory results in their medical record. Electronic medical records contain options for delivering patient information that can be a useful tool to address these types of informational needs. Laboratory-developed patient information can serve to activate the patient to learn more about the need and utility of their specific laboratory testing.

Opportunities abound for laboratory professionals to be involved in advancing test utilization efforts. Whether at the point of a physician placing a test order, or at the point of a patient’s inquiry about their testing, the patient’s healthcare experience is significantly and positively influenced by the contribution of the expertise of laboratory professionals on the healthcare team.

**References**


Ms. Kremitske is Vice President, Lab Operations, for Geisinger Health System in Danville, Penn.
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Leadership Messages

Message from the Chair of the Resident Council

By Maria Hintzke, MD

Driving Change

It’s 2:18 a.m. and I am awoken abruptly from a sound sleep by the deafening ring of my pager. After swiftly reaching for it and disabling the noise, I glance at the message and see a number that I have memorized over my past three years of residency. It’s the blood bank. I slowly grab my phone as I think of the many possible reasons for the page. One of the techs answers and says: “Hi. Sorry to call you so late, but I have an order for three single-donor platelets for patient X, a 54-year-old female admitted with a possible GI bleed. Her last platelet count this evening was 181 k/uL.”

After gathering most of the necessary clinical information and ending my call, I grumble a little bit and start up my computer to access patient X’s electronic medical record. A few minutes of searching reveals that patient X is not on any anti-platelet therapies and is scheduled for an upper GI endoscopy in a few short hours. I immediately know what this means; it’s time to call the floor.

Likewise, every day on clinical pathology rotations the residents in my program receive several calls from clinicians or
client services regarding laboratory testing. When taking a look at the statistics, the call volume is not surprising: every year, more than 4 billion laboratory tests are performed. This obviously is associated with a correspondingly large amount of healthcare spending. However, it is estimated that 20 to 30 percent of healthcare spending does not translate to any benefit to patients, and overtreatment of patients is one of the contributing factors to overspending. For those in the laboratory profession, the conversation naturally turns to inappropriate laboratory testing.

However, what does that mean? And, as residents, how can we drive change? In a recent 15-year meta-analysis, Zhi et al show that laboratory testing may be deemed inappropriate for a variety of reasons. While much focus is placed on test overutilization, inappropriate laboratory testing also includes underutilization. Both over- and underutilization of testing can occur as part of the initial workup of new signs or symptoms or in the case of repeat testing. Likewise, both can be equally harmful for patient care.
“Overutilization can result in unnecessary blood draws and other sample-collection procedures,” Zhi et al wrote. “It also increases the likelihood of false-positive results, which can lead to incorrect diagnoses, increased costs, and adverse outcomes due to unwarranted additional interventions. Underutilization can result in morbidity due to delayed or missed diagnoses and in downstream overutilization.”

The calls that we as residents get on a daily basis usually bring into question either test results or test utility. These questions highlight our role in ensuring that each patient receives the right test at the right time, one of the tenets of the Choosing Wisely campaign. In 2012, the American Society for Clinical Pathology (ASCP) partnered with the American Board of Internal Medicine Foundation on Choosing Wisely, which aims to reduce inappropriate laboratory testing and treatments by providing targeted, evidence-based lists of recommendations from more than 35 organizations. In this campaign, various medical groups have singled out five tests or treatments that are overutilized but don’t offer much benefit to patients.

ASCP’s contributions to the campaign have included the following five recommendations: 1. Don’t perform population-based screening for 25-OH-Vitamin D deficiency; 2. Don’t perform low-risk HPV testing; 3. Avoid routine preoperative testing for low-risk surgeries without a clinical indication; 4. Order Methylated Septin 9 (SEPT9) to screen for colon cancer only for patients for whom conventional diagnostics are not possible; and 5. Don’t use bleeding time to guide patient care. To learn more about these recommendations, please refer to www.ascp.org/Functional-Nav/The-Choosing-Wisely-Campaign/Five-Things-Physicians-and-Patients-Should-Question.

These five recommendations are just the starting point. Pathology residents encounter situations every day in which the right test or treatment is not being implemented; we receive calls regarding approval of expensive genetic testing that may not be warranted, or requests for unnecessary blood products that may increase the risk of transfusion reactions. As the future of the laboratory profession, we are in a unique position to make sure that the right patient receives the right test or treatment at the right time. You may now be wondering how we as residents can make impactful change on an issue that seems so vast. Several efforts crusaded by laboratory teams across the country have shown success, including steps taken by the Test Utilization Committee at the Cleveland Clinic. This multidisciplinary task force, which pooled resources and expertise from numerous hospital departments including Information Technology, implemented a variety of test-ordering modifications via its computerized physician ordering system.

Using this system, the committee implemented a series of best practice alerts: “hard stops” and “soft stops” in physician ordering of same-day duplicate tests (such as same-day repeat C. difficile PCR) and genetic testing. These alerts and stops would appear as warnings (soft stops) or prevent ordering entirely (hard stops) when inappropriate test ordering occurred via the physician ordering system as defined by predetermined criteria built into the computerized system. In the first year of implementation, 7,243 unnecessary duplicate orders were discontinued, leading to $115,590 in cost avoidance for the laboratory. Additionally, by limiting genetic testing only to approved “deemed users” or to those who had obtained genetics consultations for their patients and had approval from either Medical Genetics, another deemed user, or the laboratory, the laboratory had a $248,923 cost avoidance. This group credits the multidisciplinary approach, focus on optimal patient care, evidence-based initiatives, and leadership support among several reasons for its successes. While this group focused strictly on laboratory test ordering practices, similar approaches have been taken in the setting of blood product utilization and have seen varied success.

This brings me to my original question: How can we as residents help drive such change? Though making a systems-wide impact on test ordering may seem daunting, such big changes often start on a smaller scale, with institution-based changes. I encourage you to find out if you can participate in your institution’s test utilization committee or help start one. Alternatively, treat each call you receive as an opportunity to make systems-wide improvements. Not only will you have a chance to foster change in your training institution, but you will also gain the experience for your own practice in the future, not to mention accomplish some of those Accreditation Council for Graduate Medical Education milestones. Most important, however, by participating in these types of activities and serving on institutional committees, we have an ability to greatly improve patient care. In making these improvements, we can fulfill our duty as diagnosticians and arguably as a crucial part of the patient care team to deliver appropriate, patient-centered care, even if it sometimes happens at 2:18 a.m.

References


Dr. Hintzke is a fourth-year pathology resident at the Medical College of Wisconsin in Milwaukee, Wis.
2015 Adventures of Labby Photo Contest

A simple way to show your pride for the laboratory and help ASCP create the World of Labby!

In honor of Medical Laboratory Professionals Week, ASCP celebrates your passion for the profession by challenging you to show your super lab in the 2015 Adventures of Labby Photo Contest.

Create your own Labby character using items from your lab and ASCP’s printable accessories.

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The possibilities are limitless!
By Kelly Swails, MT(ASCP)

Smaller Budgets, Bigger Payoffs

Changing Healthcare Paradigms
By now it’s an old axiom: Laboratories today have to “do more with less.” That statement covers a large swath of what laboratory workers face every day: more work, less money; more specimens, less staff; more job functions, less time. According to Lab Manager’s Laboratory Spending Trends Report, clinical laboratory budgets were expected to increase 5 percent from 2013 to 2014—on average, rising to about $1.3 million—due in part to an expected increase in healthcare consumers as a result of the Affordable Care Act. Even so, these extra funds may not stretch as far as laboratory administrators would like, and a strict eye is still needed on laboratory budgets. Perhaps the purchase of a new analyzer gets cut, or a job goes unfilled, or both. Having to make these sorts of decisions is unsettling, but it is today’s laboratory reality, and raises the question of how laboratories can operate with increasingly shrinking budgets. And what can they do to manage their own costs as opposed to being managed by hospital or network administration?

**Consolidate Functionality**

“Currently, the typical hospital administration’s controls over laboratory budgets are very tight,” says Jeffrey Warren, MD, FASCP, former lab director and current professor of Pathology at the University of Michigan, Ann Arbor, Mich. “It’s not uncommon for laboratory administration to obtain approval from hospital administration before any open position can be filled. In essence, laboratories have reduced ability to manage their own budget.”

But there are ways laboratories can ease these budget concerns. Cutting expenditures that don’t directly add value to the end customer is one of the main tenets of lean production philosophy. One way to incorporate lean is to evaluate where and how laboratory employees are being used. Thomas P. Joseph, MBA, MT(ASCP), CEO of Visiun Inc., a healthcare analytics firm in Ann Arbor, Mich., says labs need to consider process improvement tactics when evaluating employee usage.
“One of the tenets of lean is using people the right way. Labs need to consider how they’re using their highly trained and specialized people,” he explains. “For example, perhaps having a clinical laboratory scientist restock reagents or load the specimens isn’t the best use of his or her time.”

Dr. Warren also has seen job descriptions redefined in his laboratory. “Specific changes that we’ve implemented include using laboratory assistants at clinical sites. They perform point-of-care testing, phlebotomy, and weigh and measure patients.” In addition, several laboratory professionals help develop a new order entry system and implement upgrades to the institution’s current laboratory information system. This ensures that the laboratory’s needs are incorporated in the program. “Virtually every department has a dedicated clinical laboratory scientist who spends most of his or her time working on this project.”

**Going Further**

If the aforementioned strategies aren’t applicable or feasible for an institution (or perhaps they’ve already been implemented and the institution is pushing for more), several options are available: integrate, automate, autovalidate, and evaluate.

“A great deal of integration has occurred in the industry, and yet there are still opportunities,” Mr. Joseph says. “Systems should focus on reducing the overall level of expense and not focus on unit costs. Unit costs will generally increase for a smaller laboratory. The over system unit cost will decrease and productivity will increase, thereby reducing overall operating expenses.” While it’s not always easy to hear, consolidation of testing at core laboratories or developing centers of excellence is a step that institutions need to consider.

“The willingness to better integrate various clinical activities is a big opportunity for laboratories,” says Dr. Warren. For example, if an institution has three molecular diagnostics departments, combining them into one core molecular laboratory could lower costs, streamline processes, and improve productivity. But this process has its challenges, of course. Creating an optimal operating structure means that procedures that have been in place for several years will need to be torn down and rebuilt. Keeping the end goal in mind—doing more with less in an effective manner—will help smooth the road.

Another strategy involves automating processes where appropriate and autovalidating normal results. Particularly in larger labs, installing an automation line for departments with a high throughput—such as chemistry or hematology—will streamline processes.

“In terms of using employees more effectively, automation can certainly help with staffing issues,” says Mr. Joseph.

Autovalidation—when the laboratory information system validates and turns out normal results without technical intervention—allows technical staff to spend their time in better ways.

“Autovalidation lowers the number of clerical errors,” Mr. Joseph explains, “and allows techs to spend time on abnormal specimens.”

Finally, evaluating workspaces with lean concepts in mind can help a laboratory’s bottom line. Laboratories are designed to fit their current needs, but over time those needs change. New workstations are needed when old instruments are replaced, counters are ripped out when new automation comes in, and new departments are squeezed into spaces designed
for older, smaller ones. Over time, this adds up to inefficient and insufficient work areas. Tracking specimen flow through the lab—also known as a spaghetti diagram—can help pinpoint where changes need to be made.

**Laboratory Professionals as Consultants**

Another key component of doing more with less is test utilization management. In order to implement this, pathologists and laboratory professionals must dig into the data to find the best practices for their laboratory.

“The general move away from fee-for-service toward other models of reimbursement has started people thinking about reducing unnecessary testing,” says Mr. Joseph. However, it’s important to remember that improving test utilization isn’t just about performing fewer tests or restricting the number of CBCs that can be ordered on a particular patient in one day. It’s also about working with other clinicians and staff to ensure they are knowledgeable about what they’re ordering. Test utilization has been a focus for inpatient testing driven by fixed reimbursements. The Centers for Medicare and Medicaid Services and other payors are evaluating changes to outpatient reimbursements that will create strong incentives for test utilization for all patient types. Mr. Joseph notes that putting processes in place to track this will benefit patient care in the long run. For example, Visiun has developed a utilization reporting system that can dramatically reduce unnecessary testing by using rules-based algorithms, providing detailed analytics by physician and diagnostic code.

“This helps labs identify outliers—those physicians who are doing well and those that could use a bit of help—in order to define best practices,” Mr. Joseph explains.

Dr. Warren adds, “Because we’re sort of hunkered down and focused on being ‘productive and efficient’ in terms of volume, we doubtlessly suffer from redundant testing, misdirected testing, and inappropriate testing.” Creating a test formulary, for example, is one way for laboratories to control the amount of testing performed and simultaneously increase efficiency.

“The focus in our lab has been on regulating expensive send-out tests, and it can be applied to in-house tests, too. What’s available, or what’s allowed to be ordered by physicians,” Dr. Warren explains. It’s important to include input from clinicians from outside the laboratory. While pathology services are the heart and soul of this process, having physician input can help ensure that new processes get systemwide acceptance. “Our blood product utilization program is spearheaded by an anesthesiologist, and that’s been very helpful. We’ve seen definite improvements in this area,” he says.

**Next Steps**

How can laboratories prepare today for the tighter constraints they will certainly face in the future? For starters, pathologists and laboratory professionals need to be involved in the process. Laboratory professionals and pathologists must be leaders in calling for integrated approaches.

“We have to be even more engaged in and more active and more aggressive in terms of participating in operations improvement,” Dr. Warren says. “It’s hard work to integrate across disciplines and areas. It requires a lot of time and discussion and hard work. There’s a reason it’s not pursued. It’s a lot easier to say, ‘Let’s all cut 3 percent.’ It’s not that we’re not working with other areas, but we need to do more and we need to do better.”

In addition, laboratories have to be vocal about their contributions to the healthcare process. “It’s fairly well known that lab tests account for 5 percent of costs but make up 80 or more percent of the medical record,” says Mr. Joseph. “That’s a pretty good value for a relatively small amount of money. That point needs to be made.”

The healthcare landscape has changed greatly in recent years, and there are still more changes to come. And because laboratory directors, pathologists, and laboratory professionals know their department better than anyone, they must be actively involved in efficient processes and test utilization management that improves patient care and the bottom line.

**References**


Ms. Swails is a laboratory professional and Web Editor of the Lab Medicine website.
The ACO Era:
A Role for Pathologists and Laboratories

By Ronald Weiss, MD, MBA
Accountable Care Organizations (ACOs) as an alternative system of care delivery are increasingly prevalent across today’s healthcare landscape. ACOs are organizations made up of healthcare providers—typically hospitals and/or physician groups—that agree to provide coordinated care to improve the quality of patient outcomes and reduce unnecessary costs. These providers share incentives based upon measurable improvements in care delivery.

Although the Patient Protection and Affordable Care Act of 2010 (ACA) encourages the growth and dispersion of ACOs for Medicare beneficiaries—through the Medicare Shared Savings Program (MSSP), the Pioneer ACO, and the Advance Payment ACO—ACOs were growing in the private payor market well before passage of the ACA. As of June 2014, there are a reported 338 MSSP organizations, 23 Pioneer ACOs, and more than 200 private payor ACOs, with more than 70 organizations having both government and private payor contracts.1,2 The MSSP and Pioneer ACOs have 5.6 million assigned beneficiaries in 47 states, the District of Columbia, and Puerto Rico.

ACOs, and other alternative care delivery/payment models, continue to be works-in-progress. Their evolutionary trajectory is still fluid and unpredictable, with many obstacles (e.g., reporting quality of care measures, meeting cost savings thresholds) hindering the benefits originally envisioned, such as improved care coordination, outcomes, and cost effectiveness. In its June 2014 letter to the Commissioner of the Centers for Medicare and Medicaid Services (CMS), the Medicare Payment Advisory Commission raised a number of issues it feels need to be addressed to better ensure the success of the MSSP and Pioneer ACO models.3 These include moving to two-sided risk-sharing incentives, developing better beneficiary attribution to ACOs and communication with providers, offering more tangible benefits for beneficiaries to move
from fee-for-service to ACOs (including lower cost sharing), improving quality measures from process to population-based outcomes, making quality and cost more transparent to beneficiaries, and improving the year-to-year benchmarks for calculating savings and losses. The goal of saving money for the Medicare program appears to show early, but somewhat tepid, success. CMS announced in September 2014 that MSSP ACO and Pioneer ACO providers in operation since 2012 have reduced Medicare spending by $817 million.4 Although the quality of care has generally improved, cost savings have not been realized by all participants.

**The Cost and Reward of ACO Arrangements**

Incentives for providers in ACOs typically take the form of shared savings arrangements, with the anticipated migration, over time, from traditional fee-for-service to bundled payments, and then to capitation. Almost all ACOs, except the current Pioneer ACOs, have chosen to engage in one-sided risk (bonus payments) rather than two-sided risk (bonus, penalty) sharing incentives. Most policy experts agree that the incentives for care and cost improvement are much greater in two-sided arrangements. However, early experience with the two-sided risk model in the Pioneer ACO program has raised concerns with the CMS payment benchmarking formula. Indeed, of the 32 original participants, only 19 remain. Most of the dropouts have moved into the one-sided risk model in the MSSP. It is uncertain whether CMS will, as a result, announce any changes to this model for 2015.

Although there has been considerable focus on the role of primary care physicians in ACOs, how to integrate specialist physicians, including pathologists, into coordinated care incentives is still an open question. Despite the fact that these important details are missing, pathologists and laboratories have had and will continue to have opportunities to improve both the quality and cost effectiveness of patient care. This “value proposition” is evolving from the traditional focus on quality improvement, cost improvement, and service improvement (e.g., turnaround time) to data integration and management, actionable knowledge generation, utilization management, and clinical effectiveness. The value of laboratory diagnostics continues to be in screening, diagnosis, prognosis, and management, especially for common chronic diseases.

Pathologists should share accountability for patient outcome and health system performance with other providers, while continuing to create reliable laboratory performance measures, standardizing laboratory databases, designing standardized practice algorithms, creating patient health information management tools, improving laboratory reporting, improving the reliability of care quality in all clinical settings, and delivering timely and effective clinical consultations to clinicians and patients.5 Effectiveness in the practice of pathology is more than just being a competent surgical pathologist, because managing the advances in clinical laboratory ancillary testing technology (e.g., in diagnosing and managing cancer) is casting a larger shadow. A pathologist’s ability to integrate data and information across both anatomic and clinical pathology will result in knowledge generation for better patient outcomes. Pathologists are the enablers of clinical medicine and, as user-custodians of large patient-related databases (“Big Data”), have the opportunity and the obligation to drive both patient- and population-specific care outcomes.

**Leading the Way on ACO Integration**

There are numerous examples of where professional organizations, institutions, and practices are making progress on improving the pathology and laboratory medicine “value proposition,” whether in formal ACO arrangements or in more
traditional practice settings. The American Society for Clinical Pathology (ASCP) joined the American Board of Internal Medicine Foundation’s Choosing Wisely initiative and has built a tool kit “to help raise public awareness and garner support around appropriate test utilization.” In its policy statement on Accountable Care Organizations, ASCP emphasized that because of the “increasing importance of laboratory data to coordinated care and the fact that the bulk [of] the patient’s EHR is expected to be laboratory data, pathology is well positioned to advocate for a central role in ACOs…” The College of American Pathologists (CAP) has developed Promising Practice Pathways as part of its “Your Path, Your Choice,” initiative. Pathways focus on high-value oncology services, high-performance diagnostic services, coordinated population care services, and patient diagnostic services centers. The CAP has created an ACO/Coordinated Care Resource Center and it has also worked successfully with some state pathology societies to advocate for state laws that require each ACO to include a clinical laboratory advisory board that has pathologist participation and leadership.

Currently, there are relatively few ACOs with highly visible pathologists in key governance roles, but those pathologist and laboratory professionals within ACOs are taking steps to implement institutional practice initiatives that increase pathology’s contribution to care coordination, quality outcomes improvement, and more cost-effective resource utilization. For example, Richard J. Cote, MD, chair of Pathology, University of Miami, and his colleagues have refocused traditional values in pathology to “improved care coordination across the continuum of health care, an emphasis on prevention, and we also have outcome-driven and evidence-based measures for practice…” This has included improved coordination of laboratory services through laboratory consolidation, through improved test ordering processes specific to individual patient conditions, and through improved operational efficiencies and cost savings.

At the University of Michigan, Jeffrey Warren, MD, has led an initiative to develop and deploy a laboratory test formulary overseen by a Laboratory Formulary Committee. He emphasizes that a laboratory test formulary “can actually have a tangible impact on patient care, and corollary to that, a better utilization of resources.”

Pathologists and clinicians at Vanderbilt University in Nashville have created Disease Management Teams that use evidence-based, consensus-driven, standardized strategies to guide the use of expensive laboratory testing. In one example of their efforts, an interdisciplinary team optimized the utilization of bone marrow testing through Standard Operating Protocols that improved the positive predictive value for patient outcomes while accruing significant cost savings.

Despite the fact that ACO cost savings are only slowly being demonstrated, the number of organizations participating in this delivery model continues to increase. And while there are only a few examples of highly visible pathologists “at the table” in ACO governance roles, failure to deliver on pathology and laboratory medicine’s value proposition will almost certainly draw pathologists “into the room” where they may be thrown “on the table” and consequently out of the organization. Pathology and laboratory professionals need to be viewed as indispensable providers of high-quality, cost-effective care that helps drive improved patient outcomes, and satisfies the needs of our clinician colleagues, their patients, and institutional administrators responsible for successful care coordination.

References


Dr. Weiss is Professor of Pathology at the University of Utah Department of Pathology and ARUP Laboratories and Director of Faculty Outreach for the University’s Office of Technology and Ventures Commercialization.
Putting Test Utilization Management into Practice

Reducing redundant testing. Standardizing laboratory information systems and electronic medical records. Establishing best practices. All of these are factors that make up the process of test utilization management, a practice that is increasingly relevant in today’s healthcare systems to enable better patient care. As the provider of the majority of information pertaining to a patient’s diagnosis, the laboratory is the sentry to test utilization, and can help develop new committees and protocols that will form the foundation for change.

“There are a lot of good patient care and patient satisfaction reasons not to perform additional tests that a patient doesn’t need,” says Gary W. Procop, MD, FASCP, medical director, Enterprise Test Utilization at Cleveland Clinic in Ohio. In 2010, Dr. Procop was appointed chair of the Clinic’s test utilization committee. Over-phlebotomization, he notes as an example, can lead to iatrogenic anemia, which in turn can cause complications including poor healing rates and increased rates of infection. Or, testing a patient for a disease he or she is unlikely to have increases the chance of a false-positive result rather than a true-positive reaction.

As health care in this country continues to grow and unfold, test utilization and the laboratory are poised to be important change agents in that process. But before they can really produce results, understanding what test utilization means to a specific organization must come first.

Understand the Patient, Understand the Test

No two test utilization committees are alike, and each has to figure out what the needs are in that specific environment and how test utilization should be approached.

“You’ve really got to understand where your appetite is and where the opportunities are to figure out where your laboratory needs to put its energy,” says Curtis Hanson, MD, interim chair of the Department of Laboratory Medicine and Pathology at Mayo Clinic, Rochester, Minn. A hematopathologist by training, Dr. Hanson leads the overall clinical laboratory test utilization efforts at Mayo. Large multispecialty clinics, he notes for example, might work on testing algorithms for their outpatient environment. A large surgery program is ripe to work on blood utilization management.

Also important is understanding that the laboratory can’t be the only voice championing test utilization management.
“Ensuring you have buy-in from your clinical colleagues is necessary,” Dr. Procop says. “Solicit the opinions of stakeholders, and it will lead to improved test utilization. If it’s approached simply as ‘we’re pathologists and you should listen to us,’ you’ll shut off lines of communication pretty quickly.”

Often upon hearing the words “test utilization management,” two things come to mind: eliminating tests and cutting costs. And while these two elements are frequently factors when implementing test utilization management practices, it’s important to understand that they are only a part of the picture.

“Begin the conversation about test utilization with regard to quality and what’s good for the patient,” advises Gregory Sossaman, MD, FASCP, system chairman of Ochsner Health System, Department of Pathology and Laboratory Medicine, in New Orleans. “Don’t couch it in what’s best for the laboratory, or as a cost-saving opportunity. Clinicians aren’t motivated by that; they’re motivated by what the patients need, and what is best for the patient.” Furthermore, if the focus is on getting the patient the proper test, it may in fact mean performing more expensive test or additional testing.

“Although, appropriately, most test utilization deals with reducing inappropriate testing, the reality is about doing the right test at the right time on the right patient,” says Dr. Hanson. “And that may mean you have to do more testing on the patient.” For example, he continues, a clinician needs to make sure he or she is performing hemoglobin A1Cs appropriately in patients, or doing Hepatitis C testing for patients who are at risk for drug abuse or have drug abuse issues.

One of the ways organizations have improved the use of both over- and underutilized tests is by including laboratory-based genetic counselors on their teams to aid clinicians in ordering the proper test.

“A high percentage of the time our genetics counselor intervenes, clinicians don’t need the test they’ve ordered,” Dr. Procop says of Cleveland Clinic’s committee. “And once the counselor has spoken with the clinician, half the time the clinician doesn’t want the test they ordered, or the counselor is able to redirect them to the right test.” And that right test, he notes, may be more expensive, it may be less expensive, or it may be the same cost as the originally ordered test. The important thing is that it’s the right test for the patient.

“Patient care is what we keep as our true North,” Dr. Procop says.
**Test Utilization and Healthcare Reform**

Since its full enactment on Jan. 1, 2014, the Affordable Care Act (ACA) has been hotly debated. Many of the healthcare reforms that have had a direct effect on pathology and laboratory medicine (meaningful use requirements or the Physician Quality Reporting Initiative, for example) have been in place for several years, but as the ACA continues to evolve, it’s expected that legislation may have a bigger influence on the laboratory and test utilization.

“The implementation of the ACA has really drawn attention to the need for improved test utilization,” Dr. Procop explains. “And group practices are starting to ask how to best take care of a condition, when do certain tests need to be ordered, or not ordered. It’s given some momentum to test utilization management, and implementing these tools electronically is a type of meaningful use—it demonstrates you’re using the electronic medical records and information system in a meaningful way.”

Much of the influence of the ACA will manifest in more indirect ways on the laboratory. For example, the legislation includes the implication of bringing healthcare costs under control, and what many health systems are starting to see is a push away from fee-for-service payments and a move toward a value-based payment system.

“Many people are seeing the inevitability of having value-based reimbursement as part of the mix,” says Dr. Hanson, “and therefore people realize we have to be more judicious in how we spend our dollars, and we have to spend them effectively,” and that often starts with laboratory test ordering.

This could create a conundrum for laboratories as the ACA evolves and value-based payment systems become more prevalent. In a hospital, the laboratory is often viewed as an expense, so reducing volume for value is a positive. However, in outpatient clinics, testing is revenue. The question then becomes, explains Dr. Sossaman, whether you drive test utilization management on the outpatient side as you would on the inpatient side, which would affect the overall system’s bottom line.

The resolution isn’t so simple, he notes, as the current reimbursement model is still based on a system of getting paid for volume, and laboratories aren’t necessarily being paid enough for value to survive. But, he adds, though the ACA may further change test utilization, what is best for the laboratory really depends squarely on what is best for the patient.

“Our philosophy is, we’re going to continue working on utilization for our patients believing if it’s a good thing for the patients, and it’s a good thing for the insurers, then it’s a good thing for our healthcare system, and it’s going to be a good thing for us,” Dr. Sossaman says.

**Cautious Concerns**

While a focus on test utilization management may ultimately provide better patient care, it does raise the question of risk to those ordering the tests. If, for example, certain tests aren’t ordered—but should be—because of new protocols, are clinicians now more at risk for malpractice?

Not really, Dr. Sossaman says, explaining that while there is an idea that some clinicians practice defensive medicine by ordering a number of tests, the majority order more tests simply because there are a greater number of tests available and there is an increased reliance on testing in general, “whether it’s imaging or laboratory testing. Whatever there is, there is a tendency to overuse it.”

Dr. Procop adds that having test utilization management in place is “actually protective to individual clinicians because they have the backing of a group that has already said, ‘We think these are best practices.’” As he points out, it’s much harder to sue a committee than an individual.

“An individual can be wrong,” Dr. Procop says. “But if a committee has thought through the process and believes these instructions to be true and best for patient care, it makes it a tough hurdle to overcome in a lawsuit.”

He further notes that the protocols are not a 100 percent mandate.

“We’ve always left the door open for the individual—if they really want a test done, they can get it. We’ve designed avenues by which the clinician can continue ordering the test, but we’re making them think about things and not just check every box on an order form,” Dr. Procop says.

**Going Forward**

Not every health system has established a test utilization committee, or is looking at how to incorporate new protocols that will target over- and underutilized tests, but in the coming years, most probably will. Instituting a multidisciplinary group that emphasizes the right test for the right patient is a starting point, though the end point for test utilization management remains unclear.

“Do we have everything figured out?” asks Dr. Hanson. “No. We’ve made headway, but it’s not perfect. It’s a lifetime endeavor.”

Ms. Strzelecki is Senior Editor of Critical Values.
Three Questions with Bryan Loy

As health systems focus on ways to improve or even jumpstart test adoption and utilization management, health insurance companies, too, are helping to lead the cause. Critical Values caught up with Bryan Loy, MD, MBA, vice president of Oncology, Laboratory, and Personalized Medicine for Humana. A pathologist by training, Dr. Loy gave one payor’s perspective on test adoption and utilization management, and how an insurance company such as Humana is preparing for further advances in personalized medicine.

How does a pathologist’s perspective benefit the insurance company and vice versa?

As a pathologist, I’m especially interested in figuring out the quality and value for the dollars that are going to be spent. When I think about the laboratory, it’s in different compartments—clinical laboratory, anatomic pathology, and molecular testing. With the clinical laboratory, I think about automated, low cost, high frequency, lab tests. And then, how we can promote very tightly integrated delivery systems that ensure medical personnel are communicating and that there is intentional ordering and that test results have action plans. We need to be integrated enough to ensure that the timeliness of those results impact medical decision making and the interpretation was accurate and had the patient’s interests in mind.

In anatomic pathology, I think about the cascade of special studies that can accompany biopsy. For example, it is not uncommon to see a number of additional unnecessary tests on a biopsy when the biopsy was negative and the additional tests were non-contributory. We need to make better use of test ordering cascades.

Over the past couple of years, our organization came to the realization, especially in the world of molecular testing, that we really don’t know what we’re paying for. If we did a CBC, for example, the CPT code is fairly descriptive for that. In contrast, if there was a molecular or predictive or prognostic test, we know we pay for the methodology, but we’re not always sure what test was performed or the intent of the test we’re paying for. I think the opportunity is to make sure the ordering physician and the patient understand what to expect from test results and that they are obtained in a timely manner. We have developed a number of mechanisms to figure out what we’re paying for and if there is a reasonable chance of using those results to make better clinical decisions.

That realization gave us the chance to step back and ask what role we can play to make things better, and we started thinking about the systems of care, the people performing the tests, ordering the tests, using the tests. We wanted to understand how we can use that information as a lever in delivering quality care, and to what extent it is an element of the total cost of care.

How does your organization view molecular testing in terms of patient care, and how it factors into test utilization?

Right now it’s a small slice of overall laboratory utilization, but it’s received a lot of attention because it’s a high growth area. The promise that it holds is in terms of being able to reduce unnecessary toxicity, for example, in cancer chemotherapy, and the selection potential has a lot of people interested.

But we’re also faced with dealing with the variance in quality in the system. When you think about molecular testing, there’s a lot of variation in the technology that’s been employed for sequencing and mutation identification. As we speak, we are in the midst of a transition from Sanger sequencing to Next Generation Sequencing for many tests. That method variation suggests that there is some variation in the quality. There is also variation in how tests are interpreted.

So as a health plan, one of the things we can do is push toward the evidence when we know it, and when we don’t know it, to learn about it even in the absence of trials by sharing data. We want to put in the appropriate measures on the front end, and have those collaborative conversations with the people who are actually doing the work where we can learn and improve together.

How can laboratories and payors collaborate to better manage test utilization as well as provide better patient care?

As new laboratory technologies come down the pipeline, it would really be good to hear from laboratory experts and associations who can speak to guidelines and nuances that are relevant to those tests. For example, we should be looking for independent validation of analytic validity, and incremental clinical utility with known comparators. We should also insist on looking for the likelihood that patients will know what to expect from the test and that ordering physicians can make sound medical management decisions from the results that would not be available from other information.

If there are areas that are understudied, we need to come together and think about how we gain more information in a relevant time period. If we take ten years to solve a problem, we forgo a lot of clinical value. But if there are ways we can get better answers faster, we can figure out what trial designs would look like, and what we can do to monitor and measure whether or not we’re getting what we were expecting when we actually integrate this into clinical practice, and what safeguards are necessary so if we were wrong can minimize patient harm.

Those are the areas where I think it would be nice to collaborate with associations and experts. I think we do, to a certain extent, but I think it can improve and can bring a little more rigor to those processes as well.

Ms. Strzelecki is Senior Editor of Critical Values.
On October 31, 2014 the Centers for Medicare and Medicaid Services (CMS) released Medicare’s CY 2015 Physician Fee Schedule (PFS) Final Rule as well as its CY 2015 Hospital Outpatient Prospective Payment System (OPPS) Final Rule. Despite the drastic cuts to reimbursement seen in recent years, the overall predicted impact of the PFS Final Rule on the pathology and laboratory community is neutral. Nonetheless, while there are several favorable policies finalized this year, by far the biggest upsets in both rules are derived from the Agency’s attempt to “mitigate overutilization incentives” via varying iterations of bundled payment billing schemes. The problem with these policies is twofold: CMS is overly aggressive with claiming efficiencies—oftentimes where there aren’t any—while conversely failing to accurately account for the aggregate costs of additional services being bundled.

Consolidation of Prostate Biopsy G-Codes into One G-Code

In this year’s PFS Final Rule, CMS finalized its proposals to consolidate the four existing prostate biopsy G-codes into one G-code (G0416 [Surgical pathology, gross and microscopic examination for prostate needle biopsies, any method; 10 to 20 specimens]), revise the G-code’s descriptor to define the service regardless of the number of specimens, and delete the remaining three G-codes (G0417–G0419). Accordingly, CMS stated its belief that the typical number of specimens evaluated for prostate biopsies is between 10 and 12. Hence, this policy inadvertently establishes a practice guideline, while capping reimbursement regardless of the number of specimens evaluated. Of note, though G0416 is set to be revalued, its current value is equivalent to reimbursement for the evaluation of about nine specimens billed with CPT 88305 (Level IV—Surgical pathology, gross and microscopic examination). Moreover, because the
government-established billing code is to be used regardless of the number of specimens, CPT 88305 will no longer be allowed for use for the examination of up to nine specimens when performing a prostate biopsy.

The concern with this policy is that it builds on the flawed logic underlying CMS’s CY 2014 decision to modify the prostate biopsy G-code descriptors so that they no longer distinguish prostate saturation biopsies from routine biopsy services. Prostate saturation biopsies have a much lower per unit cost and are typically performed on a larger volume of specimens for which efficiencies may be obtained when bundled. Moreover, they account for only one percent of prostate biopsy services but are now responsible for the valuation of 100 percent of prostate biopsies. Accordingly, CMS is multiplying its false efficiency assumptions regarding the bundling of routine prostate biopsies with its decision to further consolidate the already under-valued payment bundles.

Packaging of Ancillary Services into Payment for a Primary Service in Outpatient Hospitals and ASCs

CMS similarly sought to leverage efficiencies via standardized payment bundle schemes in the CY 2015 OPPS Final Rule. This year, the Agency finalized its plan to bundle the technical component of select ancillary services into the payment for the associated primary service when delivered in the hospital outpatient or ambulatory surgical center (ASC) setting. CMS defines “ancillary services” as “integral, supportive, dependent, or adjunctive to a primary service.” Beginning in January 2015, the Agency will conditionally package all ancillary services assigned to Ambulatory Payment Classifications (APCs) with a geometric mean cost of $100 or less. However, when ancillary services are furnished by themselves, they will continue to be reimbursed separately.
### Clinical Support
- Evidence-based Guidelines

### HIT Functions
- Computerized Provider Order Entry (CPOE)
- Automated Reflex Testing
- Reflex Testing Algorithms

### HIT Tools
- Test Formularies
- Automated Specimen Collection Process
- Radio Frequency Identification (RFID)
- Automated Add-Ons
- Sample Flagging
- Middleware
- Custom Rules-based Result Annotations

### Quality Control
- Order Set Review:
  - New Tests
  - Standing Orders
  - Bundled Tests
  - Esoteric Tests
  - Obsoleted Tests
- Longitudinal Analysis
  - Turnaround Time
  - Error Rate

### Test Ordering Continuum
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### Interpreting
- Evidence-based Guidelines
- Supervised Machine Learning

### Reporting
- Automated Provider Feedback Loop:
  - Effectiveness in Guiding Treatment
  - Treatment Outcomes
- Patient/ Clinician Follow-Up Reminders

### Laboratory Information System (LIS)
- Standardized List of Actionable Test Results
- Discrepant Results Policy, Procedure, & Forms
- Highlighted Actionable Results

### Electronic Patient Access to Test Results
- Patient Portal
- Auto-Push Patient Education Material

### Performance Dashboards
- Delta Checks
- Electronic Patient Access to Test Results
- Patient- Specific Pop-Up Alerts

### Evidence-based Guidelines
- Automated Interpretation
- Unsupervised Machine Learning
Within the two pathology-specific APCs and blood transfusion APC impacted by this policy, there are more than 30 pathology services that qualify for bundling, including the following key services: Surgical Pathology (CPT 88304/88305/88307); Cytopathology (88173); Special Stains (88312/88313); FISH (88365/88120/88121); IHC (88342/88360/88361); Flow Cytometry (88184); and Frozen Section 1st Block (88331).

Nonetheless, it will be challenging to predict the exact impact until we know whether or not CMS is able to adequately estimate the typical volume of each ancillary service provided in conjunction with the designated primary service. Accordingly, absent the Agency’s ability to do so, inadequate valuation of the subsequent payment bundles may threaten reimbursement and patient access. Moreover, though this policy is an expansion of last year’s policy, in which CMS bundled more than 1,000 physician and laboratory services, CMS has yet to even analyze the impact of its CY 2014 OPPS bundle policy.

**New and Revised CPT Codes for IHC Staining and FISH**

Despite the concerns addressed above, the good news is that CMS has partially reversed course on another policy finalized last year that, while not exactly a bundled payment policy, strongly resembles one. In the CY 2014 PFS Final Rule, CMS replaced the existing CPT codes used to bill for immunohistochemistry (IHC) services with G-codes, thereby shifting the billing unit from the more granular slide-/antibody-level to the less granular specimen-level. In effect, CMS inadvertently bundled the reimbursement for IHC staining performed on each additional antibody per slide and each additional slide per specimen. Accordingly, multiple IHC stains performed as multiplex cocktails (multiple stains on multiple slides) are now reimbursed as a single stain. All the while, CMS overly exaggerated efficiencies gained and did not adjust reimbursement rates at the specimen-level to reflect the performance of IHC on multiple stains and/or slides.

Similar to IHC staining services, fluorescent in situ hybridization (FISH) services had recently been flagged as misvalued and cited for overutilization for financial gain. In order to prevent the creation of G-codes and the uncompensated shifting of the billing unit from the more granular probe-level to the less granular specimen-level, the pathology community united in the submission of cost data to the AMA RUC in support of the RUC’s development of CPT codes that more accurately reflect FISH services reimbursed at the specimen-level, including add-on codes and multiplex codes. In the Final Rule, CMS adopted all nine of the RUC-recommended CPT codes.

**Transparency Initiative**

While CMS’s strategy for reducing overutilization this year has largely been focused on bundled payment schemes, in the past the Agency has opted for across-the-board cuts to reimbursement—often with little to no warning. Accordingly, though CMS’s bundled payment policies are cause for concern, the Agency has finalized a policy aimed to provide more advanced notice of changes to physician reimbursement as well as enhanced provider involvement in the rate-setting process. In the CY 2015 PFS Final Rule, CMS finalized its “Transparency Initiative,” which restricts the use of interim final G-codes and ensures most new, revised and potentially misvalued codes are first introduced in the proposed rule, rather than the final rule without opportunity for comment. Accordingly, the drastic code changes that we have seen for CPT 88305 and IHC in past Final Rules, which gave providers limited to no warning and only two months to adjust, will hopefully be a thing of the past.

**Modification of the Local Coverage Determination Process**

Finally, CMS further upheld its commitment to transparency with its decision to abandon its CY 2015 proposal to expedite the Local Coverage Determination (LCD) process, which would have eliminated public meetings and opportunity for public comment. While this was of great relief to the pathology and laboratory community, concerns lingered regarding the administration of the LCD process. In fact, in this year’s final rule, CMS acknowledged that many of the comments received expanded beyond the scope of CY 2015 proposals to address concerns regarding policy changes finalized in the April 2014 passage of the Protecting Access to Medicare Act (PAMA). Accordingly, commenters voiced concerns with the Medicare Administrative Contractor (MAC)’s expanding scope of authority. Beyond reimbursement changes, commenters expressed concern that reimbursement decisions authorized by the MACs now provided CMS with a second mechanism by which to doubly reinforce “appropriate use” determinations. Citing Palmetto’s MolDX program, many commenters further argued that it is an over-exaggeration of a MAC’s authority to determine coverage based on determinations of superior test performance and that the Clinical Laboratory Improvement Amendments (CLIA) provides the best and most appropriate processes for assessing test-specific performance characteristics.

For more information on relevant policies in this year’s Final Rules, please reference the November ePolicy article at http://www.ascp.org/Advocacy/ePolicy-News-November-2014.html.

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In 2012, the American Society for Clinical Pathology joined the Choosing Wisely initiative with the American Board of Internal Medicine (ABIM) to pursue the ultimate objective in promoting appropriate test utilization: ordering the right test for the right patient at the right time.

The campaign developed recommendations to educate clinicians and patients on target tests that are performed frequently, offer no benefit or may be potentially harmful, and are costly yet fail to provide higher-quality care. These recommendations, rooted in evidence, target not only overused tests, but misused and underused tests as well, with the campaign’s end goal being to reduce harm and increase efficiency. When followed, these recommendations should ultimately translate into higher-quality patient care and, hopefully, better patient outcomes.

Since its inception, Choosing Wisely has heightened awareness and sparked national dialogue about appropriate care. But how can we measure its success? Has increased awareness translated into changes in clinicians’ test-ordering behaviors? If so, what effect has it had on patient care? How can we measure the impact of these efforts? Can we say that we are improving patient care—the ultimate objective with this initiative? With each of these broad areas that could be used to evaluate the Choosing Wisely campaign—raising awareness, behavior change, and patient outcomes—come significant challenges.

Bringing Choosing Wisely into Focus

Breaking down each of these areas provides a better sense of the challenges and changes encountered throughout the campaign. Here, a closer look at the three broad areas and how the success of each is measured.

Raising Awareness. By far the easiest metrics to investigate are the various attitudinal measures, such as physician and patient awareness and satisfaction. ABIM surveyed physicians in 2014 to gauge their awareness of the campaign, their engagement with patients about appropriate testing, and their own test-ordering behaviors. Encouragingly, those physicians who reported having exposure to the Choosing Wisely campaign were significantly more likely to have reduced the amount of unnecessary care provided in the past year compared with those who had not heard of the campaign.

Behavior Change. While awareness is important, does it lead
to behavior change? Collecting ordering data for low-value tests is advantageous; however, this can be problematic in that tests deemed “low value” in some clinical circumstances may be considered high value in others. For instance, a red blood cell folate level done on the rare patient suspected of having a folate deficiency would be considered low value because simply treating with folic acid is a more cost-effective approach than blood testing. On the other hand, for patients exhibiting megaloblastic anemia, assessment of folate levels would be of high value in ruling out more serious conditions. However, such detailed clinical data may not be available in existing data sources such as administrative claims because information present in medical records is typically not captured well in claims. Patient registries—structured inventories of data on patients who have received a particular intervention—might serve to fill the evidence gaps.

Perhaps the primary challenge in evaluating success lies in developing clear definitions for utilization buzzwords such as “value.” A 2014 survey conducted by the ABIM Foundation and the health research firm AcademyHealth found a shortage of reliable, actionable, and accessible utilization data, and, what’s more, cited the development of clear definitions as a critical first step in finding meaningful ways to measure impact. The survey report pointed out that while “utilization” and “variation” are relatively straightforward terms, defining “appropriateness” with regard to patient care is much more challenging because it requires measuring harms and benefits for a given patient.

**Patient Outcomes.** Linking laboratory testing directly to patient outcomes to show clinical utility would provide by far the most meaningful data to evaluate utilization recommendations. However, across many disciplines there is only limited direct evidence that conducting a test results in improved outcomes. In essence, ABIM and its Choosing Wisely partners are trying to determine if the information provided by the test impacts a clinical decision and subsequent outcome compared to not having that information available.

However, to influence outcomes, a laboratory test must be appropriately interpreted to affect a decision for further diagnosis or treatment that results in changes in outcomes. Different clinicians may interpret and act on test results differently and unpredictably, confounding the evaluation of the impact of tests on patient outcomes. The number of variables at play, independent of the technical attributes of tests themselves, diminishes the likelihood of establishing a cause-and-effect relationship between a test and patient outcomes. Further complicating matters is the array of possible patient outcomes that could be measured, including various health outcomes (such as mortality, morbidity, symptoms, hospitalization) as well as patient-centered outcomes that assess quality of life, functioning, satisfaction surrounding care, and more.

**The Next Steps for Choosing Wisely**

As Choosing Wisely moves into its next phase, ABIM and its partners in the campaign are developing additional recommendations to complement the first set. These recommendations, too, will have their challenges—both those mentioned above as well as new ones that remain to be seen. Careful evaluation will provide Choosing Wisely the opportunity to better increase the likelihood of positive results for a higher quality of patient care, and better patient outcomes.

Ms. Bennett is Director, Center for Public Policy, at the American Society for Clinical Pathology.
ASCP 2014 Tampa Embraces the Future of Pathology and Laboratory Medicine

With an eye on the future of pathology and laboratory medicine, ASCP 2014 Tampa provided an unparalleled learning experience in a setting that sizzled with energy, excitement, and connectivity. “I was very impressed with the community feel of this year’s Annual Meeting,” said William G. Finn, MD, FASCP, who was installed as ASCP 2014-2015 President. “There was a lot of outreach and engagement. That is the benefit of a live meeting.”

Tiffany Channer, MPH, MLS(ASCP)CM, echoed that sentiment. “The ASCP 2014 Annual Meeting was amazing. Being among like-minded individuals who share a passion for laboratory medicine, patient care, and engaging future generations was a priceless experience. From the enlightening educational sessions to the social Mixology event, I am proud to be a part of this dynamic organization.”

This year’s Annual Meeting focused on the future. More than 1,500 pathologists, pathology residents, and laboratory professionals from around the world gathered to hear prominent thought leaders who underscored the crucial need to build a progressive medical laboratory workforce that will continue to lead in the evolving healthcare environment.

In a dynamic opening general session, “A Guide to the Future of Medicine—Bringing Disruptive Technologies to Life in Health Care,” medical futurist Bertalan Meskó, MD, PhD, charted a course for the expanding role that new technologies, such as big data, molecular diagnostics, and next-generation sequencing, will have in the delivery of quality patient care.

“It’s important to know that we can use disruptive technologies, such as genomics, and still retain the human touch. It can be a huge, yet exciting and challenging journey,” said Dr. Meskó, managing director and founder of Webicina.com, the first service to curate medical- and health-related social media resources free of charge for patients and medical professionals.
Maria Hintzke, MD, Resident Council Chair (left), presents the 2014 ASCP Resident Representative Leadership Award to Vaidehi Avadhani, MD.

Ashley Womer, a Tampa Bay Technical High School student, receives the Second Annual ASCP STEM Student Scholarship from outgoing ASCP President Steven Kroft, MD, FASCP. Ashley is interested in a career in forensic pathology.

From left: Jennifer Young, CT(ASCP)CM, ASCP Director of International Operations, Jingwen Zhang, MT(ASCP)CM, first KingMed, China ASCP certificant, Pat Ellinger, MSEd, MASCP, MLS(ASCP)CMSSBCM, recipient of the 2014 ASCP Member Excellence in Education Award, Changshun Yu, KingMed, China, and ASCP Chief Executive Officer E. Blair Holladay, PhD, SCT(ASCP)CM, gather in the Exhibit Hall during the Grand Opening Reception.

A choral group from Tampa Bay Technical High School perform before the opening general session. Award-winning country music star Wade Hayes performs during the opening day general session. His personal story of dealing with a Stage IV colon cancer and how the medical laboratory team was critical to his survival left the audience spellbound.

Zubair Baloch, MD, MASCP, Chair of the ASCP 2014 Annual Meeting Education Working Group, gives welcome comments.
Brenda Schreiber, Irina Luttinger, FACHE, MPH, MASCP, F(ASCP), and Lynnette Chakkaphak, MS, MT(ASCP), meet with Diana Mass, MA, MT(ASCP), during the Grand Opening Reception. Ms. Mass presented the Barbara M. Castleberry Lecture for Laboratory Professionals.

From left, Virginia LiVolsi, MD, MASCP, Barbara Pierce Bush, and Jennifer Hunt, MD, FASCP, all led an engaging discussion in a general session on leadership and mentoring.

Outgoing ASCP President Steven Kroft, MD, FASCP, right, passes the gavel to 2014-2015 ASCP President William G. Finn, MD, FASCP.

ONELab Travel Grant recipients Mon-Ning Vickie Fung, Guimin (Luke) Chang, PhD, CT(ASCP)MMI, Nancy Better, MT(ASCP), Roger Smith, HTL(ASCP)MMI, and Karleen Smith, MLS(ASCP)MMI, each received $1,000 grants to attend ASCP 2014. The grants are intended to help support laboratory professionals in expanding their scientific knowledge and advancing their careers.

ASCP Career Ambassadors, back row from left: Omkar Potnis, MLS(ASCP)MMI, Angela Deering, MLS(ASCP)MMI, Tiffany Channer, MPH, MLS(ASCP)MMI, and Kerwin Kolheffer, PA(ASCP)MMI.

Front row from left: Lolanya Snoddy, MLS(ASCP)MMI, and Niketa Vasani, MLS(ASCP)MMI.

All shared their passion for the medical laboratory with students from Tampa Bay Technical High School during Building the Laboratory Workforce of the Future Day.

Members of the ASCP Career Ambassadors program, sponsored by Roche, and students from Tampa Bay Technical High School took part in ASCP’s second annual Building the Laboratory Workforce of the Future Day during ASCP 2014 Tampa.
Sparking a Revolution

The field of diagnostic medicine will substantially change in the coming years. "We face a revolution in the way to diagnose and practice medicine, a revolution that we can either watch or create," Dr. E. Blair Holladay, ASCP CEO, told members during an opening-day general session. "At ASCP, we intend to create it through the critical involvement of our cherished members."

He described ASCP’s strategic focus on Health Sciences Research as a means to ensure that pathologists and laboratory scientists are the drivers of establishing evidenced-based healthcare solutions that improve patient care. The Annual Meeting featured several of these solutions in the form of educational scientific sessions. Through the support of industry leaders such as Merck, Astellas Scientific and Medical Affairs, Inc., and Genentech; Seattle Genetics; and Illumina, ASCP presented programs with cutting-edge content in new and emerging formats and provided opportunities for members to interact with their peers to share information and experiences.

A few examples of these independent educational grant-funded activities at ASCP 2014 Tampa included novel work on the diagnosis and management of non-small cell lung cancer and peripheral T-cell lymphoma, plus molecular pathology and diagnostics for community pathologists. This state-of-the-art approach to multidisciplinary education is positioning pathologists and medical laboratory professionals as the consultants on best practices and treatment.

Many attendees commented on the high quality of the education sessions. Pathology residents filled the room to hear Richard Mac DeMay, MD, FASCP, present a session on the building blocks of cytopathology. "He interjected humor and humility into his lecture, a remarkable feature for someone with an internationally renowned series of books under his belt," said Michael Markow, MD, a third-year resident at the University of South Florida.

Another session, on medical liver biopsy interpretation, was presented by Julia Iezzoni, MD, FASCP. Sandra Shin, MD, FASCP; and Timothy D’Alfonso, MD, drew a large audience for their session titled, “Pattern-based Approach to Needle Core Biopsy Diagnosis of Breast Lesions.” Big data was a hot topic covered in several sessions led by leaders of the Association for Pathology Informatics, including "Automating Anatomic Pathology," presented by Mark Tuthill, MD, FASCP, and "Telepathology Practice: Guidelines & Clinical Applications," presented by Liron Pantanowitz, MD, FASCP, and Anil Parwani, MD, FASCP. Richard Haspel, MD, PhD, FASCP, presented an interactive session for residents, “Training Residents in Genomics,” a National Institutes of Health-funded initiative in partnership with ASCP.

Reinforcing Patient-Centered Care

On the first day of the Annual Meeting, award-winning country music star Wade Hayes shared a deeply moving account of how he faced a diagnosis of Stage IV colon cancer and worked with his team of clinicians and pathologists to overcome it. His story had a profound effect upon the
audience, which sat in spellbound silence as Hayes reinforced the message that the laboratory team plays a critical role as advocates for patient care.

Hayes also performed at the Opening Evening Reception in the exhibition hall, where the energy among attendees and exhibitors was palpable and continued over the entire three days of the meeting. Exhibitors loved the expanded hours of the Science Connection Central hall, which gave them more time to interact with attendees.

Clinical integration is critical to improving the efficiency and value of care. Working cooperatively with other organizations, ASCP is advocating on behalf of members on key policy and regulatory issues such as reimbursement. The profound changes reverberating throughout the healthcare profession took center stage in an impressive series of education sessions that focused on lab/business management and professional development, put together by the American Pathology Foundation (APF), a collaborating partner with ASCP.

"Pathology and lab medicine touch so many patients in this country, many more than other healthcare providers stop to think about," said Jane Pine Wood, Esq., a renowned attorney specializing in regulatory and legal practices facing pathology. Ms. Wood served on a panel with Michael Talbert, MD, FASCP, "Evolving Pressures on Laboratories in 2014 and Beyond," moderated by Alfred Campbell, MD, FASCP, Immediate Past President of APF.

"If things are changing and we have a huge cut in pathology and laboratory services, everyone—hospitals, accountable care organizations, payers, and patients—has a vested interest in ensuring we truly make the best choices to include innovative tests," Ms. Wood said.

Mentoring the Next Generation

ASCP is committed to building the workforce of the future, and mentoring future leaders is a key component of its strategy. The final day of the Annual Meeting brought together three extraordinary women for an illuminating conversation during a general session titled "Leadership and Mentoring: Setting the Agenda for Current and Future Leaders." Virginia LiVolsi, MD, MASCP, a world-renowned thyroid pathologist at the University of Pennsylvania School of Medicine; Jennifer Hunt, MD, FASCP, a protégée of Dr. LiVolsi’s and Chair of the Department of Pathology and Laboratory Services in the College of Medicine at the University of Arkansas for Medical Sciences; and Barbara Pierce Bush, daughter of former President George W. Bush and founder of the Global Health Corps, all shared their personal experiences and talked about the critical importance of having mentors to assist the next generation with sharpening their individual leadership skills during a question-and-answer session with Dr. Holladay.

Ms. Bush talked about how one individual can make a difference in health care. She discussed her experience founding the Global Health Corps, an organization that places fellows around the world to deliver health solutions where quality health care is not available.

At the conclusion of the conversation, Dr. Holladay popped a surprise question to Ms. Bush when he asked her if there was a connection between skydiving and leadership. An image of her grandfather, former President George H.W. Bush, skydiving at age 90, appeared on the large screen near the stage, eliciting a grin from Ms. Bush, who emphasized that both endeavors require courage, setting a goal, and the ability to assess risk.

As the session drew to a close, Dr. Holladay presented Dr. LiVolsi with the inaugural 2014 ASCP Mentorship Award in recognition of her career-long commitment to mentoring pathology residents, many of whom, such as Dr. Hunt, have gone on to hold prestigious appointments in pathology across the nation. Mentoring younger colleagues is critical, Dr. LiVolsi said, because they are the “lifeblood of the future.”
ASCP Chief Executive Officer E. Blair Holladay, PhD, SCT(ASCP)CM, and 2014-2015 ASCP President William G. Finn, MD, FASCP, visit with CAP President-Elect Richard C Friedberg, MD, PhD, and CAP Chief Executive Officer Charles Roussel, during the President’s Reception.

Lic. TM Silvia Flores, Chair of the ASCP BOC Advisory Board in Peru, Diana Mass, MA, MT(ASCP), Jose C. Jara, MD, and Dr. Henry Alvarez, Chair of the ASCP BOC Advisory Board in Ecuador, at the President’s Reception.

Newly installed ASCP President William G. Finn, MD, FASCP, and his wife, Cynthia Boschman, MD, during the President’s Reception.

Outgoing ASCP President Steven Kroft, MD, FASCP, right, presents the President’s Award to Roger Bertholf, PhD, Editor in Chief of Lab Medicine.

Angela Papaleo, of the ASCP Membership Department, visits with Lauren Lippincott, DO, Ameet Thaker, MD, and Kun Jiang, MD, during the Residents Reception. In the background is Betty Chung, DO.

From left, Maryam Tahmasbi, MD PGY-4, Cassi Bittencourt, MD PGY-4, and Rania Shamash, MD, PGY-2, relax and enjoy the Mixology Reception.
**Building the Laboratory Pipeline**

ASCP has a major commitment to ensuring a sustainable, high-quality laboratory infrastructure for the future. The Annual Meeting culminated on Oct. 10 with ASCP's second annual “Building the Laboratory Workforce of the Future Day.” Students from Tampa Bay Technical High School took part in a full day of science experiments led by ASCP Career Ambassadors, an outreach program sponsored by Roche.

“Being a presenter at the Building the Laboratory Workforce For the Future Day event was a highlight of the Annual Meeting for me,” said Tiffany Channer, MPH, MLS(ASCP)CM, an ASCP Career Ambassador and Medical Laboratory Scientist II/Safety Officer at Memorial Sloan-Kettering Cancer Center, in New York City. She and fellow Career Ambassadors spent the final day of the Annual Meeting demonstrating interactive science experiments and sharing their passion for laboratory medicine with the students. “To see the light of comprehension reach each student when you taught them something new is unexplainable,” Ms. Channer said.

Outgoing ASCP President Steven Kroft, MD, FASCP, presented the Second Annual ASCP STEM Student Scholarship to Ashley Womer, a Tampa Bay Technical High School student who is interested in forensic pathology. He then announced that ASCP, in partnership with MakerBot Industries, which produces desktop 3-D printers and scanners, will donate a 3-D printer to Tampa Bay Technical High School for students to experiment with creating three-dimensional models to enhance their scientific learning and inquiry.

**What’s My Next?**

Expanding on ASCP’s existing outreach programs to build a future workforce pipeline, Dr. Holladay announced “What’s My Next?” an exciting initiative that ASCP is deploying to high schools nationwide to elevate awareness of careers in the medical laboratory field.

With Roche as the lead industry sponsor, What’s My Next? will showcase how lab careers are robust, in demand, interesting, and incredibly valuable. The campaign will connect with students on their level—using technology such as cell phones, iPads, laptops, and home computers.

What’s My Next? will feature an interactive educational tool, “lab hero challenges,” to show students how laboratory professionals are changing the world by understanding disease states. The campaign will also establish ASCP student clubs, provide teachers with curricula, and engage local resources to support them. In conjunction with ASCP 2015 Long Beach, ASCP will launch NextPo, bringing together talented students for engaging opportunities to learn more about the array of careers in the lab.

ASCP 2014 Tampa’s extraordinary education, sessions, activities, and focus on the future truly underscore the innovation and hard work of ASCP members. ASCP 2015 Long Beach will expand upon these initiatives and be even more exciting. If you missed ASCP 2014 Tampa, mark your calendar now for Oct. 28-30, 2015, and join us in Long Beach, Calif.

**Board of Certification Reaches Milestone**

The oldest and largest certification agency for laboratory professionals, the ASCP Board of Certification (BOC), reached a major milestone this summer when it certified Simeitsa Stamoulas, MLS (ASCP)CM, as its 500,000th medical laboratory professional. Certification through the ASCP BOC signifies the gold standard for professional competency of medical laboratory personnel around the world.

Ms. Stamoulas, who graduated from the University of Maryland, Baltimore, in May, is employed as a medical laboratory scientist at the University of Maryland Medical Center.

The first person in her family to graduate from college, she has a passion for community service. “Working as a medical laboratory scientist, I feel I am able to better assist my community in providing accurate results in a timely fashion. When I realized that behind every sample there is a person, it became more personal,” Ms. Stamoulas said.

While growing up, she said, her family instilled in her the importance of pursuing an education. Although she struggled with financial challenges, she was determined to obtain a bachelor’s degree. While attending the University of Maryland as a full-time student, she worked two part-time jobs at the Rehabilitation and Pain Management Center of Maryland as an office assistant and with the Department of Pathology as a laboratory research assistant.

“Eventually, I focused entirely on my studies to prepare for the ASCP BOC certification exam,” she said. "I locked myself in the school library study rooms with my notes spread out along the table with snacks to keep energized. After completing the exam, I was thrilled to learn that I had passed the ASCP exam. I knew it was well worth the struggle.”

The key to success, she said, is determination. “People don’t become laboratory scientists unless they believe and are determined to do so,” Ms. Stamoulas said. “Empathy is a key quality that medical laboratory professionals carry. One should have compassion in the work they do.”

She spends her free time volunteering at a local homeless shelter as well as assisting refugee families with learning English and becoming acclimated to living in the United States.
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