Effective Test Utilization: A Laboratory’s First Step in Contributing to the New Healthcare Model

Effective Test Utilization Eliminates Waste & Improves Patient Care

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# Table of Contents

Changing Healthcare Environment ............................................................................................................. 3  
The Laboratory in the New Environment .................................................................................................... 3  
Beginning Steps for Lab Contribution ......................................................................................................... 3  
Test Utilization: Room for Improvement ..................................................................................................... 4  
Metrics Necessary for Improvement ............................................................................................................ 4  
Wrongly Aligned Incentives ......................................................................................................................... 5  
How Providers Use Lab Testing ................................................................................................................... 5  
Overuse, Underuse, & Misuse ....................................................................................................................... 5  
Why Lab Tests are “Misordered” ................................................................................................................. 6  
Overutilization ............................................................................................................................................ 8  
Underutilization .......................................................................................................................................... 9  
Doctors Don’t Turn to the Lab for Guidance ............................................................................................... 9  
Influence of Test Menu Presentation ............................................................................................................ 9  
Start with a Utilization Review .................................................................................................................... 10  
Internal Variation Analysis ........................................................................................................................... 11  
Think Outside of the “Black Box” ................................................................................................................ 12  
Provide Data & Dialogue .............................................................................................................................. 12  
Successful Collaboration Saves Millions ...................................................................................................... 12  
Testing Formularies ..................................................................................................................................... 13  
Duplicate Testing Alerts ............................................................................................................................... 14  
Focus on Unnecessary Testing Groups ........................................................................................................ 14  
Testing Algorithms ..................................................................................................................................... 15  
Powerful & Flexible LIS Imperative ............................................................................................................. 16  
Enormous Opportunity to Make a Difference ............................................................................................. 16  
New Paradigm ............................................................................................................................................. 17  
About the Author ........................................................................................................................................ 18  
About Orchard ............................................................................................................................................ 18  
Notes .......................................................................................................................................................... 19
**Changing Healthcare Environment**

Although tremendous advances have been made in medical science and technology throughout the last decade, the healthcare delivery system in the U.S. has become increasingly fractured and incapable of providing consistent, high-quality care to all Americans. In March of 2001, the Institute of Medicine (IOM) published their report, *Crossing the Quality Chasm*, commenting that “Healthcare today harms too frequently and routinely fails to deliver its potential benefits. Between the healthcare we have and the care we could have lies not just a gap, but a chasm.”

In response, pursuit of value-based healthcare has now become the focus of U.S. health policy. As healthcare focuses on turning the current fee-for-service (FFS) reimbursement models into value-based models in an effort to repair the current “fractured” system, and in response to the Patient Protection and Affordable Care Act (PPACA), how can laboratories poise themselves to succeed and what processes can they put in place to support this transition?

**The Laboratory in the New Environment**

U.S. healthcare delivery and compensation systems are already in the midst of unprecedented change and it is clear that this trend will continue. What does not change is the fact that diagnostics will continue to be extremely important in the future of healthcare. The difference is that, on our current path, labs will eventually no longer be financially compensated for each test performed. Instead, healthcare organizations will be paid as a whole for keeping people healthy, for being effective in providing prompt and accurate diagnoses, and for proactively monitoring certain high-cost diseases. Rather than a focus on reimbursement per lab test, the lab’s future role lies in the support of a rapid, accurate diagnosis that becomes a part of the overall cost of doing business in healthcare. Therefore, if laboratories are no longer paid per test, but are a necessary function of getting proper and effective care, they must start thinking of how to perform tests as efficiently and effectively as possible. As we continue to make positive changes in our healthcare delivery system, one of the most effective ways to do this is by eliminating waste and making sure the right tests are ordered.

**Beginning Steps for Lab Contribution**

This paper identifies and discusses one of the most basic areas where the laboratory can contribute to cutting costs and eliminating waste. Currently, as healthcare is in a conversion period between FFS and outcome-based reimbursements, it is highly beneficial to monitor and manage laboratory test utilization. This starts with collecting and analyzing relevant laboratory utilization data. Equally important is the need to develop a mutually respectful relationship with ordering providers in order to work in partnership to develop an effective test utilization plan. From there, various tools are available (e.g., test formularies, test algorithms, CPOE setup, etc.) that laboratories can adopt in order to complete their test utilization plan. Because one of the initial needs is having your data stored in a discrete, mineable format that can be easily accessed for analytic purposes, it is also important to carefully consider and determine if your laboratory has an LIS that is capable of successfully supporting proper test utilization.
Test Utilization: Room for Improvement

Laboratory testing is healthcare’s single highest volume activity, with an estimated seven to 10 billion tests performed each year in the U.S.\textsuperscript{2} With the renewed Triple Aim focus in healthcare to simultaneously increase quality, lower costs, and improve the patient experience, there is an increasing awareness that errors in laboratory test selection and interpretation can have significant adverse consequences for patients, both clinically and financially. More testing does not equate to better testing (or appropriate testing). But in a service line that represents less than 3% of overall healthcare costs combined with a FFS reimbursement model, it seems harmless, even prudent, to order more tests, particularly when providers have legitimate concerns about malpractice litigation.

However, with an unsustainable FFS model and healthcare costs soaring up to nearly 18% of the U.S. GDP (see Figure 1), the changes taking place in healthcare are crucial in order to deal with the current healthcare crisis facing the U.S. Dealing with increasing rates of chronic diseases, such as obesity and diabetes, coinciding with an ongoing demographic shift of aging baby boomers, puts a drain on already stretched medical resources. As a country overall, we are sicker and live longer.\textsuperscript{3}

Metrics Necessary for Improvement

The PPACA has made this healthcare crisis a matter of national priority, adding coverage for all Americans into the pool of healthcare concerns. All of these changes point to the fact that our healthcare system must become more efficient and more affordable and the laboratory with its 10 billion tests is part of that equation. How can the laboratory with less than 3% of the healthcare bill make a difference in patient outcomes and simultaneously reduce costs? How can laboratories continue to do more with less? Perhaps the answer is not to continue to do more testing for less money, but to find ways that lab test results can impact overall organizational efficiency. An integral part of this is keeping a close watch on test utilization patterns and using that data to make improvements.

If good medical practice is the focus, then efforts to monitor and perfect test utilization will have longevity and will likely be successful in our changing healthcare environment. The overriding goal in regards to clinical testing is to do the right test on the right patient at the right time and to do it accurately while being cognizant of costs and resources. In today’s healthcare environment, this concept not only speaks to the importance of having a well-thought-out test utilization process, but is a laboratory’s formula for being a partner in a value-based or outcome-based ACO-type reimbursement environment.\textsuperscript{4}
Wrongly Aligned Incentives

Many experts point to the FFS model as the culprit for driving up healthcare costs and lowering the value of care. In this payment format there is an incentive for physicians to order more testing and provide more treatments because payment is dependent on the quantity of care rather than on the quality of care. Similarly, when patients are shielded from paying by health insurance coverage, or unaware of associated costs, they are incentivized to embrace any medical service that might help, regardless of its cost or value. FFS payments encourage wasteful use and do not support the alignment of financial incentives between different providers. As a result, patients may receive care that they do not need or want, resulting in increased premiums, deductibles, and cost-sharing for all healthcare consumers. Additionally, the FFS system does nothing to inspire patient involvement, patient education, or preventive care—areas that can improve patients’ health and reduce costs.

Moving away from FFS requires realigning the care delivery and payment incentives in our healthcare system and reimbursing based on the quality of care provided, not just the volume of services. A rational strategy for a value-based payment model needs an infrastructure capable of accountability, coordination, and timely, data-driven, self-evaluation. Accountable Care Organizations (ACOs) and Patient-Centered Medical Homes (PCMHs) are two examples, but there are other options that fit this model.

In our FFS world, laboratory processes are designed to provide accurate, timely test results to the ordering provider without questioning whether the tests are appropriate. The incentives in our current payment model are wrongly aligned to reinforce more testing—not proper testing. The change to value-based payments (or bundled payments) will obviously have an effect on utilization going forward; therefore, as this change takes place, laboratory experts can play a role by putting in supportive measures to promote better test utilization.

How Providers Use Lab Testing

It is a widely acknowledged fact that laboratory results represent a considerable portion of the objective data in medical records and that data makes a substantial contribution to critical care decisions. With this in mind, it becomes extremely important to have the appropriate tests ordered with accurate results to ensure proper downstream patient care. Providers use laboratory test results for screening, diagnosis, and disease monitoring; two-thirds of test results actually contribute to a change in diagnosis, therapy, prognosis, or the understanding of disease.

Overuse, Underuse, & Misuse

According to a well-published study performed at Beth Israel Deaconess Medical Center (BIDMC) in which they analyzed more than 1.6 million lab results for the most commonly ordered tests, nearly one-third of all laboratory testing is unnecessary. Concurrently, approximately the same number of tests that could potentially be useful are not being ordered.
The BIDMC study points out that lab tests are inexpensive in the overall picture of healthcare costs, so ordering a few more or less does not make a very big impact. However, what happens to the patient downstream based on those lab results (or lack thereof) can be extremely expensive (e.g., imaging, surgeries, hospital stays, etc.). The big take-home point is that it is not about ordering more or less tests, but about ordering the right tests, and in this area, there is much room for improvement.

**Why Lab Tests are “Misordered”**

There are a multitude of reasons why laboratory tests are “misordered” ranging from “that’s the way it’s always been done” to pressure from patients to order tests that may not be needed simply because they read about the test on the Internet. Moreover, providers are faced with concerns that if something is overlooked, it will result in malpractice litigation, or worse, patient harm. Past mindset has been to leave no stone unturned and physicians have been trained in this manner.

Even simple differences in personality and style can influence test ordering patterns. “Tolerance of uncertainty” is a trait that is thought to shape physician ordering habits and less ordering has been found among physicians with greater experience or training. Furthermore, the FFS structure makes it easy for providers to order more permissively, rather than restrictively, with the mindset of “why not?” rather than “why?” Often, at the time of the order, clinical knowledge is incomplete and the clinician may be considering multiple diagnoses. Rather than have the patient return for further testing after the results of initial tests are received, the clinician may be compelled to go ahead and order potentially unnecessary tests because it may be the only chance to get that information.

All incentives have been in the direction of more care, which easily leads to improper ordering and waste. Often a test that was ordered unnecessarily can point out an issue that is incidental rather than relative to the patient’s condition and this in turn can lead to more unnecessary invasive tests and procedures. This phenomenon occurs so widely that it has been termed an “incidentaloma.”

Initial laboratory and pathology results can help narrow the diagnostic choices for testing needs. But, if laboratories do not have a test utilization review process in place to help narrow down those testing choices, clinicians have no choice but to order excess testing.
Historically, laboratories usually do not provide guidance for the appropriate use of assays, but simply list the various tests available for the clinician to choose from. As new tests are added to menus, there is typically no effort to understand how these tests should be utilized in the context of other existing assays. Figure 2 outlines several more reasons that lab tests are “misordered.”

A recent survey from the Clinical Laboratory Integration into Healthcare Collaborative (CLIHC) group found that primary care physicians are uncertain about the appropriate test to order in 14.7% of diagnostic encounters and uncertain about correct interpretation of the test results in 8.3% of cases. “With more than 500 million primary care patient visits per year, this data indicates that approximately 23 million times a year primary care physicians are not certain about the best use of diagnostic tests.”
Overutilization

It is often assumed that overutilization involves too much repeated testing, particularly in a hospital setting that employs standing orders because inpatient standing orders are convenient, but are also known to lead to waste. However, the BIDMC study revealed that the main problem with over-ordering occurs at the time of the initial evaluation.\(^8\)

In another study undertaken by a group of neurosurgery residents at the University of California, San Francisco Medical Center, they proposed that a large majority of tests being ordered did not have a significant impact on patient care. The group demonstrated that reducing five common labs tests by nearly 50% had no effect on patient care or safety. They developed specific criteria patients needed to meet before the lab tests were ordered. They also monitored quality and safety, following general patient outcomes, including readmission rates, length of hospitalization, and length of time in the ICU.\(^16\)

They determined that “No clinical decisions were made based on those lab results, whether they were normal or not. The patient’s care would not have changed at all whether we had done that test or not.” At the study’s conclusion, they reported a $2 million savings, including $75,000 in direct costs for their medical center.\(^16\)

Cheryl Bettigole, MD, MPH, in a *New England Journal of Medicine* article entitled “The Thousand-Dollar Pap Smear,” points out that costly tests can be ordered simply by clicking a single box in the EHR. Nothing alerts the clinician or the patient to the high costs of the tests or to the fact that little medical evidence suggests that they are useful for most patients, making it seem harmless, even prudent, to order additional tests.\(^17\)

According to a 2012 report from the Institute of Medicine, in 2009 alone, $750 billion was spent in the U.S. on unnecessary healthcare services.\(^18\) *Unnecessary lab tests cost an average hospital $1.7 million a year.* In response, a “waste index” has been developed for hospitals to provide data they need to eliminate waste without compromising care. The waste index was developed by Premier Inc., a purchasing alliance among hospitals that focuses on quality improvement. The index was created to calculate the average savings that could be generated each year by a typical 200- to 300-bed hospital in each of 15 efficiency measures, including labor productivity, blood transfusion overuse, and unnecessary lab tests.\(^19\)
Underutilization

Ineffective management and reimbursement for chronic disease care is a continuing challenge for our healthcare system. *More than 70% of Medicare dollars are spent on only 14% of patients who have six or more chronic conditions, making this an area ripe for potential savings.*20, 21 One vital component of early chronic disease care that can save healthcare dollars is the increased utilization of diagnostic lab services. Clinical laboratory testing plays a pivotal role in identifying chronic conditions, accurately characterizing a particular disease and helping clinicians devise the most appropriate treatment plans. The value of laboratory services cannot be overstated; in fact, it has been estimated that up to 70% of clinical decisions are made based on lab results.2, 22

Alan Mertz, American Clinical Laboratory Association President, uses the examples of kidney disease and diabetes. According to the American Diabetes Association, healthcare costs for the Medicare population are expected to rise from $45 billion to $171 billion by 2034. The Congressional Diabetes Caucus reports Medicare beneficiaries with diabetes account for 32% of Medicare spending—nearly one-third of the program’s expenditures. Consider that the test for diabetes, the Hemoglobin A1c, costs only about $13.22

Doctors Don’t Turn to the Lab for Guidance

Healthcare providers are aware of the need for improvement in test orders and interpretation yet they do not typically turn towards the laboratory for that guidance. In fact, a CLIHC study, with the intent of looking into challenges physicians face in laboratory test ordering and interpretation, revealed that when searching for guidance, consulting a laboratory professional was the least popular approach.23 Only 35% of responding physicians indicated that it would be useful to ask a lab professional to help them with their questions regarding test interpretation, and only 6% responded that they were actually able to ask a laboratory leader for advice.23

Despite a clear need acknowledged by physicians for the expertise of laboratory leaders, many laboratory professionals hesitate to grasp this opportunity because it represents a complete change in the way things have previously been done.

Influence of Test Menu Presentation

Whether using Computerized Physician Order Entry (CPOE) or paper requisitions, there is clear evidence that the way in which test options are presented can have an influence on which tests are used and how many tests providers select. If nothing else, providers’ fast-paced, hectic schedules necessitate that decisions regarding test selection be made quickly. If it takes an inordinate amount of time to place the “best” order, but it is quick and easy to order a more costly panel that gets the job done, but may include some unnecessary items, often the less ideal order is placed. It becomes imperative to provide vital information that helps the provider make the best decisions at the point of order. Proper order entry pop-ups and online decision support tools are important in providing immediate guidance to the ordering physician and can have a positive influence on ordering patterns.
Victoria Shaffer, assistant professor of health sciences at the University of Missouri School of Health Professions, and colleagues studied the effects of test ordering configurations on physician ordering patterns. They found that when providers had to de-select predefined tests, more tests were ordered. However, using that opt-out method led to more clinically-relevant tests, but higher expenditure. Shaffer feels that software developers should work closely with clinical users to optimize the ordering process for CPOE. She feels that there is much room for improvement in this area that could correct lab test ordering and ensure that only the most appropriate lab tests are ordered while still being cost-conscious.²⁴

**Start with a Utilization Review**

The laboratory handles a tremendous amount of data. Turn that data into useful knowledge to identify utilization opportunities and monitor progress. In every aspect of laboratory operations, continuous quality improvement (CQI) is built into processes. Test utilization will also require CQI in order to achieve the greatest benefits. A test utilization process will need to be closely monitored with ongoing changes implemented as more data is gathered. Additionally, for a successful test utilization program, at least some of the providers must be engaged and take this just as seriously as the laboratory.

So, where do laboratories start? What questions should they ask themselves?

- Are you aware of unnecessary test requests or know of test utilization areas that can be improved upon?
- Do you have an LIS capable of providing the necessary tools to promote proper test utilization?
- What test utilization data are you able to collect? Is that data in a structured, useable format?
- Do you have provider support?
- At the time of the order, does the provider have algorithms and guidelines to use?
- Does your CPOE process include appropriate pop-up alerts, such as duplicate testing notification?
- Have you unbundled tests to provide the flexibility necessary for an effective test utilization strategy?
- Do you review requisitions/orders and standing orders, looking for redundancy and testing frequency?
- Do you have an annual review process for test volumes comparing year-to-year volume shifts?
- Do you have a test formulary or review process for sendout testing, keeping an eye on expensive, esoteric tests?
- Do you have a hold process to ensure proper specimen storage until an initial test is completed and a subsequent utilization decision is made?

![Figure 3: Test Utilization Basics](image-url)
Internal Variation Analysis

Crystal Run Healthcare, a multi-specialty group practice in Middletown, New York, and part of a Medicare Shared Savings Program ACO, closely examined their provider ordering patterns to achieve the cost savings and efficiency needed to survive in an accountable care environment. In collaboration with ordering providers, their laboratory analyzed provider variation data for specific diagnoses (see Figure 4). Using the data generated by the variation analysis, they were able to standardize care and reduce costs while still maintaining high levels of quality by comparing provider ordering patterns and their associated costs to actual patient outcomes. This led to the development and propagation of best-practice guidelines for common chronic diseases and preventive services.

After six months of following these best-practice guidelines for ordering lab tests on diabetic patients, Crystal Run saw a 9% reduction in the overall cost of care and a 15% reduction in lab costs. Dr. Scott Hines, Co-Chief Clinical Transformation Officer at Crystal Run, explains, “What we found is that by adopting and circulating best-practice standards, physicians ordered less tests while maintaining quality. Some physicians could even argue that quality was improved and cost was reduced. That’s the real bottom line to accountable care—best quality, best patient experience, and at the lowest possible costs.”

The beginning step, as illustrated in the Crystal Run example above, is to gather physician test utilization in comparison to other physicians for the same specialty and diagnosis, followed by analyzing this data by looking at the amount of variation associated with costs and outcomes. It is not meant to point out that any specific doctor is ordering incorrectly, but simply to reveal outliers that can be looked at as an area for potential cost savings. Once the analysis is performed and shared, providers and laboratorians can use published, recommended guidelines to establish and promote their internal best laboratory practice for each diagnosis. In the Crystal Run example above, they started with diabetes testing, referring to guidelines published by the American Diabetes Association, and plan to continue establishing internal best-practice guidelines for additional diagnoses, incorporating these into their CPOE process to make the recommendations clear to providers at the time of order.
Think Outside of the “Black Box”
Physicians interviewed in a CLIHC survey felt that when they consulted with a radiologist or pharmacist, they were speaking to a colleague; however, when consulting the laboratory, they felt like they were talking to a “black box.”

Is it feasible that laboratories can become more involved in the proper selection and interpretation of laboratory tests, and by doing so, gain the respect of the clinicians? By thinking carefully about your test menu and the needs of your providers and patient population, using a test utilization process can help improve the value of the laboratory’s input in patient care. One could surmise that, in part, it is the laboratory’s responsibility to make sure that the physician gets the best lab data and knows what to do with it. But this will require a new way of thinking.

Provide Data & Dialogue
Collaboration with clinicians will be instrumental in any test utilization process. There must be opportunities for dialogue between the laboratory and the providers, including ongoing meetings that allow time for a test utilization discussion. Utilization reports presented to the physicians should be integrated, clear, and answer appropriate questions.

Because we are currently still in a FFS environment, until significant volumes switch to value-based payments, be prepared to answer financial questions that arise about the financial impact of implementing a test utilization process, or using an algorithm. Most importantly, do you have a physician champion who will be able to lead the talk about utilization issues?

Successful Collaboration Saves Millions
At the 2013 Lab Quality Confab, Leo Serrano, FACHE, DLM (ASCP), from Broward Health in Fort Lauderdale, Florida, shared how their laboratory has successfully saved over $870,000 (annualized) by monitoring test utilization. They put in place a combination of CPOE, test formularies, and testing algorithms. While making the point that this effort was physician-driven, Leo also points out that collaboration between lab employees and physicians is vital. At Broward, because clinicians have more and more competition for their time, they welcome assistance from the lab to guide them through the maze of lab testing options. Broward Health’s success story is one of cost savings, teamwork, increased efficiency, and support for better patient care.
Testing Formularies
Through the use of a laboratory formulary, laboratory professionals and pathologists can play the role of gatekeeper and thereby manage their test menu appropriately, contributing their expertise to help advise who can order tests and when. A formulary can be used to identify tests that require laboratory intervention and review.

Clearly laboratories need to get in the habit of retiring obsolete tests that no longer have clinical value (e.g., bleeding times, band counts, erythrocyte sedimentation rates, etc.) and offer replacement options of greater value. Another important factor is performing a utilization review process for sendout tests; the price tag can be quite significant when complex molecular and genetic tests are ordered. Some practices have restricted ordering expensive sendout tests to certain specialists or have established medical criteria necessary for ordering particular tests, resulting in physician ordering tiers based on seniority or scope of practice.

A formulary includes monitoring for tests that are ordered too frequently, especially in the instance of hospitalized patients. In an environment where multiple physicians are treating a patient, the same tests may be inadvertently ordered by more than one physician, or standing orders may exist for tests that should only be ordered once during a hospital stay. Laboratory professionals can be involved in the creation and review of admission and treatment templates, looking for redundancies in testing, and help to determine appropriate frequencies for certain tests.4

Laboratory professionals and pathologists who position themselves as utilization experts can improve the quality and efficiency of patient care. To a certain extent, they are following the model that pharmacists created in years past working with their physician colleagues to form pharmacy committees.27
Duplicate Testing Alerts
At the University of Mississippi Medical Center, in order to reduce unnecessary testing, Brad Brimhall, MD, PhD, and team implemented a duplicate testing alert in the EHR. Initially they monitored Basic Metabolic Panels and CBCs with the alert set to pop-up when the same tests were ordered within a four-hour window. The pop-up notified the ordering provider of the duplicate situation and asked if he or she would like to continue the order. By implementing this one change, and providing this information to the provider at the time of order, for only two tests, they were able to save an annualized total of $146,675.28.

Focus on Unnecessary Testing Groups
Think about and discuss with your ordering clinicians scenarios where it does not make clinical sense to order two specific tests together—either because you do not know if you need one until you get the results of the initial test (e.g., TSH and FT4, GGT and ALKP), or because one test has greater diagnostic accuracy than the other but habitually they are ordered together (e.g., Amylase and Lipase, ESR and CRP, CKMB and Troponin), or testing is only recommended for specific diagnoses (e.g., 1,25-Dihydroxy vitamin D for renal failure patients). Figure 6 lists the examples.28

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**REFLEX OPPORTUNITIES**
- TSH to FT4
- ALKP to GGT

**GREATER DIAGNOSTIC ACCURACY**
- Lipase vs. Amylase
- CRP vs. ESR
- Troponin vs. CKMB

**RECOMMENDED FOR SPECIFIC DIAGNOSES**
- 1,25 Dihydroxy vitamin D (renal failure)
- Fe Sat (iron overload)
- Ferritin (iron deficiency)

Figure 6: Unnecessary Test Groups
Testing Algorithms

Proper implementation of testing algorithms that cascade through a logical testing sequence based on initial results, developed in tandem with ordering physicians, can eliminate providers having to choose from an overwhelming menu of hundreds of available tests. These algorithms can be instrumental in making sure that only the appropriate tests are ordered.4

Laboratory-driven algorithms, i.e., where clinicians order a testing cascade and initial laboratory results drive subsequent test selection, allow the laboratory to handle the entire cascade or algorithm process with no further input from the provider. See example Algorithm for Thyroid Testing in Figure 7.

Michael Laposata, MD, PhD, is outspoken in his support of testing algorithms and instrumental in their development and implementation at Vanderbilt University and Massachusetts General Hospital (MGH). The MGH clinical laboratory uses more than 100 reflex test algorithms in all areas of laboratory medicine. Typically the cascades are locally generated and then approved by the MGH medical policy committee, and then quickly implemented with new proposals being presented each year.13

So, what tools do laboratories need in place to implement testing algorithms and where are these algorithms housed?
Powerful & Flexible LIS Imperative
In order to efficiently track test utilization by provider or by diagnosis, and to configure automatic electronic reflex testing and algorithms, a robust LIS is a crucial tool that laboratorians can use to support their test utilization process. Even more advantageous is developing a partnership with a forward-thinking, flexible LIS company able to quickly maneuver through the onslaught of continuing healthcare changes impacting the laboratory. Although some data can and will be generated from the EHR, the rules-based decision-support technology that enables reflex cascades has to take place at the laboratory workflow level within the LIS.

Rules-based decision support embedded in laboratory software can facilitate reflex testing and algorithms, allowing the reflexes to proceed seamlessly without further intervention. And essential provider utilization data can be presented in an easy-to-interpret format. By combining the rules technology and data analytic capabilities of a strong LIS, laboratories have a tremendous support tool and can take test utilization to the next level.

Enormous Opportunity to Make a Difference
Now is the time to make changes that can make a difference—a difference in the laboratory and a difference in patient care. Presently, because of the disruption taking place in our healthcare system, there is an enormous opportunity for clinical laboratory leaders to regroup and refocus their efforts on how the laboratory can best serve physicians and patients under the new healthcare models.

In addition to finding specific tests with rapid TAT that can alleviate downstream costs (e.g., imaging, length of stay, etc.), the successful execution of a well-thought-out test utilization process can have a definitive positive impact on patient care and on improving the healthcare of our future.
New Paradigm

In order to make long-standing improvements in healthcare, it becomes imperative that our processes utilize each member of the healthcare team to the top of their ability. For the laboratory, this will necessitate thinking differently about our overall roles in patient care. Laboratory professionals have focused on (and been proud of) providing high-quality, cost-effective care to the provider and for the patients—this has been the long-standing role of the lab.

However, this paradigm needs to change. The laboratory needs to step outside of its “black box” and find new ways to support the healthcare innovations being developed in order to make the most of limited resources. Curtis A. Hanson, MD, hematopathologist at Mayo Clinic, points out that the new laboratory paradigm will require laboratories to “provide utilization management, clinical effectiveness, and data integration as part of their expected performance.” Begin thinking about the laboratory’s place in this new paradigm and apply these components to bring even greater value from the laboratory to the overall organization and to the patients.

“Because laboratory tests play such a crucial and ubiquitous role in medicine, efforts to identify opportunities for improvement in the selection of tests have the potential to contribute greatly to the care patients receive.”

William Taylor, MD
Clinician in BIDMC’s Division of General Medicine and Primary Care

About the Author

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About Orchard Software

Orchard Software, headquartered in Carmel, Indiana, and founded in 1993, is a leader in the laboratory information systems industry. Orchard installed its first Laboratory Information System in Indianapolis, Indiana, in 1993. Since that first installation, more than 1,300 laboratories across the country have partnered with Orchard Software—including all types and sizes of multi-site and multi-specialty clinics and physician office laboratories, hospitals, regional reference labs, fertility clinics, veterinary labs, university student health services, and public health organizations. Orchard offers a variety of lab system solutions to handle each laboratory’s unique testing, workflow, and business situation. For more than twenty years, laboratories across the country have turned to Orchard to help them improve efficiency, reduce errors, and enhance integration.

For more information about Orchard Software or to provide feedback regarding this white paper, email news@orchardsoft.com or call us at (800) 856-1948.
Notes

10. Laposata, Michael MD, PhD. “Putting the Patient First – Using the Expertise of Laboratory Professionals to Produce Rapid and Accurate Diagnoses.” *Lab Medicine.* Winter 2014 Volume 45, Number 1. Accessed at: labmed.ascpjournals.org/content/45/1/4.extract


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