Laboratory Test Utilization Management
General Principles and Applications in Hematopathology

Kaaren K. Reichard, MD*, Adam J. Wood, DO

KEYWORDS

• Test utilization • Clinical value • Guidelines • Algorithms • Infrastructure • Multidisciplinary • Intervention • Strategy

ABSTRACT

As the cost of health care continues to rise and reimbursement rates decrease, there is a growing demand and need to cut overall costs, enhance quality of services, and maintain as a top priority the needs and safety of the patient. In this article, we provide an introduction to test utilization and outline a general approach to creating an efficient, cost-effective test utilization strategy. We also present and discuss 2 test utilization algorithms that are evidence-based and may be of clinical utility as we move toward the future of doing the necessary tests at the right time.

Key Features

- Test utilization is a strategy for performing appropriate laboratory and pathology testing with the goal of providing high-quality, cost-effective patient care.
- Test utilization is important for good patient care and good medical practice, and there is an economic demand for it.
- Test utilization is a complex issue: a good approach is likely multifaceted with a multidisciplinary effort.
- Pathologists should assume a leadership role in test utilization given their training experience in laboratory testing, and administrative and managerial skills.

OVERVIEW

The explosive growth of medical knowledge, imaging and technologies, access to medical care, and laboratory tests has led to a vast array of diverse information for medical practitioners to know and manage. As a result, practitioners may have difficulty efficiently navigating the enormous assortment of testing options thereby leading to medical testing overuse, misuse, and/or underuse.[1,2] Adding further to any potential confusion about which test(s) is/are the right one(s) to order, is that laboratories often set up tests without much help or guidance provided to the ordering individual as to which tests provide what information regarding a certain disease process. From a laboratory perspective, an opportunity therefore exists to collaborate with our clinical colleagues and share our collective expertise with regard to which tests might not be necessary and which tests might be necessary.[3]

There are 2 fundamental components that underlie a laboratory test utilization management

Disclosure: The authors do not have any commercial or financial conflicts of interest as well as any funding sources.

Division of Hematopathology, Department of Laboratory Medicine and Pathology, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905, USA

* Corresponding author. Division of Hematopathology, Department of Laboratory Medicine and Pathology, Mayo Clinic, 200 First Street Southwest, Hilton 8-00C, Rochester, MN 55905.

E-mail address: reichard.kaaren@mayo.edu

Surgical Pathology 9 (2016) 1–10

http://dx.doi.org/10.1016/j.path.2015.10.002

1875-9181/16/$ – see front matter

program: founding principles and an implementation strategy. A high-level overview of test utilization principles and strategies for implementation comprises the first half of this article. The second half provides 2 evidence-based, data-driven examples of test utilization practice in the discipline of hematopathology.

TEST UTILIZATION MANAGEMENT PRINCIPLES

Test utilization management principles are key and vital components of the current and future success of the practice of medicine. Three basic principles supporting a test utilization approach include good patient care, sound medical practice, and economic demand. Importantly, these principles resonate not only with 1 or 2 medical specialties but rather with and influence all clinical medicine disciplines (**Box 1**).

Good patient care is an essential tenet of an optimal test utilization practice. The needs of each individual patient come first, and as good stewards of health care, all those involved in health care delivery aim to "above all, do no harm." From the perspective of the laboratory, we aim to do the right test, at the right time, for the right patient and obtain the right result.[4] By embracing and adhering to this principle, one reduces unnecessary testing and saves time. Additionally, potential pitfalls of equivocal or false-positive results that could result in unnecessary additional tests or incorrect patient management are avoided.

There are many factors that constitute sound medical practice, including physician and other health care worker competency, practicing with standard-of-care principles and knowledge, working honestly and with integrity, and respecting all individuals involved in medical care. The test utilization component of good medical practice comes from the perspective of practicing competently and using diagnostic testing modalities correctly and judiciously. Laboratory professionals take pride in knowing the value they provide by performing and accurately reporting the right tests for each individual patient. It has been stated that more than 50% of medical decisions are made based on laboratory results; thus, it is imperative that the right tests are being performed and that the unnecessary tests are not.[5,6]

Box 1
Three key factors that support the importance of test utilization

1. Good patient care
2. Sound medical practice
3. Economic demand

With the continued economic challenges in health care, decreasing reimbursements, and limited resources, a test utilization strategy, as part of overall patient care management, is not just a reality but a necessity. Every year the annual cost of health care in the United States continues to increase. This is due, in part, to the increased cost of laboratory testing in general, but unnecessary, overused, and duplicative testing are also significant contributing factors.[1,6–9] Thus, there is a growing economic need for reforming current test ordering/utilization practices and embracing a test utilization management plan. As overall reimbursement rates continue to drop and the fee-for-service payment model shifts to a bundled payment model, any testing that is performed will be a cost to the laboratory. Therefore, bundled tests with increased operating costs may not be financially sustainable. As such, these options will force the laboratory to move to a cost-cutting/saving test utilization model so as to perform as efficiently and effectively as possible.[4] A targeted testing approach for each patient/disease entity will result in decreased, out-of-pocket expenses for the patient whose testing charges are not covered by a health insurance company, and decreased costs and improved efficiency for the laboratory.

STRATEGY FOR TEST UTILIZATION MANAGEMENT IMPLEMENTATION

A test utilization management system has value for patients, physicians, and health care overall, but implementation can be challenging and time-consuming. A successful strategy includes a multipronged approach, including support from the institution, identification and inclusion of the key stakeholders (eg, institutional leadership, clinicians, health care workers, managers, laboratorians, and pathologists), a careful and methodical approach, a data-driven process, and a recurring review process to ensure continued current medical applicability and appropriate updating.[1,3,9,10] **Box 2** outlines key components that could underlie one approach toward developing a test utilization implementation strategy.

To begin the work toward successful implementation of a laboratory test utilization management program, it is critical that there is full support by institutional leadership and an adequate organizational infrastructure. Senior administration and institutional/hospital leaders provide the highest level of oversight for the strategic planning and