Clinica Chimica Acta 427 (2014) 118–122

Contents lists available at ScienceDirect

Clinica Chimica Acta

journal homepage: www.elsevier.com/locate/clinchim

Management structure: Establishing a laboratory utilization program and tools for utilization management

Christine Snozek, Erin Kaleta, James S. Hernandez *

Department of Laboratory Medicine and Pathology, Mayo Clinic Arizona, 13400 E Shea Boulevard, Scottsdale, AZ 85259, United States

ARTICLE INFO

Article history:
Received 10 August 2013
Accepted 20 September 2013
Available online 27 September 2013

Keywords:
Utilization management
Overuse, misuse and underuse of laboratory testing
Effectiveness
Efficiency

ABSTRACT

As laboratories are challenged to do more with fewer resources, the pathologist and laboratory director will play a greater role in improving the effectiveness of the laboratory, as well as addressing the overuse, misuse and underuse of laboratory testing. We describe the necessary characteristics for pathologists and laboratory directors to successfully lead utilization efforts, as well as key leadership tools and essential steps in creating a utilization management program. When we established a laboratory test utilization program de novo, it became clear how important the laboratory director was in guiding those initiatives by working with stakeholders outside of the laboratory, particularly clinicians, nurses and administrators.

1. Rationale for establishing a utilization management program

In the past laboratories were rewarded for performing more tests and charging for higher test volumes that resulted in greater revenue. This is typically called practicing to volume. Given recent economic concerns and debate over healthcare spending, laboratories are increasingly tasked with providing more services with the same or less revenue. This shift in focus from performing many tests to performing only the necessary tests has been termed practicing to value. Utilization programs are a growing part of shifting the culture of laboratory medicine from practicing to volume, to practicing to value.

There are several key concepts related to any discussion of laboratory utilization. The United States Congressional Budget Office [1] defines the following:

Overuse. Overuse occurs when a service is provided even though its risk of harm exceeds its likely benefit—that is, when it is not warranted on medical grounds.
Underuse. At the same time that some services are overused, others do not get provided even though they would have been medically beneficial.
Misuse. That term includes incorrect diagnoses as well as medical errors and other sources of avoidable complications.
Utilization management. Utilization management (UM) represents a broad array of techniques designed to influence the consumption of health care services, usually with the objective of promoting cost containment [2].
Efficiency and effectiveness. "In the management literature, efficiency is often associated with performing activities as well as possible or 'doing things right' whereas effectiveness is often equated with the proper selection of the activities or 'doing the right things'" [3].

Essentially, the goal of a laboratory utilization program is to employ UM techniques to curb use of tests and laboratory products (e.g., blood products) that are over-utilized, increase use of tests and products that are under-utilized, and correct misuse of tests and products that are ordered incorrectly, at the wrong time, on the wrong patient, or at the wrong frequency. There are few guidelines in the literature on establishing successful laboratory test utilization programs other than descriptions of local or regional efforts in both community hospitals and academic medical centers, based primarily on perceived overuse (over-utilization) [4,5]. However, underuse and misuse are also important aspects to consider when evaluating test utilization.

In the United States, hospitals are capitated for each Diagnosis Related Group (DRG). In addition, with the passage of the Patient Protection and Affordable Care Act (so-called "Obamacare") [6], there are concerted efforts to have laboratory directors move the laboratories from being revenue centers to being cost centers. In essence, hospitals are reimbursed a set amount for the care of each patient according to the DRG, regardless of the volume or intensity of services provided. This is meant to force not only efficiency, but also effectiveness, by limiting reimbursement for healthcare expenditures. Lab tests for hospitalized inpatients are included in the DRG. Since this is a capitated patient population, it should be evident to the ordering providers that the more is spent on laboratory tests, the less is available for other services under the DRG system.

* Corresponding author. Tel.: +1 480 301 8606; fax: +1 480 301 8372.
E-mail address: hernandez.james@mayo.edu (J.S. Hernandez).

0009-8981/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.cca.2013.09.026

However, in many areas, efforts to limit excessive testing for inpatients are relatively new and fairly basic. Evidence for this is provided by the lists of "Things Physicians and Patients Should Question" published as part of the American Board of Internal Medicine's Choosing Wisely initiative [7]. Of note, the Society of Hospital Medicine (SHM) published 5 recommendations, two of which pertain to laboratory utilization: "Avoid transfusions of red blood cells for arbitrary hemoglobin or hematocrit thresholds and in the absence of symptoms of active coronary disease, heart failure or stroke", and "Don't perform repetitive CBC and chemistry testing in the face of clinical and lab stability". To most individuals in the laboratory these points are common sense, yet the SHM felt they warranted specific recommendations to hospital providers. Obviously, there is a gap between the laboratory and the clinical practice; effective utilization programs must overcome this breach to improve patient care.

Fortunately, UM efforts are not completely foreign to labs. Blood banks have been monitoring blood product usage for decades. Lately, some institutions have created electronic approaches to verify whether patients meet specific criteria for various blood products, or to restrict higher cost blood products, requiring explicit approval from the laboratory director or transfusion medicine physician before dispensing [8]. Additionally, there are numerous examples published for monitoring send-out practices, particularly costly testing panels. Ordering of these panels can be streamlined into algorithm-based ordering practices, where reflexive testing is dependent on results from first tiered tests, in an effort to reduce ordering redundant or superfluous tests [9]. The challenge is to extend these initial efforts into more widespread UM of laboratory services.

Utilization programs could exist in many areas, including tests performed in the clinical laboratory, products ordered from the blood bank, or molecular characterization of anatomic specimens. For simplicity, this article will refer to "laboratory test utilization" to encompass all aspects of testing or products typically managed by departments of laboratory medicine and pathology. Similarly, the terms pathologist and lab director will be used interchangeably to refer to the individual with scientific and clinical oversight of the test utilization program, regardless of degree or field of expertise.

2. Characteristics of the pathologist or lab director responsible for test utilization

Laboratory testing UM is still in its infancy in the United States. However, there are some common elements in the utilization programs that have shown success. One of those elements is full engagement by a knowledgeable laboratory medical director [4]. Successfully steering a test utilization program requires a pathologist or lab director to demonstrate strong scientific, communication, and leadership skills. The individual should have sufficient knowledge of the specific areas included in the utilization program to make critical judgments — it may be difficult for an anatomic pathologist to weigh the necessity of an esoteric coagulation test, for example, or for a blood banker to assess proper utilization of a chemistry panel. The utilization program director must be a subject matter expert in the clinical laboratory, and capable of calling on experts in those areas in which he or she has less knowledge. To serve effectively, the pathologist or lab director must be respected by and have credibility with the laboratory, the clinical practice and the administration.

Credibility is essential for the director's role in change management. UM programs always include an element of change; the most successful programs are those which move the culture of test ordering to one of optimizing clinical practice rather than simply limiting choices. The pathologist must have a good understanding that effective test utilization makes the local healthcare system stronger and improves patient care. He or she must also be able to communicate this concept clearly, and to work with physician leaders, residents, fellows, nursing, and administration to build the local infrastructure and methodology to optimize test utilization.

Communication goes both directions: the pathologist or director must be willing to listen to the medical staff, who often feel that they have valid reasons for ordering a test the laboratory considers outdated or over-utilized. Listening does not imply that the providers' concerns will trump the laboratory's rationale for change. Instead, bidirectional communications are meant to establish a collegial atmosphere for discussing data and practice needs. These face to face discussions can also guide the pathologist in an important aspect of change management, namely knowing when and how far to push necessary changes. If providers are adamantly opposed to altering a particular practice, it may be wiser to first gain credibility by shifting focus to a less objectionable area of utilization, then revisiting the controversial topic at a later date. The director must work to establish trust.

The pathologist must be able to use both intrinsic and extrinsic motivators to change provider behaviors regarding test utilization. Extrinsic motivators include the ability to use data from the local system to provide credible, practice-specific feedback to ordering providers. De-identified, provider-specific utilization data enables each clinician to examine his or her own ordering patterns compared to peers and to self-adjust accordingly. Intrinsic motivators include providing persistent and persuasive guidance that gradually results in providers striving to order the right tests for the right indications at the right frequency. This guidance leads to a culture of regularly including test utilization considerations as part of optimal patient care.

3. Steps for establishing a test utilization program

3.1. Recognize the need

Moving from the subjective desire to establish a utilization program to an objective reality requires data. The data acquired to support the need for UM will likely steer the format and targets of the program, and can often be used to gain clinical and administrative acceptance, as well as justify funding and resources. A laboratory can compare its institution's ordering patterns against other medical centers, through literature review, personal communication with colleagues, or benchmarking test utilization patterns with a multi-site data source such as the University HealthSystem Consortium. As an alternate or complement to this, a laboratory can compare against itself over time to assess trends in ordering patterns. Possible metrics range from the generic, e.g., number of tests per inpatient discharge or outpatient encounter, to the specific, e.g., charges for genetic tests sent to reference laboratories, volumes of particular tests suspected to be over-utilized, and number of tests per patient with a given diagnosis.

3.2. Prioritize initial goals

Common goals for UM include cutting laboratory costs, improving laboratory efficiency, increasing payer reimbursement, refining provider ordering patterns, or reducing unnecessary testing. These objectives are often inter-related: for example, eliminating orders for an outdated test can save the lab reagent costs and technologist time. However, the relative importance of each goal will likely not be the same for different members of the project team. The discussion of priorities is important for the formation of the test utilization project; ultimately, it may be the responsibility of the pathologist or lab director to define the primary purposes of the utilization program. It is important to recognize that the goals of a UM program will likely evolve over the life of the project based on factors such as experience and provider feedback, but the initial objectives should be clearly stated as they will steer the program's structure and early targets.

3.3. Choose framework

The structure of a laboratory utilization program can vary around a large number of parameters. For example: should it evaluate ordering