Ensuring Correct Interpretation of Diagnostic Test Results

Today, physicians order a wide array of diagnostic laboratory and imaging tests for their patients, including genetic evaluations. To make sense of the growing number of diagnostic testing opportunities, one might expect that physicians, in turn, have grown in their ability to accurately interpret test results.

The Research Letter by Manrai and colleagues finds this not to be the case. They replicated a classic study and found that only 23% of physicians and physicians-in-training correctly answered a single question testing their interpretation of a diagnostic test result. While this study was limited to a convenience sample from a single academic teaching hospital, it is not too far out on a limb to suggest that today’s physicians need to be better prepared to interpret diagnostic test results, including stronger training in statistics and clinical epidemiology.

In addition, this study reminds us that disease prevalence matters for testing, as does test accuracy (both sensitivity and specificity). However, these important pieces of information are matters for testing, as does test accuracy (both sensitivity and specificity). However, these important pieces of information are more easily and readily available.

In the meantime, before ordering any test, we must ask ourselves if it is even necessary. Assuming there are efficacious treatments for the disease being tested, what are our thresholds for “ruling out” disease on the low end and “ruling in” disease on the high end of probability, and then, what is the pretest probability of the disease? If your pretest probability falls between those thresholds, is the test accurate enough that a positive or negative test finding will result in a posttest probability that crosses these thresholds? If the test result is not going to change your clinical management, there is no reason for the patient to undergo testing in the first place.

The persistent inability of physicians to reliably manage this cognitive exercise implies that our educational programs need to do a better job at teaching numeracy skills. Because imprecise diagnostic decision making is leading to excessive testing, patient harm, and excessively costly care, we must raise the bar and master these cognitive skills.

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Characteristics of Medical Professional Liability Claims Against Internists

Medical professional liability (MPL) claims are a major concern for interns and may influence clinical practice. Greater awareness of the details and outcomes of these lawsuits, including claims paid, may inform clinical decisions and risk management. Accordingly, we examined a unique registry of nearly 250,000 closed cases to better characterize the medical liability landscape.

Methods | All data presented in this report were collected by the PIAA (formerly the Physician Insurers Association of America), a trade association that represents domestic and international medical professional liability insurance companies. The Data Sharing Project is a data registry of MPL claim information that is voluntarily submitted to the PIAA by its member companies. The PIAA member companies process an estimated 28,000 closed claims per year, representing 62.2% of the 45,000 estimated annual MPL claims brought yearly.

Per the PIAA, alleged departures from the appropriate standard of care are defined as medical misadventures and divided into 18 categories. These may be errors or omissions of diagnosis, treatment, procedure performance, supervision, or timeliness that cause putative injury to patients. One category, “no medical misadventure,” involves cases in which the primary cause of the lawsuit may include legal or documentation issues such as failure to obtain informed consent or equipment failure. Claims are attributed to the specialty of the primary defendant and limited to internal medicine physicians and their subspecialties; of note, claims attributed to cardiologists and gastroenterologists were not available since procedure-based clinical specialties are placed in different risk groupings within the data registry. Institutional review board approval was not needed for this study.

Results | From 1985 through 2009, of the 247,073 closed lawsuits reported to the PIAA, 33,747 (13.7%) were attributed to internal medicine physicians; 8,461 (25.1%) resulted in claims paid. The most common medical misadventure causes for claims appear in the Table, including errors in diagnosis (8,925 [26.4%]), which involves alleged errors in diagnosing lung cancer, acute myocardial infarction, colon cancer, and breast cancer; no misadventure (8,858 [25.4%]); improper performance of a procedure (3,730 [11.1%]); and medication errors (2,865 [8.5%]).