Look Again—What Do You Really See?

Useful Tips for Avoiding Misdiagnosis

AND

Compliance, Quality, and MPL—The Intersection
Minimizing Diagnostic Error: 10 Things You Could Do Tomorrow

Lists for physicians, patients, and healthcare organizations

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Diagnostic error gets short shrift

In a recent article, I and two of my colleagues noted the dearth of attention paid to delayed, missed, and incorrect diagnosis: “Diagnosis apparently gets overlooked in most efforts to ensure quality and safety.” Tellingly, in the 1998 Institute of Medicine report, To Err Is Human, the term “medication error” was mentioned 70 times, while “diagnostic error” appeared only twice. Yet, in 2002 Lucien Leape et al. estimated from autopsy data that diagnostic errors were responsible for some 40,000 to 80,000 deaths every year. More recently, estimates of the diagnostic error rate in ambulatory practice suggest that one out of every 1,000 diagnostic encounters results in harm from a diagnostic error. Applying these figures to the average-sized hospital suggests that diagnostic error will harm one patient every day in ambulatory care, and be responsible for five to ten patient deaths per year.

Despite these figures, and the voluminous data on the promi-
nence of diagnostic error in medical professional liability (MPL) claims, physicians seem somehow to think that such errors are in fact the problem for the other fellow, physicians less careful or less well trained. How can we explain this yawning discrepancy between the estimated rate of diagnostic error (10% of diagnoses are wrong, according to best estimates), and the physician’s perception that the quality of their care is excellent? First, the vast majority of diagnostic errors, fortunately for all concerned, don’t result in harm. The error is inconsequential, or is caught, or harm is mitigated. Secondly, diagnosis plays out over time and over different healthcare settings. A diagnostic error might not be appreciated until later on, further on down the line. Third, the culture of medicine is such that physicians are reluctant to notify upstream colleagues that the diagnosis changed. And finally, the odds of a truly catastrophic outcome are rare—using the figures provided above, the average busy physician might be involved in just one or two cases of fatal error over a lifetime of practice, and may never learn about these cases even if they occur.

Let’s also acknowledge that physicians actually do a remarkable job with diagnosis, given the fact that there are more than 10,000 diseases, and that the presentations of these diseases are typically nonspecific.

Solid numbers on prevalence
Determining the actual incidence of diagnostic error has proved to be a daunting task. And yet this information is essential for any studies that seek to understand it. The current estimates of the diagnostic error rate derive from several different types of research approaches, each with its advantages and its corresponding limitations as well.3

Data from autopsies are considered the “gold standard”; they furnish precise information on the discrepancy between inpatient diagnosis and postmortem findings. However, autopsies are increasingly rare in the U.S. Other researchers have used surveys, of both patients and doctors, to elicit information on errors in diagnosis. Roughly half of physicians, in such surveys, have said that they encounter diagnostic errors nearly once a month. The use of standardized patients—real or simulated patients assuming the classical symptoms of diseases commonly encountered—makes it possible, because so many elements are controlled, for researchers to delve into the cognitive and other factors that may hinder the process of achieving a correct diagnosis. Diagnostic error rates in such studies are in the range of 10% – 15%.

Data from closed claims are important resources for learning about misdiagnosis. PIAA’s Data Sharing Project (DSP) currently holds more than 260,000 claims, and problems related to diagnostic error are the most common...
allegation cited in lawsuits, just as in every other large medical professional liability claims database in the U.S. In these claims, both the final diagnosis and the diagnosis made by the treating physician are explicitly identified. (See page 24 for more detailed information about what is revealed via the DSP, in regard to diagnostic error.)

Some promising new approaches to measuring the incidence of diagnostic error include "trigger tools" (EHRs provide alerts on cases at high risk of diagnostic error) and asking physicians and patients to report any errors they see, voluntarily.², ⁴

When do errors occur?
In one such study, researchers investigated 190 unique instances of diagnostic errors that were picked up via two trigger queries: one linked with a hospital stay that happened within 14 days after a primary care visit, and the other specifying an emergency department, urgent care, or second primary care visit, again 14 days or less after the original visit.² Most of the diagnoses missed were of common conditions, like asthma, pneumonia, and anemia. Several other studies have confirmed this finding—it’s not rare diseases causing most problems, it’s the common ones.¹ Of particular interest are the chief presenting symptoms implicated in cases of diagnostic error, and again it’s the common complaints that top the list: cough, abdominal pain, shortness of breath, and back and chest pain. The authors comment that of the conditions linked with diagnostic errors, “these conditions were highly variable and sometimes did not bear any obvious direct relationship to the condition that was missed.” Notably, the cases of diagnostic error in MPL claim series involve missed or delayed diagnosis of cancer or cardiovascular conditions.

Most diagnostic errors involve a breakdown in the sequential diagnostic processes involving a patient and the physician. In the series just quoted by Singh et al., errors were linked with taking a patient history (56.3%), examination (47.4%), and/or the ordering of tests for making a diagnosis. Similar findings are reported by Gordon Schiff and colleagues.⁴ Using a different analytical framework, in the cases I’ve studied, the “synthesis” phase of diagnosis seemed to be the most problematic, putting all the information together to arrive at the most likely diagnosis.⁷

Cognitive and system errors
The various errors in cognitive thinking that may arise in the process of diagnosis have been fairly well studied by now. Hindsight bias was the subject of a recent article in Inside Medical Liability (Dr. Pierre Campbell, “I Knew It All Along,” Third Quarter 2013, page 46). Along with framing effects, context errors, and premature closure, this is one of the common cognitive shortcomings that can lead to diagnostic error. There is obviously much work left to be done in figuring out the mental habits, possible prejudices, predilections, and processes involved in the clinical reasoning process. System-related flaws are equally likely to contribute to diagnostic error. The leading factors in this category include suboptimal communication or care coordination, access issues (including access to appropriate expertise on a timely basis), trainee supervision, and a host of “human factor” issues that detract from diagnosis: time pressures, excess workload, distractions, clumsy EMRs, etc.

What can be done?
Although a host of interventions have been proposed that might improve diagnostic reliability, research in this area is just beginning. Promising approaches include better use of electronic medical records and diagnosis-related decision support systems, reflective practice, and taking advantage of second opinions. Patients can also play an important role in improving diagnostic reliability, and should be encouraged to play an active role in this process. Finally, our healthcare practices and organizations set the stage that influences our ability to diagnose reliably. Suggestions for each of these parties are included the following page.
DIAGNOSTIC ERRORS

Steps physicians can take to avoid diagnostic errors

1. Be reflective. Take a diagnostic “time out.”
2. Listen, really listen, to your patients and their caregivers.
3. Learn the causes of cognitive error and how to avoid pitfalls.
4. Don’t trust your intuition. Always construct a differential diagnosis.
5. Take advantage of second opinions.
6. Use diagnosis-specific decision support resources: DXplain, Isabel, VisualDx, checklists.
7. Make the patient your partner in diagnosis: Ensure they know how to get back to you if symptoms change or persist.
8. Ensure all ordered diagnostic tests and consults are completed and that you know the results.
9. Designate a surrogate to review test results if you aplan to be away.
10. Speak directly with the staff providing you with diagnostic test results: radiologists, pathologists, clinical pathologists. If you aren’t sure of the most appropriate diagnostic strategy, ask, or use online test-ordering advice.
11. Empower your colleagues to let you know if they become aware that a diagnosis you made has changed.

Steps healthcare organizations can take to avoid diagnostic errors

1. Identify diagnostic errors: follow up with patients recently seen in the ER. Encourage inpatient attendings to report errors.
2. Provide clinicians with diagnosis-specific decision-support tools: DXplain, Isabel, VisualDx, Up-to-Date.
3. Identify physician volunteers interested in providing second opinions and advertise their services to patients and their physician peers.
4. Ensure there is radiology coverage on WHEN tours to read stat films.
5. Close the loop on diagnostic test results. Send results to patients. Monitor how many critical test results are acted upon within 30 days.
6. Ensure that providers on vacation have designated a surrogate to review test results.
7. Encourage accurate problem lists, and a differential diagnosis.
8. Establish ways for providers to receive feedback on their diagnoses.
9. Encourage autopsies or virtopsy.
10. Ensure senior clinicians review all new cases with trainees in real time.
11. Encourage and facilitate communication between frontline clinicians and physician staff in radiology and the clinical laboratory.
12. Use root cause analysis to identify remediable system-related contributions to diagnostic error; host “Morbidity and Mortality” conferences with staff to review these cases.
13. Empower nurses to become involved in improving diagnosis. Monitor for new or resolving symptoms, ensure tests get done, facilitate communication between patients and providers.
14. Empower patients to be proactive in their care, to take advantage of second opinions, and to provide feedback on diagnostic errors.

Steps patients can take to avoid diagnostic errors

1. Be a good historian. Keep records of your symptoms, when they started, and how they have responded (or not) to treatment.
2. Take advantage of cancer screening.
3. Make sure you know your test results and keep accurate records of these results. Don’t assume no news is good news. Follow up if you don’t receive copies or the results of tests and consults.
4. SPEAK UP! Ask:
   a. What else could it be?
   b. What should I expect?
   c. When and how should I follow up if symptoms persist or worsen?
   d. What resources can I use to learn more?
   e. Is this test worthwhile? Can we wait? (More testing does not always mean better care!)
5. Don’t assume the healthcare system will adequately coordinate your care. Keep your own records, and help coordinate your own care.
6. Provide feedback about diagnostic errors to providers and organizations.
7. Understand that diagnosis always involves some element of uncertainty.
8. Get a second opinion regarding serious diagnoses or unresolved symptoms.
9. Take advantage of help and support: Support groups, patient safety staff, patient advocates.
10. Empower your colleagues to let you know if they become aware that a diagnosis you made has changed.

References


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