



## FORUM SESSION

# Diagnostic Errors: A Threat to Health and Impediment to Health Reform

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Physicians and other clinicians sometimes make errors in diagnosing medical conditions. A heartburn diagnosis that turns out to be a heart attack. Or an overlooked lab value that would have instantly refuted an initial diagnosis and led to a different course of treatment. Diagnostic error<sup>1</sup> is not a trivial problem. Researchers estimate that between 5 and 15 percent of health care encounters involve an error in which the diagnosis is missed, delayed, or wrong.<sup>2</sup> After reviewing the evidence, the Institute of Medicine (IOM) recently concluded that “most people will experience at least one diagnostic error in their lifetime, sometimes with devastating consequences,”<sup>3</sup> which can include debilitating illness or injury, or even death.

Fortunately, most diagnostic errors do not result in lasting physical harm to the patient. Errors usually are caught quickly, conditions resolve on their own, or the patient is merely inconvenienced. But even these outcomes can be costly to patients and insurers if unnecessary tests are performed, for example, or more costly treatments are required because of a delay in diagnosis.<sup>4</sup>

Where does getting the diagnosis right fit in policy efforts to increase value in health care? While accurate diagnoses are critical for protecting patients’ health, they also help ensure that resources are used appropriately. Value-based purchasing approaches assume that things that detract from value, like diagnostic errors, can be readily measured and taken into account in evaluating performance. But as the IOM notes, there is no agreement on what constitutes an error, hard data are scarce, and valid measurement approaches are lacking. In an Urban Institute brief, Dr. Berenson and colleagues note that virtually none of the

major national initiatives to improve patient safety or implement value-based purchasing focus on improving the accuracy and timeliness of diagnosis, which could be a missed opportunity to fill in knowledge gaps.<sup>5</sup> Some experts believe that this failure to consider diagnostic errors in the development of health reform policies, such as standards for health information technology or new payment methods, may actually impede more effective, error-free care.

## UNDERSTANDING CAUSES

Why do diagnostic errors occur? According to the IOM, errors stem from: inadequate communication and collaboration among clinicians, patients, and family members; poorly designed work systems; limited feedback to clinicians about their performance as diagnosticians; and cultural norms that discourage transparency and the disclosure of errors. Moreover, there is little attempt to learn from errors and improve diagnosis.<sup>6</sup>

Dr. Berenson and colleagues distinguish between the causes of wrong diagnoses and delayed diagnoses. The former are attributed to cognitive mistakes and biases in which clinicians fail to consider other possible diagnoses (differential diagnosis). Examples of biases that can affect clinical decision making include choosing a diagnosis that readily comes to mind (availability bias); focusing solely on information presented in the first encounter to the exclusion of data that emerge later (anchoring bias); and looking for evidence that supports an initial diagnosis rather than searching for evidence that refutes it (confirmation bias).<sup>7</sup> Delayed diagnoses stem from system-based errors that include “dropping the ball” in taking a patient’s history, reviewing previous notes, following up on test results, etc. So-called “no fault” errors, such as those that involve uncommon or rare diseases, account for only about 10 percent of diagnostic errors.<sup>8</sup>

## IMPROVING DIAGNOSIS

The IOM identified a number of broad areas where steps could be taken to improve diagnosis and reduce the incidence of errors. These include:

- facilitating more effective teamwork in the diagnostic process among health care professionals, patients, and their families;

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- improving education and training in the diagnostic process for health care professionals;
- ensuring that health information technology supports patients and clinicians in the diagnostic process;
- developing and using approaches to identify, learn from, and reduce diagnostic errors in clinical practice;
- establishing a work system and culture that supports the diagnostic process and improvements in performance;
- developing a reporting environment and medical liability system that facilitates improved diagnosis;
- designing a payment and care delivery environment that supports the diagnostic process; and
- providing dedicated funding for research on the diagnostic process and diagnostic errors.<sup>9</sup>

In their brief, Dr. Berenson and colleagues lay out a similar set of policy initiatives, including enhanced research, adding to Medicare's conditions of participation for hospitals; extension of initiatives such as the Partnership for Patients to focus on diagnostic errors; promoting systematic feedback from patients and peer physicians; medical malpractice reform; improved technology and electronic health records; payment reform; and medical education. The Society to Improve Diagnosis in Medicine has also focused on Medicare's conditions of participation, advocating to include "structural elements and performance measurement of certain processes related to diagnosis errors."<sup>10</sup>

## SESSION

In this session, three members of the IOM panel on improving diagnosis—**Anupam B. Jena, MD, PhD**, associate professor of health care policy at Harvard Medical School; **Mark Graber, MD**, president of the Society to Improve Diagnosis in Medicine, senior fellow at RTI International, and professor emeritus, State University of New York, Stony Brook; and **Robert Berenson, MD**, institute fellow at the Urban Institute—offered their perspectives on the costs, causes, and consequences of diagnostic errors and what might be done to improve diagnosis. Drawing on an article<sup>11</sup> he

and colleagues published in the *New England Journal of Medicine* in December, Dr. Jena focused on why policymakers should be concerned about diagnostic errors. Dr. Graber reviewed the types of diagnostic errors, their causes, and the broad areas where the IOM made recommendations. Dr. Berenson served as a discussant, focusing on what policymakers might do to promote more accurate, timely diagnoses, particularly in the absence of diagnosis-related performance measures.

## ENDNOTES

1. The Institute of Medicine's 2015 report *Improving Diagnosis in Health Care* defines diagnostic error as "the failure to (a) establish an accurate and timely explanation of the patient's health problems(s) or (b) communicate that explanation to the patient." Institute of Medicine (IOM), *Improving Diagnosis in Health Care*, National Academies Press, National Academies of Science, Engineering, and Medicine, 2015 p. 4, <http://iom.nationalacademies.org/Reports/2015/Improving-Diagnosis-in-Healthcare.aspx>.
2. IOM, *Improving Diagnosis in Health Care*, p. 1.
3. IOM, *Improving Diagnosis in Health Care*, p. 1.
4. Dhruv Khullar, Ashish K. Jha, and Anupam B. Jena, "Reducing Diagnostic Errors—Why Now?" *New England Journal of Medicine*, 373, no. 26 (December 24, 2015): p. 2492, [www.nejm.org/doi/pdf/10.1056/NEJMp1508044](http://www.nejm.org/doi/pdf/10.1056/NEJMp1508044).
5. Robert A. Berenson, Divvy K. Upadhyay, Deborah R. Kaye, "Placing Diagnosis Errors on the Policy Agenda," Urban Institute, Brief, April 2014, p. 1, [www.urban.org/research/publication/placing-diagnosis-errors-policy-agenda](http://www.urban.org/research/publication/placing-diagnosis-errors-policy-agenda).
6. IOM, *Improving Diagnosis in Health Care*, p. 2.
7. See Berenson, Upadhyay, and Kaye, "Placing Diagnosis Errors on the Policy Agenda," p. 6, for more examples of biases.
8. Berenson, Upadhyay, and Kaye, "Placing Diagnosis Errors on the Policy Agenda," p. 5.
9. IOM, *Improving Diagnosis in Health Care*, pp. 8–18.
10. Berenson, Upadhyay, and Kaye, "Placing Diagnosis Errors on the Policy Agenda," p. 10.
11. Khullar, Jha, and Jena, "Reducing Diagnostic Errors—Why Now?"