IOM's Urgent Call to Reduce Diagnosis Errors

BY PEGGY EASTMAN

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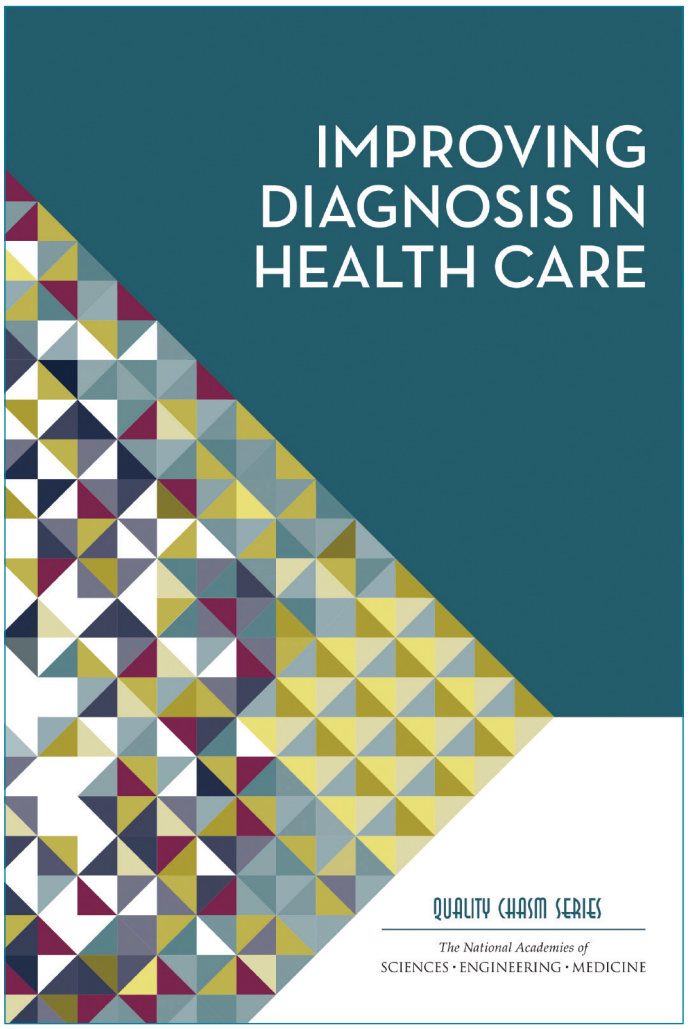
WASHINGTON—Diagnostic errors are pervasive, and without concerted efforts they will get worse as U.S. health care delivery becomes more complex, according to a new report from the Institute of Medicine (IOM) of the National Academies of Science, Engineering and Medicine.

"Diagnosis sets the stage for subsequent decisions around the care of the patient," said IOM President Victor J. Dzau, MD, speaking at a news briefing on the grounds of the National Academy of Sciences here. He said the comprehensive new report shows that diagnostic errors persist in all settings of health care, and "this cannot and must not continue."

The report notes that diagnostic errors may cause adverse effects on patients by preventing or delaying appropriate treatment, providing unnecessary or harmful treatment, or resulting in psychological or financial hardships. In some cases, a wrong or delayed diagnosis can result in death.

Dzau praised the report, noting that it comes out 15 years after the influential "To Err Is Human: Building a Safer Health System" IOM report, which estimated the number of U.S. deaths due to medical error at 100,000 a year. That report was "a wakeup call" for health care professionals, he said. Regarding the "Improving Diagnosis in Health Care" report, "this is now a second wakeup call in my mind."

The document, which has 10 sponsors, give eight specific recommendations to reduce medical errors (*see box*), including facilitating better teamwork in the diagnostic process among health care professionals, patients, and families, and ensuring that health information technologies (HIT) support a high-quality diagnostic process.



Defined

The committee that wrote the report defined diagnostic error as "the failure to establish an accurate and timely explanation of the patient's health problem(s); or communicate that explanation to the patient."

Errors occur because of:

- Lack of professional and patient communication;
- Lack of needed support and coordination in the health system;
- Limited feedback to clinicians about diagnostic performance; and
- A culture that discourages transparency and reporting of errors.

The report recommends a robust process of voluntary, not mandatory, reporting of diagnostic errors to increase transparency, foster a learning health care system; and establish better data on the magnitude of the problem.

Conclusions

While data on diagnostic errors are sparse, the committee concluded that:

- Most people will experience at least one diagnostic error during their lifetime;
- Conservatively, five percent of U.S. adults who seek outpatient care each year experience a diagnostic error;
- Postmortem examination research spanning decades has shown that diagnostic errors have contributed to about 10 percent of patient deaths;
- Medical record reviews suggest that diagnostic errors account for six to 17 percent of hospital adverse events; and
- Diagnostic errors are the leading type of paid medical malpractice claims, are almost twice as likely to have resulted in the patient's death compared with other claims, and represent the highest proportion of total payments for malpractice claims.

"Diagnostic error is a quality-of-care issue," said John R. Ball, MD, JD, Chair of the report committee and Executive Vice President Emeritus of the American College of Physicians. "Diagnosis is not a simple linear process; it is complex," added Ball, a former senior policy analyst in the Office of Science and Technology Policy, Executive Office of the President.

Ball emphasized that diagnostic error is "a significant but underappreciated health care challenge," that patients themselves are central to the solution, and that diagnosis should be a collaborative effort. Today, he noted, the field of pathology, for example, is moving toward providing clinical support rather than just giving the answer to a particular diagnostic test. Indeed, he said, with the explosion of diagnostic tests, no single physician could ever decide alone which of them to use.

Declining Use of Autopsies

Ball decried the fact that autopsies have fallen off in the past 20 years, since they can reveal postmortem data about correct diagnoses. Health information technology (HIT), while it can be a boon, "is often a barrier to correct diagnosis in its current form," cautioned Ball, former CEO of Pennsylvania Hospital as well as the American Society for Clinical Pathology.

He said the IOM committee heard a lot about HIT, including the fact that it supports medical billing far more than it supports the diagnostic process. (The committee recommends that diverse health IT vendors meet interoperability standards by 2018.)

Praise for the IOM Report from ASCO

The American Society of Clinical Oncology praised the new IOM report for drawing attention to important issues that affect oncologists: "We are particularly encouraged by IOM's recommendation to require health IT vendors, by 2018, to meet standards for interoperability among different health IT systems so that effective, efficient, and structured flow of patient information across care settings can

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be supported," ASCO Chief Medical Officer Richard L. Schilsky, MD, said in a statement.

"Cancer treatment is a complex undertaking that requires coordination of care and the exchange of detailed clinical information among multiple health care providers using different health information systems. Widespread interoperability for sharing electronic information is essential for optimal cancer care," he said. "ASCO recently called on Congress to ensure the interoperability of electronic health records and to prevent the practice of information blocking."

Schilsky also praised the IOM report's emphasis on teamwork and collaboration with pathologists and radiologists; on stressing partnerships between physicians and patients; and on reimbursing physicians adequately for their collaborative efforts.

'A Systems Problem'

In today's health care environment, "Diagnosis is a team process," agreed IOM committee member George E. Thibault, MD, President of the Josiah Macy Jr. Foundation, Federman Professor Emeritus at Harvard Medical School, and former Vice President of Clinical Affairs at Partners Healthcare System in Boston. "Diagnostic errors can be and should be thought of as a systems problem."

Therefore, he said, interdisciplinary education is an essential part of the education of health professionals.

Asked by *OT* if President Obama's Precision Medicine Initiative, announced earlier this year, will likely improve the accuracy of medical diagnosis, Thibault said that improved testing will certainly improve diagnosis, but that it will also make the process of diagnosis more complex.

"There may be only one person in a hospital who understands a test; that's why we have to work as a team." No single physician can possibly know about all the molecular tests available, Thibault emphasized. "Also, many of the things we're faced with clinically are not understood at the molecular level."

"Physicians need to be open to feedback from their colleagues," said another speaker, Christine K. Cassel, MD, President and CEO of the National Quality Forum, Adjunct Professor and Senior Fellow in the Department of Medical Ethics and Health Policy at the University of Pennsylvania School of Medicine, and former President and CEO of the American Board of Internal Medicine.

She noted that it should become second nature for a physician to pick up the phone and call another physician to share the knowledge that a patient has X diagnosis, not Y. Open-mindedness to hearing from other members of the health care team should be the norm, Cassel stressed.

An Example of Why Errors Matter

The IOM report includes an example of a patient who died because of a diagnostic error, the case of a man named Pat, who presented with neck pain, who had a mass on his cervical spine. The mass was removed by a neurosurgeon, who sent a tissue sample to a hospital pathologist while the operation was in progress. The pathologist reported back that it was an atypical spindle cell neoplasm. Assuming this meant a benign mass, the surgical team completed the operation and declared the patient cured.

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> —John R. Ball, MD, JD, Report Committee Chair

But the pathologist did more tissue tests and determined that the mass was actually a malignant synovial cell sarcoma. Unfortunately, when this report was sent to the neurosurgeon 21 days after the surgery, it was somehow lost, misplaced, or filed without the neurosurgeon seeing it; neither Pat nor his referring clinician knew the mass was malignant. Following recurrence, Pat had another operation six months later. He ultimately had seven more surgeries, as well as chemotherapy and radiation. He died after two years of treatment at age 45, leaving a four-year-old daughter and six-year-old son.

8 Recommendations

The IOM report makes the following eight recommendations:

1 Facilitate more effective teamwork in the diagnostic process among health care professionals, patients, and their families, including ensuring patient access to electronic health records and patient review of records for accuracy;

2 Enhance health care professional education and training in the diagnostic process, including competency standards set by certification and accreditation organizations;

3 Ensure that health information technologies (HIT) support health care professionals and patients in the diagnostic process, including a requirement on the part of the Office of the National Coordinator for Health Information Technology that all HIT vendors meet standards of interoperability by 2018;

4 Develop and deploy approaches to identify, learn from, and reduce diagnostic errors and near misses in clinical practice, including monitoring the diagnostic process and providing feedback to health professionals;

5 Establish a work system and culture that support the diagnostic process and improvements in diagnostic performance, including promoting a non-punitive culture that values open discussion and feedback on diagnostic performance;

6 Develop a voluntary reporting environment and medical liability system that facilitates improved diagnosis through learning from diagnostic errors and near misses—The Agency for Healthcare Research and Quality, one of the new IOM report's sponsors, should evaluate the effectiveness of patient safety organizations as a major mechanism for voluntary reporting and learning from these events;

7 Design a payment and care delivery environment that supports the diagnostic process, including providing reimbursement for time spent by pathologists, radiologists, and other clinicians in advising ordering physicians on the selection, use, and interpretation of diagnostic testing for specific patients; and

8 Provide dedicated funding for research on the diagnotic process and diagnostic errors, including requiring federal agencies to develop a coordinated research agenda on the diagnostic process and diagnostic errors by the end of 2016.