

The Biggest Mistake Doctors Make

Misdiagnoses are harmful and costly. But they're often preventable.

By A U R A L A N D R O

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A patient with abdominal pain dies from a ruptured appendix after a doctor fails to do a complete physical exam. A biopsy comes back positive for prostate cancer, but no one follows up when the lab result gets misplaced. A child's fever and rash are diagnosed as a viral illness, but they turn out to be a much more serious case of bacterial meningitis.

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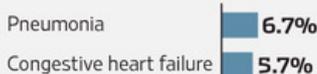
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John Kuczala

What They Miss

In a 2013 study of 190 primary-care cases, physicians missed 68 diagnoses, with these representing the biggest share of errors



Such devastating errors lead to permanent damage or death for as many as 160,000 patients each year, according to researchers at Johns Hopkins University. Not only are diagnostic problems more common than other medical mistakes—and more likely to harm patients—but they're also the leading cause of malpractice claims, accounting for 35% of nearly \$39 billion in payouts in the U.S. from 1986 to 2010, measured in 2011 dollars, according to Johns Hopkins.

The good news is that diagnostic errors are more likely to be preventable than other medical mistakes. And now health-care providers are turning to a number of innovative strategies to fix the complex web of errors, biases and oversights that stymie the quest for the right diagnosis.

Part of the solution is automation—using computers to sift through medical records to look for potential bad calls, or to prompt doctors to follow up on red-flag test results. Another component is devices and tests that help doctors identify diseases and conditions more accurately, and online services that give doctors suggestions when they aren't sure what they're dealing with.

Finally, there's a push to change the very culture of medicine. Doctors are being trained not to latch onto one diagnosis and stick with it no matter what. Instead, they're being taught to keep an open mind when confronted with conflicting evidence and opinion.

"Diagnostic error is probably the biggest patient-safety issue we face in health care, and it is finally getting on the radar of the patient quality and safety movement," says Mark Graber, a longtime Veterans Administration physician and a fellow at the nonprofit research group RTI International.

Big Efforts Under Way

The effort will get a big boost under the new health-care law, which requires multiple providers to coordinate care—and help prevent key information like test results from slipping through the cracks and make sure that patients follow through with referrals to specialists.

There are other large-scale efforts in the works. The Institute of Medicine, a federal advisory body, has agreed to undertake a \$1 million study of the impact of diagnostic errors on health care in the U.S.

In addition, the Society to Improve Diagnosis in Medicine, which Dr. Graber founded two years ago, is working with health-care accreditation groups and safety organizations to develop methods to identify and measure diagnostic errors, which often aren't revealed unless there is a lawsuit. In addition, it's developing a medical-school curriculum to help trainees improve diagnostic skills and assess their competency.

Robert Wachter, associate chairman of the department of medicine at the University of California, San Francisco, says defining and measuring diagnostic errors is an important step. "Right now, none of the incentives for improvement in health care are based on whether the doctor made the correct diagnosis," Dr. Wachter says. But equally important, he adds, "we need to nurture bottom-up innovation."

That's already happening. Large health-care systems are mining their electronic records for missed signals. At the Southern California Permanente Medical Group, part of managed-care giant Kaiser Permanente, a "Safety Net" program periodically surveys its database of 3.6 million members to catch lab results and other data that might fall through the cracks.

millimeters beneath the surface to gauge the level of "disorganization," an indicator of irregular growth patterns that are a sign of melanoma, among the deadliest cancers.

New York dermatologist Macrene Alexiades-Armenakas says she uses MelaFind to confirm that a mole is to be removed and prioritize the level of disorganization in multiple abnormal moles. In some cases, when another doctor or the patient has been concerned about a mole, MelaFind supported "clinical diagnosis of a benign mole, thereby sparing them a biopsy," she says.

But such devices will never replace a thorough physical exam with a trained eye and careful follow-up, says Dr. Alexiades-Armenakas: "These diagnostic tools are aids to increase our accuracy and adjuncts to good physical diagnosis, not a substitute."

Some efforts to cut down on errors take a different route altogether—and try to improve diagnoses by improving communication.

For instance, there's a push to get patients more engaged in the diagnostic process, by encouraging them to speak up about their symptoms and ask the doctor, "What else could this be?" At Kaiser Permanente, a pilot program provides patients with a pamphlet that encourages them to think about and write down their symptoms and what concerns or fears they have, encouraging them to ask specific questions to be sure they understand their diagnosis and the next steps they must take.

Medical schools, meanwhile, are teaching doctors to be more receptive to patient input and avoid "anchoring," the habit of focusing on one diagnosis and excluding other possible scenarios, and "premature closure," not even considering the correct diagnosis as a possibility.

The Critical Thinking program at Dalhousie University in Halifax, Nova Scotia, established last year, aims to help trainees step back and examine how biases may affect their thinking. Developed by Pat Croskerry, a physician known for his research on the role of cognitive error in diagnosis, it uses a list of 50 different types of bias that may lead to diagnostic error.

The program is being integrated throughout four years of the medical school. Students study cases such as a psychiatric patient with shortness of breath who was assumed to be merely having an anxiety attack; doctors overlooked that she was a smoker on birth-control pills, a risk for the blood clot that later traveled to her lung and killed her.

"If we can teach physicians how to think more critically," Dr. Croskerry says, "they would be more effective in delivering good care and arriving at the right diagnosis."

Ms. Landro is an assistant managing editor for The Wall Street Journal and writes the paper's Informed Patient column. She can be reached at laura.landro@wsj.com.

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