

Diagnostic Errors: The New Focus of Patient Safety Experts

JAMA commentary highlights problem, suggests solutions to reduce the number of diagnoses that are missed, wrong or delayed

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Johns Hopkins patient safety experts say it's high time for diagnostic errors to get the same attention from medical institutions and caregivers as drug-prescribing errors, wrong-site surgeries and hospital-acquired infections. Diagnostic misadventures represent a potentially much larger source of preventable health problems and deaths than many of the more popular targets of safety reform, they say in a commentary in the March 11 issue of the *Journal of the American Medical Association*.

In the article, David Newman-Toker, M.D., Ph.D., and Peter Pronovost, M.D., Ph.D., report that misdiagnosis accounts for an estimated 40,000 to 80,000 hospital deaths per year and that tort claims for diagnostic errors — defined as diagnoses that are missed, wrong or delayed — are nearly twice as common as claims for medication errors.

Typically, they note, diagnostic errors were thought to originate with individual doctors lacking the training or skill they should have, but blaming physicians hasn't produced many solutions. As with successful approaches to reducing treatment errors, they point out that reducing diagnostic errors will likely require a focus on larger "system" failures that affect medical practice overall.

"Moving away from a model that chastises individual physicians to one that focuses on improving the medical system as a whole could offer big payoffs for improving diagnostic accuracy as well as the cost effectiveness of care," says Newman-Toker, assistant professor of neurology with joint appointments in otolaryngology, health sciences informatics, epidemiology, and health policy and management at the Johns Hopkins University School of Medicine and the Johns Hopkins Bloomberg School of Public Health. "Right now," he adds, "there is often a mismatch between who gets advanced diagnostic testing and who needs it, leading to worse outcomes and higher costs. Realigning resources with needs could improve outcomes at lower cost."

Much as bloodstream infections in intensive care units have decreased through systematic solutions adopted by hospitals, such as requiring physicians to follow a procedural checklist that emphasizes sterile techniques when inserting medical catheters, Newman-Toker and Pronovost suggest that system-wide solutions could be the key for decreasing diagnostic errors. For example, Newman-Toker notes, triage protocols in emergency departments often categorize patients with typically benign symptoms, such as isolated headache, as being at "low-risk" of having a bigger problem, even though such symptoms are sometimes indicative of dangerous conditions, such as a bleeding brain aneurysm. A systems fix that could decrease diagnostic errors might be to change the overall rules for the triage protocol so that it considers specific symptom details that help distinguish between "low-risk" and "high-risk" types of headache.

The Johns Hopkins team suggests that diagnostic errors might be reduced by systematically adopting tools such as checklists that help physicians remember critical diagnoses or by making available computer programs known as "diagnostic decision-support systems" that assist physicians in calculating the level of risk of a given patient's having certain diseases. Health systems could further decrease diagnostic errors, they say, with time-tested, low-tech tools such as

independent second looks at X-rays and CT scans or rapidly directing patients with unusual symptoms to diagnostic experts.

Because diagnostic errors can be tricky to track to their roots, Pronovost, an expert on breaking down complex medical problems, says more research is needed to understand and find patterns in the origins of such errors. Pronovost, a professor of anesthesiology, critical care medicine and surgery, is medical director of Johns Hopkins' Center for Innovation in Quality Patient Care.

"The first step in addressing the diagnostic error problem is to shine a light on them so they are clearly visible," Pronovost says. "Then with wise investments, clinicians, researchers and patients can discover how to prevent them."