Will You Be Misdiagnosed? – How Diagnostic Errors Happen
Physician Overconfidence Explored as a Contributing Factor

New York, April 28, 2008 – How frequently do doctors misdiagnose patients? While research has demonstrated that the great majority of medical diagnoses are correct, the answer is probably higher than patients expect and certainly higher than doctors realize. In a Supplement to the May issue of *The American Journal of Medicine*, a collection of articles and commentaries sheds light on the causes underlying misdiagnoses and demonstrates a nontrivial rate of diagnostic error that ranges from <5% in the perceptual specialties (pathology, radiology, dermatology) up to 10% to 15% in many other fields.

The sensitive issue of diagnostic error is rarely discussed and has been understudied. The papers in this volume confirm the extent of diagnostic errors and suggest improvement will best come by developing systems to provide physicians with better feedback on their own errors.

Guest Editors Mark L. Graber, MD, FACP (Veterans Affairs Medical Center, Northport, NY and Department of Medicine, SUNY Stony Book) and Eta S. Berner, EdD (School of Health Professions, University of Alabama at Birmingham) oversaw the development and compilation of these papers. Drs. Berner and Graber conducted an extensive literature review concerning teaching, learning, reasoning and decision making as they relate to diagnostic error and overconfidence and developed a framework for strategies to address the problem.

They write, “Given that physicians overall are highly dedicated and well-intentioned, we believe that if they were more aware of these factors and their own predisposition to error, they would adopt behaviors
and attitudes that would help decrease the likelihood of diagnostic error. ... Being confident even when in error is an inherent human trait, and physicians are no exception. The fact that most of their diagnoses are correct, and that effective feedback regarding their errors is lacking, reinforces this inclination. When directly questioned, many clinicians find it inconceivable that their own error rate could be as high as the literature demonstrates. They acknowledge that diagnostic error exists, but believe the rate is very low, and that any errors are made by others who are less skillful or less careful. This reflects both overconfidence and complacency. ... In medicine, the challenge is to reduce the complacency and overconfidence that leads to failure to recognize when one's diagnosis is incorrect."

Dr. Pat Croskerry and Dr. Geoff Norman review two modes of clinical reasoning to understand the processes underlying overconfidence. Ms. Beth Crandall and Dr. Robert L. Wears highlight gaps in knowledge about the nature of diagnostic problems, emphasizing the limitations of applying static models to the messy world of clinical practice.

In any endeavor, "Learning and feedback are inseparable," according to Dr. Gordon L. Schiff, who discusses the numerous barriers to adequate feedback and follow-up in the real world of clinical practice. Taking another approach, Dr. Jenny W. Rudolph and Dr. J. Bradley Morrison provide an expanded model of the fundamental feedback processes involved in diagnostic problem solving, highlighting particular leverage points for avoiding error. In the final commentary, Dr. Graber identifies stakeholders interested in medical diagnosis and provides recommendations to help each reduce diagnostic error.

These papers also emphasize a second theme. Medical practitioners really do not use systems designed to aid their diagnostic decision making. From early systems in the 1980s to more recent efforts, physicians have underutilized decision-support systems and misdiagnosis rates remain high.

Donald A.B. Lindberg, MD, Director of the National Library of Medicine, writes in an introduction to the Supplement, "I sympathize with and respectfully salute these present efforts to study diagnostic decision making and to remedy its weaknesses... I applaud especially the suggestions to systematize the incorporation of the 'downstream' experiences and participation of the patients in all efforts to improve the diagnostic process."

"In my view, diagnostic error will be reduced only if physicians have a more realistic understanding of the amount of diagnostic errors they PERSONALLY make," summarizes Paul Mongerson, who created a foundation to promote computer-based and other strategies to reduce diagnostic errors. "I believe that the accuracy of diagnosis can be best improved by informing physicians of the extent of their own (not others) errors and urging them to personally take steps to reduce their own errors."
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Drs. Berner and Graber will be co-directing the first national conference focusing on diagnostic errors in medicine, May 31- June 1, 2008 in Phoenix, AZ. The conference is co-sponsored by the Agency for Healthcare Research and Quality and the American Medical Informatics Association. The program includes leaders in this field including the authors of the papers in this supplement. See [http://www.amia.org/meetings/s08/dem.asp](http://www.amia.org/meetings/s08/dem.asp).

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Full text of the articles featured is available upon request. Contact ajmmedia@elsevier.com to obtain copies. To schedule an interview with Dr. Berner contact Bob Shepard, UAB media relations, 205-934-8934 or bshep@uab.edu. For Dr. Graber contact Joe Sledge, Public Affairs Officer, 631-266-6074 or joe.sledge@va.gov.

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**Supplement: Diagnostic Error: Is Overconfidence the Problem?**

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