



COALITION TO IMPROVE DIAGNOSIS

Risk Managers Provide Early Leadership for Diagnostic Safety

As a frequent subject of malpractice suits,¹ diagnostic error can hardly be called an emerging risk. But many providers and other healthcare professionals, including risk managers, are just beginning to understand and address it. As a member of the Steering Committee for the Coalition to Improve Diagnosis, the American Society for Healthcare Risk Management (ASHRM) was one of the organizations that took an early lead in raising awareness of diagnostic error.

Ann Gaffey, ASHRM's immediate past president, has represented the Society on the Coalition from its inception, just before *Improving Diagnosis in Health Care* was published in fall of 2015.¹ Gaffey recognizes that diagnostic error is a complex issue and there are many disciplines, processes, and improvement opportunities to take into consideration; all of which contribute to providing the best outcomes for patients. ASHRM members and healthcare providers look to ASHRM for guidance on this challenging topic. Gaffey says that, ultimately, "Risk managers need to narrow down the issues with diagnosis and figure out what actions will have impact in their own organizations" (A. Gaffey, oral communication, June 2017).

ASHRM's leaders are supporting the Society's members with education to help them

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Assessment and Clinical Reasoning: Challenges and Opportunities

By Susan Carr

Clinical reasoning has been called "the clinician's quintessential competency,"^{1(p53)} one that is foundational for successful diagnosis. Current discussions about how best to teach and assess clinical reasoning^{2,3} include debate about what it is and how it relates to diagnostic reasoning. Among those discussing how to assess clinical reasoning, organizations that certify physicians have already been working to ensure that their testing methods help physicians maintain and advance this competency.

The first challenge in assessing clinical reasoning is to define it. The National Academy of Medicine describes it as a cognitive process focused on decision-making and affected by external factors.¹ The practice environment can either support or impede physicians as they use their clinical reasoning skills to make judgments in the face of uncertainty while weighing the benefits of diagnostic testing and treatments as well as the patient's preferences, circumstances, and values.¹ Cognitive processing is complex in its own right and, in medicine, plays out in a dynamic environment, which presents challenges and opportunities for assessment.

What Is Clinical Reasoning?

In *Academic Medicine*, a "perspective" article on understanding and assessing competency in clinical reasoning begins by stating a fundamental challenge:

There still exists no clear consensus regarding what clinical reasoning entails, let alone how it might best be taught and assessed.^{4(p442)}

The authors explore the implications of various possible definitions of clinical reasoning and propose that in addition to cognitive processing, the definition incorporate the clinician's behaviors. Those behaviors include interactions with the patient, others on the team, and the environment. Their model highlights the nonlinear, context-dependent nature of clinical reasoning. Although that definition poses a challenge for assessment, the authors offer reassurance that it is possible to evaluate moving parts. They suggest that assessment should focus less on whether the clinician has made exactly the right choice at each point along the way and more on cognitive performance that falls within an acceptable range for a given an encounter:

... there is not one 'true' or correct path to the answer; there are often multiple, equally acceptable paths.^{4(p447)}

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SOCIETY to IMPROVE DIAGNOSIS in MEDICINE

A physician who focuses narrowly on accuracy may miss out on opportunities for exploration, learning, and better patient care.

The authors of “What’s In a Label? Is Diagnosis the Start or the End of Clinical Reasoning?” discuss the role of diagnosis in clinical reasoning and find that the goal the clinician has in mind as he or she works toward a diagnosis has considerable effect on the overall process.⁵ A physician who focuses narrowly on accuracy may miss out on opportunities for exploration, learning, and better patient care. That mindset can lead to diagnosis becoming “the endpoint of a problem solving activity.”^{5(p435)} As an alternative, the authors suggest a more expansive view. Framing diagnosis as an active part of the clinical reasoning process, according to the authors, can lead to deeper understanding and better treatment and management of the problem.⁵ That approach acknowledges the complexity of clinical problems and treats diagnosis as an ongoing process in patient care. It also, in the view of these authors, reinforces patient centeredness:

Finally, at the bedside with real patients, thinking of diagnosis as ‘meaning-making’ emphasizes the perpetual importance of curiosity, not only about symptoms, but about the patients themselves, in order to avoid both premature closure and a loss of empathy.^{5(p437)}

Whether to view diagnosis as a destination or an ongoing process has different implications for medical education, training, and assessment. The more binary approach to diagnosis as an endpoint that is either right or wrong may be simpler to assess, but offers less opportunity for learning. The authors suggest using assessment activities “designed to emphasize the iterative and negotiated nature of clinical care.”^{5(p436)} That would lead to greater use of interactive assessment methods, such as simulation and standardized patients.

The first issue of the peer-reviewed journal *Diagnosis* included a commentary in which authors identified the need for new methods of teaching, practicing, and assessing clinical reasoning, especially in view of recent efforts to better understand and improve diagnosis.⁶ With greater appreciation for the complex, situational, and collaborative nature of clinical reasoning comes recognition that physicians should be assessed on their willingness and ability to use various forms of clinical decision support, whether supplied by computerized systems or feedback from colleagues and patients.⁶

Accreditation and Certification Support Diagnostic Improvement

As understanding of clinical reasoning evolves, so too do efforts to evaluate clinician competency and performance. The National Academy of Medicine (NAM) has called on accreditation and certification organizations to “ensure that health care professionals have and maintain the competencies needed for effective performance in the diagnostic process.”¹⁽¹⁰⁾ Among those competencies, the NAM identified clinical reasoning, teamwork, communication, and the use of diagnostic testing and health information technology. The NAM also recommended that evidence from research on the learning sciences inform education and training programs for diagnosis.

The NAM acknowledged that accrediting organizations “already include skills important for diagnostic performance in their accrediting requirements”¹⁽¹⁹⁴⁾ and encouraged them to take those requirements further. Physician skills prescribed by the Accreditation Council for Graduate Medical Education are consistent with what NAM recommends for good diagnosis:

- Lifelong, self-motivated learning
- Communication with patients, families, and other health care professionals
- Systems understanding of health care, including intra- and interprofessional teamwork^{1(p194)}

The same principles that guide curriculum development for graduate medical education must also apply to assessment for initial and continuing certification. The American Board of Medical Specialties (ABMS) encourages its 24 member boards, which currently certify more than 860,000 physicians, to include elements that contribute to successful diagnosis in their assessments (T. Granatir, oral communication, May 2017). As observed by the NAM, medical specialty boards already incorporate many of those skills and capabilities into certification exams. ABMS is working to help member boards engage medical specialists in efforts to improve diagnostic skill and acumen through their participation in continuing certification.

Assessment Becomes Longitudinal

ABMS member boards are beginning to adjust their processes for assessment to better match the pace of medical advancements. New methods test knowledge and expertise by offering physicians frequent, convenient delivery of test questions

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versus the traditional requirement for sequestered, comprehensive testing at intervals of up to 10 years (D. Swanson, oral communication, May 2017). With adult learners, such as practicing physicians, the focus is on self-assessment, learning, and retention^{7,8} where the process of assessment promotes maintaining and advancing competency in real time.

There is growing interest in this approach—longitudinal assessment—which assesses progress over time, with frequent, step-wise exams.^{9,10} While still requiring individuals to recall and apply factual information, longitudinal assessment also supports continual learning to promote and improve competency. Longitudinal assessment is also designed to help physicians identify gaps in their knowledge and skills. David Swanson, vice president of academic programs and services at ABMS, says that longitudinal assessment provides a learning experience in 3 ways:

- *Motivating those who take it to prepare in an educationally beneficial way*
- *Providing results and feedback to create, enhance, and support education*
- *Supplying specific, actionable feedback on an ongoing basis¹⁰*

This kind of assessment addresses the age-old problem that “you don’t know what you don’t know,” with an additional feature: questions can be designed to assess how well physicians apply what they know, in addition to how well they know the material itself. Using computerized assessment platforms (also termed adaptive learning platforms), people who get an answer wrong or get it right but report low confidence in their answer (ie, they might be guessing), will see the question in a future assessment. The testing program can also recommend and offer resources for further learning.

These and other advanced methods to encourage improvement and support clinical reasoning are beginning to be piloted but have not yet been adopted by most boards (T. Granatir, oral communication, May 2017).

Self-Assessment Needs Further Study

Various ways to determine current ability factor into efforts to improve clinical reasoning and diagnosis. In practice, self-assessment that comes from humble reflection and self-awareness can provide feedback during the diagnostic process: Is my differential diagnosis adequate? Am I subject to a cognitive bias? Do I need help from a colleague with this case? Am I too proud or embarrassed to ask for help?

Self-assessment in testing for ongoing certification aligns with the principles of lifelong learning and continual self-improvement identified by the NAM as contributing to diagnostic improvement.

Recent research, however, reveals that the accuracy of self-assessment—like so much else—depends on context and deserves further study.¹¹ This research confirms earlier findings that most people, including clinicians, are not good judges of their own competency overall, in general terms.¹¹ Asked to anticipate how well they would perform on a test they had not yet taken—which the authors call reflection on practice—most participants overestimated their achievement. While taking the test, participants had to evaluate how they would perform on a task as they faced it—reflection in practice—which resulted in more accurate, modest self-assessment. The authors report, “Participants did seem to be sensitive (whether consciously or unconsciously), in the moment, to whether they were likely to make an error,”^{11(p583)} which is different from estimating one’s own competency in general. The authors provide an analogy for this behavior: Most people don’t feel they need to read the dictionary to improve their use of vocabulary in general. They are more likely to look up words they don’t know when they need to know, when they encounter a specific deficiency in their working vocabulary.

This research is not an indictment of self-assessment. Rather, it is a reminder that the process of self-assessment itself deserves study and must be tailored to the demands of specific circumstances and the goals of the testing. It also points to opportunities for learning through self-assessment of complex activities such as clinical reasoning.

Assessment Will Continue to Evolve

Especially in the context of diagnosis, awareness is growing that clinical reasoning deserves attention in practical application, used by clinicians to help patients with their health problems, and conceptually, as a process worthy of reflection and examination in its own right.¹² Competency in clinical reasoning requires knowledge of both medicine and thought processes, teamwork and communication skills, and self-awareness to promote humility and situational awareness. How clinical reasoning is defined and to what degree practitioners need or want to study the underlying cognitive processes will remain topics of discussion. Meanwhile, methods of

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assessment are also evolving, attempting to provide clinicians with testing that is relevant, accurate, and formative and helps them improve their clinical and diagnostic reasoning skills.

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Diagnostic Error in Medicine Community Grows With the First Australasian Conference

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The Society to Improve Diagnosis in Medicine (SIDM) hosted the first Australasian Diagnostic Error in Medicine conference on May 24 and 25 in Melbourne, Australia. The conference drew 220 delegates from 7 countries for 2 inspiring days of workshops, lectures, and poster presentations.

More than 80 registrants attended preconference workshops on Tuesday afternoon. The program was a collaboration between US and Australasian presenters and generated lively debate.

Mark L. Graber, president of SIDM, opened the conference on Wednesday morning with a plenary overview of diagnostic error. He pointed to potential solutions, such as in the field of sepsis diagnosis, where real advances have occurred. The patient perspective was then given by Maureen Williams, a professional classical singer and patient advocate. She spoke of patients being a critical and valued part of the team in the diagnostic process. Julie Considine discussed the vital role of nurses in patient safety, pointing out that their presence at the bedside made them custodians of safe diagnosis. Amanda Walker discussed National Health Care Standards and gave a presentation on failure to diagnose dying as a form of diagnostic error. SIDM's executive vice president, Paul Epner, discussed causes and solutions for test-related diagnostic errors and described ways to shift from being lab-centric to patient-centric in clinical laboratories.

Poster Exhibition and Oral Abstracts

Two concurrent streams of oral abstracts of research featured 10 speakers across disciplines that included general medicine, surgery, emergency medicine, neurology, as well as pathology and HIV nursing. Six highly ranked posters were then presented as rapid-fire oral presentations.



On day 2 of the conference, Simon Willcock spoke about the human cost of diagnostic error.

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understand diagnostic error and provide background for addressing the problem at their organizations. ASHRM began with an article² in the *Journal of Healthcare Risk Management* in January 2016 about diagnostic error from the perspective of risk management. In the article, ASHRM subject matter experts Robert Bunting Jr and Daniel Groszkruger trace the history of the patient safety and diagnostic error movements through reports published by the Institute of Medicine (now the National Academy of Medicine) and summarize the goals of the report on diagnosis.

Bunting and Groszkruger acknowledge that risk managers have made important contributions to improving patient safety but state:

While we have made progress, much room for improvement still exists. Now, Improving Diagnosis in Health Care challenges risk managers to tackle the additional layer of complexity.^{2(p18)}

ASHRM participates on Coalition subcommittees focused on actions member organizations will pursue collectively. Gaffey serves on the tools subcommittee and facilitated the distribution of its initial tool survey to all members of ASHRM. Approximately 1,000 individuals, including many risk managers, have completed and returned the survey, which will give important guidance to the Coalition's work. A past ASHRM board member, David Sine, sits on the Coalition's research subcommittee.

From Inpatient to Outpatient Care

With ASHRM's support, healthcare risk managers have been adjusting for a number of years to the industry-wide shift from inpatient to outpatient care. Many challenges in diagnostic safety—missed or delayed diagnosis, test-result management, and transitions of care—are of particular concern in ambulatory care and physician practices. Some of these issues can be even harder to address outside than inside the hospital, and managing risk in these settings is new for many risk managers. *The Physician Office Risk Management Playbook*,³ which has a section on diagnostic safety, is newest among the resources ASHRM provides its members to prepare for these challenges.

In cooperation with the Society to Improve Diagnosis in Medicine (SIDM) and other programming, ASHRM has addressed diagnostic safety with educational sessions at its annual conference. SIDM supplies a speaker for ASHRM's fall conference, and ASHRM reciprocates by providing a risk management speaker for the annual Diagnostic Error in Medicine conference. ASHRM also offers "Understanding and Addressing Diagnostic Error,"⁴ a webinar that is part of the curriculum for ASHRM University, an online learning center.

Risk managers are accustomed to working on complex problems across large organizations. Although some of the issues specific to diagnosis, such as cognitive errors, are new, many of the tools needed for education and improvement will be familiar to most risk managers. ASHRM will continue to support its members as they work to prevent harm by providing resources and guidance and by working with other member organizations in the Coalition.

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The Coalition to Improve Diagnosis, comprised of leading healthcare organizations, has been established to bring awareness, attention, and action to the problem of diagnostic error. SIDM established and leads the Coalition. To learn more, and to view a list of the Coalition's 31 members, visit www.DxCoalition.org.

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First Australasian DEM Conference

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The poster exhibition was set up in a grand hall overlooking Albert Park Lake. In this attractive setting, all 28 posters gained tremendous exposure. The posters addressed a broad range of research topics: diagnostic error reporting; point-of-care testing; rare, perplexing and missed diagnoses; testing errors in pathology; and engaging consumers to prevent error, to name a few. The poster presenters were available to discuss their work at every opportunity. Their level of enthusiasm and passion for their topics was evident, and was matched by the interest, interaction and lively dialogue heard and observed at each poster. The posters provided illustrated progress being made internationally through collaborative, cross-disciplinary efforts to improve the diagnostic process.

That evening, the DEM “meet the experts” dinner tradition was upheld, with experts hosting

informal dinner groups for discussion at local restaurants.

Conference Day 2

Day 2 of the conference opened on Thursday with Anne Miller discussing human factors and diagnostic error, stressing the importance of designing information environments that support the diagnostic process. Next, Simon Willcock discussed the human toll of error on clinicians and the development of resilience. Ranjana Srivastava, oncologist, renowned author, and writer for *The Guardian*, discussed diagnosis from the viewpoint of discussing prognosis. Robert Trowbridge gave an inspired talk on teaching clinical reasoning, in which he described illness scripts like animated characters in the clinician’s brain screaming for attention.

Following that, concurrent workshops were held on information technology and clinical decision support, communication (with actors creatively exploring the diagnostic space), and the Top 5 “don’t miss” diagnoses. In a workshop entitled “Engaging medical administration in diagnostic error,” it was pointed out that medical administrators diagnose hospitals, like clinicians diagnose patients. In the radiology and pathology workshop, Tony Landgren shared his work on 101 diagnostic errors made by anatomical pathologists.

A standing-room only workshop on cognitive bias was led by Julia Harrison, Antony Tobin, and Robert Trowbridge. Participants analyzed an actual diagnostic error case from the emergency department. Collectively, the group was able to identify at least 10 biases that may have contributed to the error. The focus then shifted to de-biasing strategies.

Enrico Coiera gave the final plenary on the topic of automation bias. He touched on the unintended consequences of health information technology (IT), noting that health IT issues are by their very nature clinical and not purely technical issues.

The conference culminated in a “Stump the Professor” case presented by Karen Cosby and Julia Harrison and skillfully analysed by *IMReasoning* podcast co-hosts Art Nahill and Nic Szecket.

The conference closed with Mark Graber awarding first prize to the Clinical Excellence Commission for its poster, “Red Team Blue Team Challenge is a Team Approach to Reducing Diagnostic Error.”

SOCIETY TO IMPROVE DIAGNOSIS IN MEDICINE

DIAGNOSTIC ERROR IN MEDICINE

10TH INTERNATIONAL CONFERENCE

October 8-10, 2017
Boston Marriott Newton

IMPROVING DIAGNOSIS: IT TAKES A TEAM.
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KEYNOTE PRESENTERS

 **Monday, October 9**
Donald M. Berwick, MD, MPP, FRCP

 **Tuesday, October 10**
Amy C. Edmondson, PhD

 **Monday, October 9**
David Mayer, MD