

A Correct Diagnosis is of Increasing Importance

Abstract:

All clinicians are aware of the importance of reaching the correct diagnosis. It is impressed on every medical student and trainee from the outset. Khuller et al argue that diagnosis is more important than ever before because the patient has so much to lose when there is a misdiagnosis. A diagnostic error may result in the patient being denied timely, effective therapy or being administered potentially toxic, incorrect medications. Where a prompt treatment could have returned a patient to full health, the consequences of a wrong diagnosis can be devastating. Getting the right diagnosis is key for the patient. In addition to being made in a timely fashion, the diagnosis and implications must be communicated effectively. The key issues are timeliness and accuracy. Timing may be minutes in acute situations or weeks in relation to subacute disorders.

Over-diagnosis is also a concern. This is when a condition is diagnosed that does not go to cause any symptoms or ill-health. This can result in the blurring of the borders between health and disease. While over-diagnosis is not an error, it can result in harm, over treatment and unnecessary anxiety. Gwande has described it as the consequence of over testing. Specialties with a high risk of litigation such as neurosurgery, orthopedic surgery, emergency medicine are more likely to order an excess of investigations. The problem is compounded by patients' belief that more tests means better care.

The IOM report 15 years ago to err is human highlighted the issue of medical error. The critical piece missing from the safety framework has been diagnostic error. Errors in diagnosis enacted or delayed can have serious consequences. The IOM in its new Report has proposed actionable solutions. It is recognized that diagnostic error data are sparse. The most useful sources have been case notes reviews, malpractice claims, and postmortem findings. When malpractice claims are studied it is found that 70% of misdiagnosis cases relate to outpatient activity but inpatient claims are more likely to be associated with serious harm or death. The misdiagnoses that are most frequently cited are cancers, heart disease, cardiovascular disease, infections and stroke. In Paediatrics, misdiagnosis accounts for 61% of total malpractice claims, whereas in Obstetrics it accounts for 9% of claims.

Voluntary reporting and discussions about diagnostic adverse events has great potential in prevent of repetitive errors. The available studies suggest that the diagnostic error rate is between 7% and 17% in hospitalized patients. In approximately half of these cases, the error could be harmful. Human failures appear to be the main cause of diagnostic error but organizational factors are frequently implicated.

It is increasingly being accepted that patients are central to the solution and that good diagnostic systems are a collaborative effort. The nurses' input should be actively sought because they spend most of their working day with their patients. The stereotype of the physician working and making diagnoses on his own is becoming an outmoded one. It is more frequently being asked whether doctors spend sufficient time talking to patients in order to pick up important cues about their symptoms. Studies have found that experienced nurses accumulate more cues from a patient than their novice counterparts.

The institution must have a culture that welcomes the diagnostic dialogue. Advances in the learning sciences, such as clinical reasoning and processing, have not been utilized sufficiently.

The current understanding of clinical reasoning is that it is based on the dual process of non-analytical and analytical thinking. The non-analytical process is fast, intuitive, and requires little working memory capacity. In contrast the analytical process is slow and places a heavy burden on the working memory. The non-analytical system of reasoning is suited to high volume, low acuity medical activities such as ED. The analytical, slow approach is applied to low volume, high acuity medical care as encountered in neurology. Heuristics are mental shortcuts employed to reach a rapid diagnosis. They are frequently employed by experienced doctors. As one become more experienced one develops larger stores of mental models of disease conditions. They can, however, lead to errors when the patient presents with atypical symptoms. When a heuristic fails it is called a cognitive bias. A mistake may happen when the initial clinical impression is not altered in the light of new information. Premature closure is when a diagnosis is quickly made without considering other possibilities, for example attributing back pain to a disc problem. The analytic process can be adversely affected if the doctor fatigued or sleep deprived. When a patient presents, the doctor gathers information and compares that that information with the knowledge that he has about diseases. Probability reasoning is when certain symptoms and signs either confirm or exclude a diagnosis. If a particular sign must always be present, then its absence rules the disease. However in most situations, symptoms and signs are not exclusively specific.

Goals should be put in place to improve the diagnostic process. There needs to be a continued emphasis on diagnostic skills and training for both undergraduates and postgraduates. The culture and work systems of healthcare organisations should reflect the importance of the clinical diagnosis. The collaboration between all healthcare professionals should be further strengthened. A reporting system that learns from errors in a non-judgmental environment should be developed. Clinicians should be more open to feedback on their clinical activity and where the team could do better. Electronic health care record offer potential benefit because all the clinical, radiological and laboratory data will be brought together in a readily accessible vehicle. There should be

funding for research into the diagnostic process and the root causes of errors.

It is timely that there should be a renewed emphasis on the importance of the diagnostic process.

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Editor

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