Editorial

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Nurses, diagnosis and diagnostic error

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Congratulations to Gleason et al. [1] for their contribution on “Defining the Critical Role of Nurses in Diagnostic Error Prevention: A Conceptual Framework and a Call to Action”. Their article highlights that diagnosis and therefore diagnostic accuracy and preventing diagnostic error are a team effort and the responsibility of every health care professional, not just doctors.

In recent years, the term “diagnosis” has been reframed as “health problems” [2]. Diagnosis has been more precisely defined as both a label, the name of the health problem, and as the process used to arrive at that label. Key steps of the process include data gathering, clinical reasoning and communication. Diagnostic error has also been redefined as a “failure to establish an accurate and timely explanation of the patient’s health problem(s) or communicate that explanation to the patient” and which again reflects contemporary clinical practice [2]. There are three central tenets of the National Academies’ report “Improving Diagnosis in Health Care”: diagnostic error is an underappreciated cause of harm in health care, patients are central to the solution and diagnosis is a collaborative effort. This report goes on to say that “... nurses are often not recognized as collaborators in the diagnostic process, despite their critical roles in ensuring communication, care coordination, and patient education; monitoring a patient’s condition; and identifying and preventing potential diagnostic errors.” [2]. However, the report’s conceptual model refers to physicians, advanced practice nurses and physician assistants as diagnosticians, with no mention of nurse practitioners, and nurses are relegated to being one of many health care professionals who “support the diagnostic process” [2]. The model does not clearly recognize that nurses can, should and do diagnose.

Nurses are the largest component of the health workforce with the greatest bedside presence of any professional group and are responsible for structures, processes and outcomes of care 24/7 [3]. Nurses play a key role in symptom management, and if a patient has unrelied symptoms, such as pain, that is a failure of fundamental nursing care. Beyond symptom management, nurses have key patient safety responsibilities, including surveillance and prevention of complications and adverse events [3]. As we move toward an era of electronic medical records and device integration, it is important to note that machines monitor, but nurses surveil. Nurses are responsible for the accurate measurement, recording and interpretation of the clinical data that underlie all subsequent care. Is an intervention required such as sitting the patient up or commencing oxygen therapy? Is escalation of care needed and how urgently? Can the patient’s problem be managed by the home team or is a rapid response system activation required? Importantly, nurses are also charged with keeping patients safe, particularly in hospitals; prevention of complications and adverse events is nursing core business.

Safe health care is a team sport, and there is substantial evidence on the importance of nurses in patient safety. We know, and have known for decades, that patients are safer when nurses have appropriate nursing workloads. When nurses have six or less patients each (compared to 10 or more), there is a 20% decrease in risk of death in medical wards and 17% decrease in risk of death in surgical wards [4, 5]. For each additional patient added to nursing workloads, there was a 7% increase in the risk of inpatient death within 30 days of admission [4, 5]. When nurses are well educated, patients are safer. The findings reported in Linda Aiken and colleagues’ landmark paper in JAMA in 2003 [6] and reinforced again in their recent paper in the Lancet [5] clearly show that when you increase the number of degree prepared nurses, mortality decreases. For every 10% increase in Bachelor prepared nurses, there was a 7% decrease in the risk of inpatient death within 30 days of admission [5]. What this means in real terms is that if a hospital where 30% of nurses are degree prepared and caring for an average of eight patients changed to ensure that nurses cared for an average of six patients and 60% of the nursing workforce were bachelor prepared, mortality would decrease by 30% [6]. Patients are also safer then interprofessional
relationships are effective and productive [7]. Rudeness lowers diagnostic and procedural performance scores; however, information sharing mediates the adverse effect of rudeness on diagnostic performance, and help seeking mediates the effect of rudeness on procedural performance [7]. Finally, patients are safer when there is an appropriate skill mix; when the proportion of registered nurses is increased, length of stay is reduced, there is better pain management and adverse events such as infections, gastrointestinal bleeding events, falls and medication errors are decreased [8–10].

Although they are not compensated for it, nurses do diagnose. Nurses can perform chest auscultation and look at an X-ray and diagnose a pneumothorax, or interpret an electrocardiogram and diagnose an acute myocardial infarction. Nurses also have a unique skill set and perspective in regard to diagnosis. They diagnose patient safety states: deterioration, recovery and wellness. These states do not fit traditional notions of diagnosis as they are both processes and outcome, but nurses use three main strategies to make patient safety states diagnoses. First, nurses recognize deterioration, either using objective data such as vital sign abnormalities or subjective using data such as patient appearance, new symptoms or changes in behavior. Deterioration is a clear call to reevaluate the established diagnoses and consider new ones. Second, nurses diagnose deviation from the expected trajectory of care or deviation from the expected response to therapies, situations that demand reconsideration of whether previously assigned diagnoses are correct. Finally, nurses assess risks such as falls, pressure injuries, infections, delirium and clinical deterioration, and importantly actively take measures to mitigate those risks. All of these patient safety diagnoses are underpinned by patient and family preferences and values.

Elizabeth Henneman and colleagues [11, 12] have adapted the Eindhoven model of error and recovery to emphasize the importance of adequate defenses in preventing poor patient outcomes. Ideally, defenses are so strong that adverse events are avoided, or that harm is mitigated. From a nursing perspective, this involves three main actions: identify, disrupt and correct [11, 12]. There are three major themes in the literature about the strategies nurses use to identify diagnostic error [13]. First was knowing, which refers to knowing the patient and family, clinicians and other team members, the environment and organization and the expected clinical course. Second was surveillance, defined as the “purposeful and ongoing acquisition, interpretation, synthesis of patient data for the purpose of clinical decision making”, which is very different from monitoring, defined as observing, measuring and recording patient data. Third was questioning. When nurses identify what they think is a diagnostic error, they question themselves, the patient and family, other nurses and other health care professionals [13]. Error detection by nurses is increased when there are positive work environments, namely, high levels of engagement, collaborative relationships, support by management and a strong safety culture [13]. Error detection by nurses is decreased by task stressors, namely, frequent interruptions, time pressure, performance constraints and task uncertainty [13].

Error disruption is also the domain of nurses. In traditional models of health care, patients were passive recipients of health care, and authority gradients and hierarchical structures were strong. Advances in nursing education, coupled with the emphasis on improving quality and safety, have resulted in significant cultural shifts toward patient centered care and patient engagement in care, better teamwork and communication, safety and quality as the drivers of change and the notion of healthcare as a system in which patients and all health professionals have a role. Nurses therefore have a key role in error disruption by preventing and ameliorating the harm of adverse events, preventing complications, escalating care when required, proposing alternative diagnoses and restoring patients to their expected trajectory of recovery. Finally, nurses have an undeniable role in correcting error. Error recovery by nurses is increased when nurses are expert, well educated and have reasonable workloads [14].

Thus, the call by Gleason et al. [1] to include nurses as equal members of the diagnostic team is evidence based and patient centered. Nurses can, do and should diagnose and have been engaged in these tasks for as long as health care has been in existence; the real issue is recognition of nurses as equal and legitimate members of the diagnostic team.

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**References**