

Quality in emergency medicine: progress to date, challenges to come

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PRIOR AUTHORIZATION: FOLLOWING THE RULES MAY NOT EQUAL QUALITY

Physicians working in emergency departments (EDs) used to be seen as “fly by night” physicians needing close supervision on issues relating to utilization and risk management. In those early years, novice physicians were expected to earn extra money by moonlighting in the ED. An ED patient was often managed by a specialist untrained in the nascent field called emergency medicine. Inevitably, errors were committed, with protocols introduced in an effort to limit mistakes. Specialists outside emergency medicine offered their good judgment to try to reduce error. We were taught Advanced Trauma Life Support (ATLS)—a course developed uniquely by surgeons, with minimal input from physicians who worked in EDs.¹ Anesthetists dictated which drugs could be used for intubation or sedation, radiologists decided what diagnostic imaging was urgent, and cardiologists required calls to initiate thrombolytics. No other specialty has received more guidelines and input from external societies than ours.

In a medical universe, where the default position of every specialist and generalist who cannot sort out a problem during office hours is often to send the patient to the ED, why did we relegate authority over so many realms to others?

In retrospect, some of the guidelines and recommendations were misguided or wrong. We have frequently done better when we developed guidance from within our own ranks than when others set our boundaries. Little wonder—our environment and work are often unique and chaotic in ways that only an emergency physician understands. Are we still afraid to speak up?

A fundamental aspect in the concept of quality is defining care that is appropriate. Inappropriate care has no quality. Appropriateness encompasses safety, effectiveness, efficiency, and patient-centred equitable care. Appropriateness asks if the right thing was done. For example, it was often argued that we did not have good evidence in how we ordered computed tomographic (CT) scans of the head. As the Canadian CT Head Rule and others have demonstrated,^{2,3} this is no longer the case.

The argument is still made that many of our imaging studies are wasteful. The Dhanoa and colleagues study in this issue of *CJEM* suggests that for one organization, at least, this is not true.⁴ With the opportunity to order CT scans on a broad basis over many years, there was no increase in utilization. This article was an evaluation of a combined neuroradiology-ED policy on preauthorization of specific neuroradiology CT studies. A retrospective review, using a utilization rate defined by the number of CT scans ordered per ED-registered visits per year, found no statistically significant increase in utilization following policy implementation. This study assumes that the rate of ordering previously approved by diagnostic imaging was appropriate. It will be important to repeat this study in other centres across Canada using the same evaluation tool to provide meaningful comparison. However, the concept of maturation of the specialty, with greater collaboration with others, remains valid.

There is irony in one sentence in the Dhanoa and colleagues article: “Although not determinable by our design, our results suggest that after-hours neuro-radiology CT scans are likely being ordered appropriately...” Does following another specialty’s “rules” define appropriateness? Only a few years ago, some

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This article has been peer reviewed.

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CJEM 2013;15(5):255-257

DOI 10.2310/8000.2012.120971

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CJEM • *JCMU*

2013;15(5) 255

pediatric surgeons wanted an abdominal CT for every child considered for appendectomy (some still do). In the past, we were advised on steroid use in sepsis and spinal cord injuries, aminophylline use in congestive heart failure, and urgent blood pressure control in asymptomatic patients with hypertension. The definition of appropriate care changes with time: what was once seen as valid may rapidly become unacceptable. Relying on invalidated external guidelines or recommendations may not have ensured optimal patient outcomes and must make us always question the imposition of such external viewpoints.

How can we define quality in health care? One definition from “The Hospital of the Decade”^{5,6} (Virginia Mason Medical Center) is the Quality Equation, that is,

$$Q = A \times (O + S)/W,$$

where Q is quality, A is appropriateness, O is outcomes, S is service, and W is waste.⁷ How does this definition affect emergency medicine today?

Outcomes are important. Before CT head rules came into place, a number of patients suffered significant morbidity and mortality due to delays in achieving timely diagnostic imaging (O = outcomes). Delays in timely CT head scans resulted in death from significant intracranial hemorrhages. However, with better ED access to diagnostic studies and limitations in nonemergency (community) access, the temptation always exists for “utilization creep.” For example, is it necessary for emergency physicians to order formal sonograms to rule out ovarian cysts or gallstones in a stable patient? Using the example of the ED sonogram-focused approach,⁸ we should consider that other diagnostic tests ordered in the ED maintain the same level of consistency. Thus, if a test will affect a patient’s disposition (admit/discharge, immediate surgery/no surgery), it is likely appropriate (A = appropriateness). If not, then perhaps it can be deferred back into the community. Only through such a rigorous focus on resources will we maintain credibility with our colleagues, including diagnostic imaging (W = waste).

Tied in with this appropriate use of diagnostic imaging resources is the obvious need for ongoing expansion of emergency medicine capabilities. The more we train our residents to interpret tests such as ultrasound and CT scans, the better our ability to communicate with our diagnostic imaging colleagues. Broader skills with the use of ED ultrasonography

enhance credibility when the use of resources extra-neous to the ED, such as CT scans, is required.

Challenges remain. Although better access to such tests as CT scans will improve flow, we need to recognize other factors impacting patient care. ED overcrowding⁹ remains a major issue across the country. Although much focus has been on capacity (more inpatient beds to reduce bed boarding in the ED), flow must remain front and centre, with all attendant details, including laboratory^{10,11} and diagnostic imaging turn-around times¹² and reduced consultant times. The role of the emergency physician in leading this effort cannot be overemphasized.¹³ Given the economic nature of our times, hospital budget cutbacks threaten to reduce access to service. One well-documented example was the devastating impact from the spread of severe acute respiratory syndrome (SARS)⁹ to the Canadian population through an overcrowded ED with few or no barriers to the disease. This occurred from a recently arrived traveler from Asia who was in an ED next to other patients with unrelated problems. Studies such as the Dhanoa and colleagues article in *CJEM* provide a scientific basis to support continued availability of urgently needed resources in the right place at the right time. Responsible use of limited resources enhances our relationship with our partners, including diagnostic imaging, and maintains a much-needed service to our communities (S = service).

Dhanoa and colleagues suggest that when we are forced to work with policies that give us little autonomy, we adjust, and that “concerns regarding the negative effects of such policies may be unfounded.” Do policies imposed by those outside emergency medicine ensure quality of care? Who among us has not bent the rules to get an appropriate test or biased a referral to influence a consultant? How we define appropriate patient care in the face of access constraints and resource limitations will be a challenge in the next few years. Greater cooperation, rather than unilateral policy decisions, will be essential.

In summary, then, the Quality Equation fits well with the needs of emergency medicine. This study provides one more building block in the foundation of our role within health care. As emergency medicine assumes leadership within health care, it becomes easier to drive the argument for data-based decisions rather than “turf protection.” Greater collaboration with previous adversaries enhances respect for more independence and faster decision making in the ED.

Good science with a watchful attitude maintains ongoing access to needed resources in a timely manner.

Competing interests: None declared.

Keywords: diagnostic imaging, quality, utilization

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