

Unnecessary variation cloaked as discretion in medical decisions

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Physician discretion as a basis for decision making is upheld as a sacrosanct pillar supporting the notion of medicine as an art. However, discretion is bred from education and past experiences and hence prone to inherent biases. Discretion run amok leads to unnecessary variation in the use of diagnostic tests and therapies and is anathema to quality and safety in medicine. That variation in diagnostic approaches to a specific condition abounds between and within medical disciplines is old news. What, therefore, is the value of the Guttmann and colleagues report in this issue of the journal?¹

Guttmann and colleagues explored the use of radiographs in children with the diagnosis of asthma, croup, or bronchiolitis who were seen in all 164 emergency departments (EDs) in Ontario and subsequently discharged. They found that children seen in EDs with front-line pediatric staff were less likely to have radiographs compared to those seen in hospitals with consultant pediatricians, a finding that was unaltered by access to clinical protocols. Whether these protocols specifically addressed when chest radiographs should be obtained was not specified. The strength of this study is its size: 164 EDs, with a 100% response rate. Of equal importance is the fact that the authors addressed a population that is mildly ill (discharged home from the ED) and suffering from conditions common in children. Intuitively, we should expect that clinical evaluation in this group should be less prone to variation.

Hence, the finding of threefold or more variation between pediatric and nonpediatric centres is disturbing and may be the harbinger of weightier issues related to practice patterns. Let us for a moment assume that the authors' assertion of overuse of radiographs is correct. This is not merely of academic interest because although

radiation exposure from chest radiographs is negligible, increased antibiotic use,² increased costs, and longer wait times are nontrivial considerations for busy EDs. Moreover, overuse of chest radiographs is the tip of the iceberg and may reflect a pattern of practice whereby more expensive and harmful tests (such as computed tomographic scans of the head and abdomen) would be ordered unnecessarily by the same practitioners. Based on the data presented, we cannot, however, plant our flag firmly on overuse as an issue because we do not have the data of interspecialty variation and no yardstick to judge best practice in ordering chest radiographs. One possible limitation of the study is that the authors used discharge diagnoses from the ED. These are arbitrarily chosen by the ED physician without any specific criteria. It is therefore possible that this study's data were skewed by alternative diagnoses: viral syndrome, pneumonia, fever, bronchitis, viral upper respiratory tract infection. Thus, one could posit a scenario in which a pediatrician orders a radiograph for asthma but, on observing some streaking, records the discharge diagnosis as pneumonia.

The use of protocols to guide rational use of tests may decrease variability and overuse.³ That radiograph use was not decreased in centres with protocols may be due to the protocols being ignored or not adequately addressing best practice criteria for obtaining radiographs. Regardless of the reasons, the marked variation in opinions and practice patterns of clinicians seen in this and other reports is not acceptable yet is widely tolerated.^{4,5} Standing on neutral grounds and accepting marked variability in practice for common conditions are not options. We should accept that variability is anathema to good practice but refrain from suggesting remedies based on gut reactions because they may be at best useless and at worst harmful. We therefore

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This article has been peer reviewed.

need to understand the underlying reasons for these variations in practice to propose solutions.

Variation can most likely be ascribed to physician practice preferences, opinion of guidelines, knowledge translation gaps, training, and local culture.⁴⁻⁷ Knowledge translation—from guideline to practice—has always been an area in which the medical profession has grappled with limited success. If knowledge translation is the major issue, then it behooves us to make a concerted effort to address these issues on a large scale. This would include crafting of appropriate guidelines based on evidence and expert opinion when evidence is scant and linking of these guidelines to protocols, standard operating practices, and order sets.⁸ We also need to ensure that physicians need to opt out of guidelines and that deviation from the guidelines be evaluated within a quality assurance framework. We also need to understand the reasons that physicians may not follow guidelines and address any perceptions or cultural barriers.⁹ If variation is due to education, then training needs to be addressed. One size does not fit all, and a multipronged approach to decreasing variation is likely necessary.

The assertion of Guttman and colleagues is that overuse is an issue, and the presumption that this goes beyond chest radiographs is the elephant in the room. Overuse of tests has little upside and much downside. Why we have avoided this issue for common and fairly straightforward conditions is puzzling to me. We are all culpable for averting our eyes from overordering tests and therapies. The clinician uses the cloak of “autonomy” to avoid the use of protocols and guidelines despite acknowledging the benefits of these to patient families and department efficiency. Some physicians order more tests because of their unproven fear that more tests will translate into less risk of being sued or making an error, neither of which has any basis in fact. And much of the variable rate in test ordering is simply the objective evidence of the variation in risk aversion of the individual physicians. Each of us has a colleague who orders more tests, is less efficient, or is more risk averse than ourselves. But should not sound medical practice trump all other considerations? And if legal considerations are so important in medicine, would or should the legal community endorse guidelines? Also, there are data to suggest that we also order more tests because we spend less time with patients or are trying to meet patient expectations. Thoughtful consideration should be paid in addressing these issues.

Practice guidelines should not trump good judgment, and variation in approaches to care is acceptable. We have little need of further evidence that variations exist. We must move beyond research that simply mines databases or collects data to demonstrate variability.^{1,10} Studies must also address whether these variations have negative outcomes and suggest solutions. If variation leads to poorer care and outcomes, then we should all be shouting from the rooftops and doing something about it.

Recognition is easy; however, change to ensure that we deliver optimal quality and value in care will take some heavy lifting. As a first step, clinicians need to craft guidelines based on sound evidence and experience and ensure that they are implemented and widely used. Cultural barriers to successful implementation are enormous, and we need to rely on the assistance of anthropologists and opinion leaders among others. Researchers (including health economists) need to determine whether deviation from the guidelines results in adverse care and higher costs. These are difficult tasks, but averting our eyes will not suddenly make them disappear; neither will someone else shoulder the burden to resolve these issues. So, if we are not up to the task, then who is?

Competing interests: None declared.

Keywords: children, emergency medicine, guidelines, quality, radiology

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