

Inpatient Notes: Medical Uncertainty as a Driver of Resource Use—Examining the “Gray Zones” of Clinical Care

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The Choosing Wisely campaign has created over 500 evidence-based recommendations meant to avoid unnecessary testing and treatment. However, guideline recommendations cannot possibly cover the range of decisions that hospitalists make on a daily basis. This gap leaves large areas of uncertainty that are often filled with unnecessary care. Hospitalists are positioned to lead in acknowledging and confronting these “gray zones” of uncertainty and their contribution to overuse (1).

WHAT EXACTLY IS MEDICAL UNCERTAINTY?

Medical uncertainty describes situations in which guidelines may not apply to the patient at hand or when evidence to inform decisions is weak, unclear, or unavailable. Medical uncertainty is not based on a knowledge deficit, rather it stems from the inherent ambiguity of the practice of medicine (1) and results from many factors. Such factors include the intrinsic complexities of the health care system, natural variability in patients, unclear disease presentations, and heterogeneity of clinical practice.

HOW DOES MEDICAL UNCERTAINTY AFFECT CLINICAL PRACTICE?

An unfortunate consequence of uncertainty is that it often leads to a knee-jerk reflex to “order more tests” and in many cases, the additional tests do not significantly reduce the uncertainty at hand. A survey by the American Board of Internal Medicine revealed that 36% of respondents had ordered a test or a procedure “just to be safe,” whereas 30% had done so “for reassurance” (2). This seemingly innocuous search for clarity is a likely contributor to the estimated \$25 billion waste related to the misuse or overuse of medical testing. Uncertainty has also been shown to result in unnecessary referrals, increased admission rates, delays in patient care, and even patient harm (3). Furthermore, many physicians now trust technologic assessment (for example, computed tomography [CT] scans and laboratory tests) more than their own clinical examination skills, making it even more apparent how uncertainty can lead to unnecessary resource use.

Patient discomfort with the unknown can also affect ordering patterns. Studies have shown that patients often have a “therapeutic illusion” in which they overestimate test benefits and underestimate their harms. This illusion, coupled with the constant pressure to improve patient satisfaction scores and the ever-present fear of litigation, further drives inappropriate testing.

WHAT STRATEGIES CAN HOSPITALISTS USE TO MITIGATE THE EFFECTS OF MEDICAL UNCERTAINTY?

As frontline providers and clinical educators, hospitalists are well-positioned to address clinical uncer-

tainty. For example, consider a situation in which a resident physician wants to order a CT scan to evaluate for a pulmonary embolism “just to be safe,” despite a low pretest probability. We can address this scenario using several strategies.

First, educators can formally recognize and openly acknowledge the existence of uncertainty and highlight its role as a driver for excess resource use (1). To do so, the Physicians' Reaction to Uncertainty instrument can be used to gauge a providers' reaction to intrinsic uncertainty (4). By having both learners and faculty use this tool at the beginning of a rotation, uncertainty can be quantified. In turn, this allows the educator to openly acknowledge its existence and freely discuss how uncertainty may affect further testing. In our clinical scenario, this discussion could reveal that the preceptor isn't fully certain that the patient doesn't have a pulmonary embolism, either, but absolute certainty may not be a realistic goal. In addition, striving for absolute certainty may result in testing that is more likely to harm the patient than to reduce diagnostic uncertainty.

Second, a learner-centered, active-learning presentation tool, such as SNAPPS (Summarize relevant patient history, Narrow the differential, Analyze the differential, Probe about uncertainty, Plan management, and Select case-related issues for self-study), can help facilitate the expression of uncertainty during daily rounds (5). Medical culture is often dominated by a hidden curriculum that rewards learners for knowing the “correct” answer or displaying certainty in what to do next. Unfortunately, this culture encourages learners to ignore uncertainty instead of teaching them how to manage it. In our example, the use of SNAPPS would allow the learner to express uncertainty regarding the possibility of a pulmonary embolism during the formal presentation, which could lead to a more nuanced discussion.

Finally, because patient discomfort with uncertainty also plays a role, patient engagement and shared decision making must remain a cornerstone in addressing this issue. Openly acknowledging the ambiguities of clinical medicine with our patients and discussing harms and benefits of tests can help address the pitfalls of uncertainty. Coming back to our scenario, the use of online shared decision-making tools, such as an X-ray risk calculator (www.xrayrisk.com/), can be used to facilitate such discussions by acknowledging the potential harms of radiation from the CT, thereby diminishing the “therapeutic illusion.” A simple Internet search will locate similar calculators for a variety of clinical scenarios.

Although strategies like Choosing Wisely have helped improve the value of care, advancements made through such campaigns may be negated by irrational reactions to medical uncertainty. Ultimately, we cannot

rid medicine of uncertainty. However, by using specific approaches, we can recognize and elevate our response to it.

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