

Reply from Author: Cognitive Aspects of Diagnostics, Not Just Errors

Dear Editor,

We thank the writer for his or her input on this emerging topic. We believe that heuristics are often useful and economical in many aspects of clinical medicine. In general, heuristics work well enough with experts to allow them the right decision when subjected to time pressure and uncertainty. Unfortunately, they do fail in predictable patterns, prompting us to write our paper as a cautionary tale.

We are delighted that the area of Naturalistic Decision Making (NDM) was brought up; we would certainly not want readers to think that the Cognitive Bias (CB) approach represented the entirety of research on decision making. The notion of expert intuition is particularly attractive to clinicians, as we have often seen colleagues successfully make correct diagnoses based on what appears to be intuition, so NDM is concordant with our medical worldview. The difficulty is in deconstructing the expert's intuition for others to learn from, as Klein and Kahnemann concede that even experts may be uncertain as to what cues guided them towards the right diagnosis.

We do not think NDM or the Cognitive Bias approaches are mutually incompatible, although we personally hew more to the Cognitive Bias school. In any case, the concept of clinical reasoning is an evolving one, and hopefully future research will further demonstrate how clinical reasoning proceeds under varying environmental conditions, and under what circumstances algorithms would outperform clinicians in diagnosis.

While we remain hopeful that algorithms may improve clinician accuracy, results so far have been mixed. We feel therefore that in the absence of defined, reproducible, valid algorithms for making diagnosis, clinicians still need to be trained in clinical reasoning. And while they learn clinical reasoning, they should preserve a modicum of caution about cognitive biases as they afflict all of us, beginners or experts.

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