

From The Editors' Desk: Cognitive Errors, and Why We May or May Not Be as Smart as We Think We Are (or Would Like To Be)

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Erudite readers of *JGIM* may not naturally pick up David McRaney's book, *You Are Not So Smart*, wrapped in a bright orange cover with an image of an ostrich standing with its head buried in the sand. Yet, McRaney's accessible description of cognitive biases, heuristic errors and logical fallacies reinforces the idea that oftentimes our decision-making is influenced by thought patterns of which we are unaware. Some appellations of cognitive errors, such as "priming" or "normalcy bias," may be more common in our lexicon than others, such as "The Dunning Kruger Effect," which explains why we have difficulty accurately predicting our performance in any given situation. *JGIM* readers are often on the forefront of studying these cognitive errors and their consequences in health care, even when those studies are described through the lexicon and lens of health services or quality improvement.

This month in *JGIM*, several articles explore how cognitive processing errors play out in health care and examine methods to overcome those errors.

First, in their article, "The Body Gets Used to Them," **Brook-Howell and colleagues** describe how patients think about antibiotic resistance. While this article has important implications for infection control, their findings fit with two common cognitive errors—"confabulation" and "embodied cognition." Confabulation represents the false narratives we construct to explain our actions, history or beliefs. Embodied cognition expresses the idea that we believe that our opinions are based on objective evaluation; yet as we translate our physical world into words, we believe in those words and their associations.

Ma and colleagues, in their article "Racial Disparities in Medical Expenditures within Body Weight Categories," explore reasons why medical expenditures of black and white patients differ, including issues related to their health beliefs. Individuals with a "positive illusion bias" (or illusion of control, overconfidence bias or self-denial) view themselves in unrealistically positive terms. When this healthy

adaptive defense is taken too far, individuals believe that they have a high degree of control over events and the future—more than population based data would indicate—negatively affecting their decisions. In their study, Ma et al. found that patients with positive health beliefs were less likely to utilize medical care, regardless of weight or ethnicity.

A similar underlying bias may strike the reader when reading **Krien and colleagues** careful study of rates of hospital acquired infections, which have decreased since the CMS and other groups have ceased paying for the additional incurred costs of these infections. Many of these infections (especially line infections) are preventable, begging the question of why infection control measures are not more widely adopted. Perhaps the lack of action is due to competing clinical demands, inadequate monitoring systems, or a positive illusion bias on the part of providers and hospital administrators.

Other cognitive errors contribute to disparities in health care. For instance, "ad hominem fallacies" occur when a person does not trust another individual, and therefore discounts his or her message, regardless of the underlying validity of the message. This fallacy appears in health care as distrust of physicians and their messages, when individuals are convinced that the physicians are profit driven or rationing care. When interpreting a clinical study or encountering a challenging patient, "attribution bias" results in incorrect conclusions about the individual or population. When attribution errors occur, we ascribe specific behaviors to the personal character of an individual or group, when in reality, the behaviors are situational (not dispositional).

The lens with which we choose to examine a clinical question profoundly shapes the solution that we apply in addressing that question. As *JGIM* readers, developing greater awareness of common cognitive errors may allow investigators to develop targeted interventions to change the way individuals think, thus improving the chances of adopting better health behaviors and quality measures.

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