## To the Editor: A Response to: Diagnostic Reasoning of Resident Physicians in the Age of Clinical Pathways

e commend Congdon et al for their investigation into the impact of clinical pathways on the development of diagnostic reasoning skills by pediatric residents. This is a timely topic of exploration for all educators, as currently there are diverging opinions on the impact clinical pathways have on resident development of diagnostic reasoning skills. Our interests lie with the upstream decision resulting in the initial choice of the clinical pathway followed by the resident, that is, the decision made prior to the resident engaging in the care of the patient, as this is an important area for additional exploration.

The FIGURE <sup>1</sup>(p.467) shows an appropriate schema for the theory of slow and fast cognitive processes activated in the use of clinical pathways by residents. Unfortunately, if an incorrect clinical pathway is initially chosen, that improper choice may not be identified until the pathway directs the resident to find an alternative diagnosis, the patient falls off the pathway, or the patient fails to progress.<sup>2</sup>

As described, the events that force the revelation of an incorrectly chosen pathway all occur after the conscious decision of selecting a pathway, highlighting the fact that the choice of the clinical pathway is also subject to the same slow and fast cognitive thinking processes that are identified in the diagram. Studies estimate that diagnostic error could be as high as 15%. <sup>2,3</sup> Specific education and training in properly choosing patients for a clinical pathway must be incorporated into teaching and perhaps even the algorithm itself. Doing so will support residents' or

any clinicians' awareness of the importance of proper initial clinical pathway choice, thereby reducing the reliance on a patient falling out of the pathway to receive the correct care. It follows that the clinician would be more likely to treat patients appropriately the first time.<sup>3</sup>

In an educational environment where high throughput processes are required in the presence of an extensive amount of data, deliberate thought and reasoning may be usurped for pathways that allow for more bias susceptible fast thinking cognitive process.

We thank the authors for investigating this fascinating topic that will provoke additional thoughtful debate in the future.

## References

- Congdon M, Clancy CB, Balmer DF, et al. Diagnostic reasoning of resident physicians in the age of clinical pathways. *J Grad Med Educ*. 2022;14(4):466-474. doi:10.4300/JGME-D-21-01032.1
- Berner ES, Graber ML. Overconfidence as a cause of diagnostic error in medicine. *Am J Med*. 2008;121(suppl 5):2-23. doi:10.1016/j.amjmed. 2008.01.001
- 3. Graber ML, Kissam S, Payne VL, et al. Cognitive interventions to reduce diagnostic error: a narrative review. *BMJ Qual Saf.* 2012;21(7):535-557. doi:10.1136/bmjqs-2011-00014



## Gopal Kowdley, MD, PhD, FACS

Program Director, General Surgery Residency, TidalHealth Peninsula Regional

Robert L. Joyner, PhD, RRT, RRT-ACCS, FAARC Director, Richard A. Henson Research Institute, TidalHealth Peninsula Regional

## Brion McCutcheon, MD, FACS

Associate Program Director, General Surgery Residency, TidalHealth Peninsula Regional