LETTER TO THE EDITOR

Assessment of ACS NSQIP's Predictive Ability for Adverse Events After Major Cancer Surgery

TO THE EDITORS:

We appreciate the comments by Dr. Merkow and colleagues for comments about our article assessing a cohort of 15,709 patients after 12 major cancer operations.¹ We would first like to acknowledge that the c-statistic can be used as one of several statistical tools that can judge the predictive ability of multivariate models. We found that up to 40% of patients with an extended length of stay had no recorded complication. With the understanding that it is unlikely that these patients experienced prolonged length of stay in the absence of major operative complications, we conducted multivariate analyses to identify whether those pre- and intraoperative risk factors available within the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) were able to identify significant predictors of short-term adverse outcomes. Our findings and those of others continue to show a lower predictive ability for postoperative complications compared to postoperative mortality and for adverse events after specific types of operations compared to the all operations models. By means of the model fit statistic used in several other ACS NSQIP publications, including those published by Merkow et al.,² we chose to focus on the c-statistic to illustrate that the addition of other complications and other risk factors to ACS NSQIP may provide improved predictive ability in the context of cancer surgery. The implications of our findings are to provide opportunities to expand the generalizability of NSQIP to surgical oncology service lines. Given the low predictive ability of ACS NSQIP for adverse operative events after major cancer operations, the addition of some disease- and operation-specific variables may be an important consideration in the further evolution of NSQIP.

Second, we agree that the ACS NSQIP is a premier surgical quality improvement program, the primary purpose of which is to improve the quality of surgical care across a broad spectrum of operations.³ This overarching goal of improving surgical quality is achieved by assessing processes and structures of care within surgical subspecialties as well as surgical services as a whole. The objective of our study was to identify how well ACS NSQIP performs in predicting adverse outcomes after cancer surgery and whether improvements could be made for this subspecialty.

Interest in targeted improvements to the current ACS NSQIP continues to grow. In this regard, our results and those of others will continue to provide a platform to support ongoing efforts for more robust identification of risk factors for adverse outcomes.

Daniel Borja-Cacho, MD¹, William G. Henderson, MPH, PhD², and Waddah B. Al-Refaie, MD, FACS^{1,3}

¹Department of Surgery, The University of Minnesota, Minneapolis, MN;

²The University of Colorado, Aurora, CO;

³Minneapolis Veterans Affairs Medical Center, Minneapolis, MN

e-mail: alref003@umn.edu

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