

## COMMENTARY

# Hospital readmission following urologic surgery

Jay D. Raman, MD

Division of Urology, Penn State Milton S. Hershey Medical Center, Hershey, Pennsylvania, USA

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Hospital readmission is unfortunately a frequent event with a recent study of Medicare beneficiaries noting a 19% rate over a contemporary 4 year period.<sup>1</sup> These resultant unplanned admissions have significant financial implications with estimated costs of over 17 billion dollars annually.<sup>2</sup> Recognition of potential risk factors for readmission following index surgical procedures is paramount particularly for elective surgeries (i.e. partial nephrectomy (PN) for small renal masses) whereby opportunity exists for perioperative optimization.

The preceding article by Patel and colleagues reviews the National Surgical Quality Improvement Program (NSQIP) database and identifies variables associated with 30 day hospital readmission following PN.<sup>3</sup> This study highlights a 5% readmission rate with a major (Clavien III-V) in-hospital complications being the most associated factor with this event. Additionally, anticoagulation use and length of surgery were associated with readmission following minimally invasive PN. Interestingly, in this study, baseline comorbidity status was not associated with hospital readmission.

The authors should be lauded for use of a national quality database to report such outcomes, and institutions should be encouraged to use such an infrastructure to objectively track complications given that participation likely leads to improved outcomes.<sup>4</sup> Nonetheless, limitations exist which challenge some of the interpretations from this and similarly designed studies. Firstly, the NSQIP program is voluntary therefore potentially biasing the surgical volume for PN to tertiary care centers whereby the case mix may not be representative of a greater population. Secondly, the reported number of complications is relatively low thereby rendering logistic regression problematic in identifying consistent index variables. Indeed, other similarly designed NSQIP studies from the general surgery literature have identified other risk factors including age, comorbidity status (ASA, Charlson, and Elixhauser indices), number of inpatient complications, and outpatient complications as being associated with

hospital readmission.<sup>5-8</sup> Thus, while NSQIP analysis is a definite step to identify potentially correctable factors contributing to readmission, further analysis is clearly requisite.

Understanding the cause of readmission is essential to reduce the likelihood of this event. Three domains need additional investigation. Clearly, preoperative optimization is necessary with appropriate risk stratification regarding comorbidities, nutritional status, and specific underlying medical conditions such as diabetes and glycemic control. Surgeons need to focus in-hospital efforts on decreasing complications in evidence based domains including catheter-associated urinary tract infections (CAUTI), surgical site infections (SSI), and venous thromboembolism (VTE). Finally, attention must be placed on discharge planning and care transitions. Indeed, more resources dedicated to this outpatient setting may decrease complications or allow for them to be addressed in an outpatient manner without need for hospital readmission.<sup>8</sup> Given the priority (in the form of financial penalty) that the Centers for Medicare and Medicaid Services (CMS) have placed on reducing excess readmission, the onus is on us to investigate this further to maintain reimbursement following surgical procedures. □

## References

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Address correspondence to Dr. Jay D. Raman, Division of Urology, Penn State Milton S. Hershey Medical Center, 500 University Drive, c4830b, Hershey, PA 17036 USA