

## Quantifying patient care: What metrics do we use?

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Hwang and colleagues address healthcare quality metrics for patients undergoing radical nephrectomy with IVC thrombectomy, utilizing cancer registries based in the United States.<sup>1</sup> Prior studies have assessed predictors of outcomes associated with this surgery, but not from the same perspective of evaluating established measures currently utilized for quality assessment and payment penalty systems.

This discussion is particularly timely given wide-sweeping changes in the organization of reimbursement patterns for Medicare, the federal health insurance program in the United States. Medicare's Hospital Readmission Reduction Program (HRRP) was initiated in 2013 and mandated reductions in payment to hospitals failing to meet expectations for 30-day readmission rates.<sup>2</sup> This program continues to expand, and in the past year has increased both the maximum penalty to hospitals and expanded the number of conditions which it evaluates. Hospitals failing to meet expected measures for these index conditions are then penalized across all Medicare reimbursements. Hospitals can receive a maximum penalty of up to 3%, and total fines are expected in the range of \$428 million for 2015.

These are only the initial steps of forthcoming initiatives linking payment to quality and value, as opposed to volume. Goals have been established to link 90% of reimbursements to quality through programs such as the HRRP by 2018. With rapidly increasing costs of healthcare, the shift to value-based payment systems will be paralleled across private insurance companies in the United States and healthcare payment systems throughout Canada. Although current Medicare programs focus on readmissions, data is being collected on other measures (i.e., length-of-stay [LOS] and

mortality) with expectations to integrate such quality metrics for similar payment penalty programs in the future.

An essential component of these programs and a source of much debate and criticism is the ability to appropriately adjust for risk. Particularly vulnerable to unfair penalizations are hospitals treating the most complex patients – safety net hospitals and academic centres. Both healthcare providers and payment agencies have been motivated to integrate better methods of measurement to identify whether a hospital is providing a lower quality of care or if they are treating sicker patients. Calculations can be complicated, integrating such factors as socioeconomic status, comorbidity, and disease severity to calculate risk-adjusted observed/expected ratios. Moving forward, care must be taken that this be done appropriately and this is where benefits of the current study come into play.

Hwang and colleagues<sup>1</sup> specifically examine predictors of exactly these outcomes (LOS, readmission, mortality). The authors provide a foundation to develop risk-adjusted models to appropriately assess healthcare quality for this surgery, though may fall short of finding immediate impact. In their study, older patient age and higher index of comorbidity (Charlson comorbidity score) were associated with greater mortality. Federal and private insurers currently employ more specific and individually weighted comorbid diagnoses in their calculations, thus utilizing greater individualized detail than the composite Charlson score.

The authors also find an association between LOS and greater readmission rate. The value of LOS as an adjustment variable to predict outcome is limited because it is so intimately tied to other outcome measures and marred with confounding factors. This is recognized by the authors as they describe that “the very impetus for longer LOS might have been circumstances that would lead”<sup>1</sup> to greater readmission and mortality. Risk adjustment needs to be performed prior to surgery, not after the fact.

My final thought on this study is that it may be limited in its ability to influence healthcare payment programs at

a large scale. Current index cases for quality assessment focus on the highest volume diagnoses (i.e., cardiac and pulmonary disease). The next index case slated for integration within HRRP is coronary artery bypass surgery, a procedure that sees far greater volume than radical nephrectomy with inferior vena cava thrombectomy. Though relevant for specific hospitals and individual practices, its broader utilization in large scale payment systems is limited.

This study opens the door to address the development of risk-adjusted models for specific urologic diagnoses and surgeries. It is a noble effort and an important starting point in an area of research that will ultimately affect all urologists and influence future reimbursements in our specialty.

**Competing interests:** Dr. Yap declares no competing financial or personal interests.

## References

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