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Letter to the Editor

Public reporting of surgeon outcomes in the United Kingdom:
Potential caveats**Keywords:**

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Since June 2013, the National Health Service (NHS) in the United Kingdom (UK) has begun publishing individual surgeons' outcomes in ten different specialties as part of the new policy of the NHS Commissioning Board [1]. This aims to facilitate the exercise of patients choosing their surgeons in order to enhance their quality of care [2]. Whilst this is a commendable initiative to further bring the patient as the central focus of care, there are several points to discuss.

Different procedures vary in the number of times they are performed by an individual surgeon. Procedures performed infrequently constitute a low statistical power and this may risk inadequate identification of poorly performing surgeons, thereby compromising patient safety [2]. Walker et al. (2013) [2] demonstrated that the number of procedures required to achieve different statistical power thresholds to identify poorly performing surgeons exceeded the number that is actually performed by surgeons currently in the NHS. Poor performance was defined as double the national overall mortality rate. The difference was greatest for oesophagectomy and gastrectomy, with median procedures performed being 1/10th of the numbers required to achieve 70% statistical power [2]. Likewise, it was shown that the number of surgeons who actually perform sufficient number of procedures to achieve statistical power is much lower for most procedures except hip fracture and cardiac surgery [2]. Additionally there is a concern with regards to incorrect identification of poor performance and the negative impact on the surgeon with regards to the associated stigma attached to poor performance [3].

Moreover, it is now well established that patient outcomes are influenced not just by the surgeon's performance but by the complex interplay between several factors including individual skills, teamwork, communication within and between teams, the environment, patient age and disease severity [4]. Organizational culture and characteristics have been further correlated with safety climate and shown to influence performance and patient outcomes. Singer et al. (2009) [5] demonstrated that a higher level of group as opposed to a hierarchical culture was associated with a higher safety climate. Thus, these factors enhance the difficulty in interpreting individual surgeon outcomes. Furthermore, with low procedure numbers, patient outcomes may in fact be more greatly influenced by external factors than individual surgeons' performance [2].

Moreover, the concept of 'Risk-adjusted outcomes' can further exacerbate the difficulty in accurately interpreting surgeon-specific metrics. Adjusting for preoperative severity of illness can enhance the reliability of measures of quality. A number of risk adjusting methodologies have been developed [6]. However, disparities in risk-adjusted mortalities between these methodologies have been recognized, for the same patient population and over the same time period [6].

Published outcomes must be interpreted with caution, especially when procedure numbers are low. Lack of evidence of poor performance does not necessarily correlate to acceptable performance [2]. Where numbers are low, using the hospital or trust as the unit of reporting may be a viable strategy [2]. Indeed, Tsai et al. (2013) [7] recently demonstrated that hospital surgical-readmission rates were associated with procedure volume and mortality rate, two established parameters of surgical quality. Such data, in conjunction with individual surgeons' outcomes, may facilitate evaluation of surgical performance and patient outcomes in a more holistic manner. The need for accurate data reporting and more reliable risk-adjusting methodologies necessitates further consideration.

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References

- [1] NHS Commissioning Board, Everyone Counts: Planning for Patients, 2013/14 [Online] Available from: www.commissioningboard.nhs.uk/files/2012/12/everyonecounts-planning.pdf [Accessed 28.09.13].

- [2] K. Walker, J. Neuburger, O. Groene, D.A. Cromwell, J. van der Meulen, Public reporting of surgeon outcomes: low numbers of procedures lead to false complacency, *Lancet* 382 (2013) 1674–1677.
- [3] R. Lilford, M.A. Mohammed, D. Spiegelhalter, R. Thomson, Use and misuse of process and outcome data in managing performance of acute medical care: avoiding institutional stigma, *Lancet* 363 (2004) 1147–1154.
- [4] C. Vincent, K. Moorthy, S.K. Sarker, A. Chang, A.W. Darzi, Systems approaches to surgical quality and safety: from concept to measurement, *Annals of Surgery* 239 (2004) 475–482.
- [5] S.J. Singer, A. Falwell, D.M. Gaba, et al., Identifying organizational cultures that promote patient safety, *Health Care Management Review* 34 (2009) 300–311.
- [6] S.M. Steinberg, M.R. Popa, J.A. Michalek, M.J. Bethel, E.C. Ellison, Comparison of risk adjustment methodologies in surgical quality improvement, *Surgery* 144 (2008) 662–667.
- [7] T.C. Tsai, K.E. Joynt, E.J. Orav, A.A. Gawande, A.K. Jha, Variation in surgical-readmission rates and quality of hospital care, *The New England Journal of Medicine* 369 (2013) 1134–1142.

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