Quality improvement and revalidation: two goals, same strategy?

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‘Quality improvement’ and ‘revalidation’ are processes which will be key considerations for the health service in the UK over the coming years and are likely to have considerable implications for both professional and public resources. They also have many common elements that are relevant to the delivery of quality in health-care worldwide. Clinical audit is a quality improvement initiative which is currently undertaken by many doctors, either individually or within their departmental teams, and when conducted appropriately such activity has clear value and importance. However, we are entering an era where our professional performance will be assessed not just by process measures (such as evidence of audit participation) but also by quantitative and qualitative outcome metrics. At an institutional level, the publication of both patient-reported and clinical outcomes for the purposes of benchmarking, improving standards, and determining payment to health-care providers is a UK Government goal, as set out in its recent White Paper. At individual physician level, the inclusion of outcome measures has been recommended as part of the annual medical appraisal process that will be central to revalidation in the UK. For anaesthetists, there is equipoise over which outcomes should be measured and reported to fulfil both the revalidation and quality improvement agendas. When evaluating outcome measures, the profession should consider; whether they are useful and valid, the methodology used for measuring and reporting these outcomes, what benchmark they will be assessed against, and whether the collection and reporting of such data will actually lead to improvement in standards of care.

Professional behaviour in doctors is central to quality of care and there are a variety of measures which may be used to assess it. These include subjective feedback from patients and colleagues [multisource feedback (MSF)] and these metrics have been recommended by the General Medical Council (GMC) as a central tenet of appraisal for revalidation. Peer feedback is now being used by many health-care providers as a way of obtaining information about individual doctors’ professional performance, attitudes, and behaviours, which can then be used in a formative way to assist their professional development. There are examples of such tools developed specifically for anaesthetists which are reliable and valid. However, no speciality-specific tool for anaesthesia, which maps to the GMC’s Good Medical Practice domains, has yet been validated in the UK. A recent systematic review evaluating the effectiveness of workplace-based assessments found that the impact of patient and peer feedback on practice varied with both the grade of doctor being assessed and their speciality. For example, a study of consultant surgeons found them to be unlikely to make changes in their practice based on such feedback, even if the results indicated that change might be required. However, a randomized-controlled trial found paediatric trainees to be more responsive. Importantly, there are currently no published studies examining the effectiveness of MSF feedback for driving performance improvement in anaesthetists.
The acquisition of patient feedback poses potentially greater challenges to the speciality of anaesthesia. Patient feedback tools may be divided into patient experience and patient satisfaction measures. Patient experience is currently measured in the UK using the NHS Inpatient Survey conducted by the Picker Institute Europe, and there are numerous examples of patient experience tools being used to drive quality improvement in areas of healthcare such as stroke care, emergency medicine, and primary health (www.pickereurope.org/qifactsheets). The questions in the NHS Inpatient Survey focus predominantly on patient communication with health-care staff, the general environment of care, such as cleanliness, whether the patient was cared for on a same sex ward, and the efficiency of their transit through the hospital. There are also specific questions relating to anaesthesia and perioperative care, from which anaesthetic departments in the UK can extract information relevant to perioperative care reflecting institutional standards; however, the individual anaesthetist will be unable to get feedback from such surveys which relate to their own practice.

Perhaps of more interest and relevance to individual anaesthetists are measures of patient satisfaction, which may include patient feedback on communication skills and patient-reported outcome measures (PROMs). Patient questionnaires assessing doctors’ communication skills are included in commercially available generic MSF tools. However, in the UK, these surveys have been developed principally for the assessment of doctors with continuing care responsibilities. This raises the issue as to whether they are appropriate tools for assessing communication skills in anaesthetists, whose encounters with patients at a preoperative visit are frequently relatively brief, and who have a very different relationship with patients to a physician or family doctor. PROMs for anaesthesia may include questions related to intraoperative awareness and postoperative fatigue, pain, nausea, and vomiting. There are few validated PROMs for anaesthesia, and a recent systematic review found that there were no valid or reliable questionnaires available for measuring patient satisfaction with ambulatory surgery. The Iowa patient satisfaction survey has been used in a number of studies, as it has been validated for use in patients at the end of ‘monitored anaesthesia care’. In the UK, the correct time for presenting patients with such a questionnaire would therefore be when they are deemed fit for discharge from the recovery ward. Another recently developed and validated questionnaire combines an assessment of patient experience of perioperative care (with 21 questions grouped under the headings ‘information’, ‘fear and concern’, and ‘staff–patient relationship’) with seven questions relating to undesirable anaesthetic outcomes (e.g. pain, vomiting, and sore throat). Timing of presenting the questionnaire was, however, different as one of the criteria was that all patients recruited had to remain in hospital for more than 24 h after operation and that it had to be completed within 2 days of surgery.

There are a number of unresolved issues surrounding the distribution of patient feedback forms and the evaluation of their results in anaesthesia. For example, how many patients should an anaesthetist seek feedback from, how should they be selected, and which member of staff should be responsible for distributing the survey and recording the data collected? Furthermore, against what standard should anaesthetists’ performance be assessed using such tools? Is it appropriate to use the same tool to measure the communication skills of an anaesthetist as that of a general practitioner or oncologist and then benchmark against each other? Even within the speciality, it may not be appropriate to compare patient feedback on communication skills between consultants practising in critical care or pain medicine with obstetric or paediatric anaesthetists. When considering PROMs, there may be variation in scores between colleagues, which may be attributed to their specific area of clinical practice rather than to their ‘success’ as a clinician. For example, an anaesthetist who seeks patient feedback after their perioperative care for orthopaedic day surgery patients might expect to receive satisfaction scores which are superior to a colleague who provides perioperative care for major abdominal surgery, where postoperative pain, nausea, and vomiting may possibly be attributed to the nature of the surgical insult. One solution may be to compare an anaesthetist’s results year on year, to reflect improvement in their own practice, independent of colleagues locally or nationally. Even with such a system, a benchmark for comparison would be helpful for both consultants and their appraisers. Further, the Leiden questionnaire results demonstrated that satisfaction was not directly dependent upon the outcomes of anaesthesia, but rather on how patients were approached and the amount of information they received. Aside from the undesirable anaesthetic outcomes identified by this group, can patients make informed comments on an individual anaesthetist’s professional skill, judgement, and overall performance? It is clear that there are areas of both peer- and patient feedback tools which require further evaluation before definitive guidance on their use can be given for the development of speciality specific measures for anaesthetists. Evaluation of the impact of patient- and peer feedback on the individual clinician is another area that requires further work.

In addition to patient- and peer feedback, clinical outcome measures are clearly important for evaluating the practice of anaesthetists for quality improvement purposes. Internationally, there are examples of web-based registries used for reporting clinical activity within departments of anaesthesia, but which do not record outcome data and therefore are limited in their usefulness for facilitating quality improvement. One example of an outcome measure which may be usefully reported using nationalized registries is the nature and number of critical incidents. Local and national systems for critical incident reporting already exist in the UK, but compliance among clinicians is suboptimal. A number of potential reasons for this have been cited, including the lack of systematic feedback to
clinicians and fear of punitive action. A recent systematic review identified over 100 quality and safety indicators which have been reported in the literature for evaluation of anaesthetic practice. These may be subdivided into generic- and speciality-specific indicators, and process or outcome measures. Examples of clinical outcome indicators specific to anaesthesia include the incidence of hypothermia in the recovery ward, complications related to regional analgesia, and postoperative pain scores. Process measures related to anaesthetic practice included cancellation rates for anaesthetic reasons, and rates for preoperative assessment before day of elective surgery. Although the potential for quality improvement driven by the reporting of such outcomes seems obvious, many of these measures have not been evaluated beyond face validity (expert opinion). Individual departments may choose to measure such process and outcome indicators for quality improvement, but the standardized reporting of such measures nationally for benchmarking purposes would require rigorous quality control and considerable resources.

Generic outcome measures relevant to anaesthetists which may be of greater interest to national quality agendas include perioperative morbidity and mortality rates. Although it is true that anaesthetic care is only one of many factors which influence surgical outcomes, not least surgeon performance, organizational leadership, and many other structure and process-related factors, it is also true that anaesthetists are well placed to drive improvement in perioperative standards. Indeed, critical care physicians in the UK, whose units are contributors to the ICNARC case-mix programme, use institutional outcomes to benchmark their performance and they will be encouraged to use these data for revalidation purposes. Although such data are important, it is also acknowledged that the whole of the multidisciplinary team is likely to have at least as much of an impact on outcome as an individual consultant. Intensivist. With regard to measuring surgical outcomes, there are few options currently available in the UK which are nationally reported and quality assured. Dr Foster (www.drfosterhealth.co.uk) uses administrative data to provide standardized mortality ratios for hospitals and some individual procedures; however, concerns have been raised over the quality of coding and therefore the reliability of administrative data in the NHS. Partly in response to the Bristol Royal Infirmary Inquiry, the Society of Cardiothoracic Surgeons of Great Britain and Ireland (SCTS) has worked with the Care Quality Commission to publish risk-adjusted survival data for individual institutions and surgeons (www.heartsurgery.cqc.org.uk). Despite the profession’s acceptance of the public demand for such information, there are still concerns over both the quality of the data, and the use of a single, relatively rare outcome (mortality) as a summary measure of performance. However, there is evidence to suggest that the publication of mortality data has been associated with an improvement in the quality of surgical services in both the UK and the USA.

Although mortality is an important outcome to measure, morbidity data may provide more useful information for the anaesthetist. In the UK, the two most recent RCoA National Audit Projects have provided a point-prevalence record of activity and outcome of the use of regional anaesthesia and airway management, and provide a benchmark for anaesthesia care in these two areas of practice. In clinical trials of anaesthesia-related interventions, complication rates and resource utilization measures such as length of hospital stay are used as outcome measures more often than mortality and would therefore appear to be appropriate outcomes for assessing anaesthetists within the overall team performance. However, there is currently no mechanism for the standardized collection and reporting of risk-adjusted morbidity (or mortality) in non-cardiac surgery in the UK. In the USA, the American College of Surgeons’ National Surgical Quality Improvement Programme (ACS-NSQIP) collects pre- and postoperative data on all patients undergoing surgery in Veterans’ Administration Hospitals and some private health-care institutions.

Trained data collectors are used in each hospital to prospectively gather clinical information which is then used to generate annual reports with risk-adjusted observed: expected ratios of perioperative morbidity and mortality, for benchmarking of surgical specialities and institutions. This data acquisition methodology, using dedicated staff, has been compared with other systems which use either junior doctors or administrative data for the reporting of perioperative risk factors and outcomes and has been found to be more accurate. An outcome-reporting framework such as this would appear to be an aspiration for all health-care systems—indeed, Critical Care has achieved this in the UK with the ICNARC case-mix programme—but the implementation of such a system for the perioperative setting requires considerable investment in infrastructure and personnel. Further, if the necessary financial investment is to be attracted and maintained, a perioperative case-mix programme must demonstrate real benefits in terms of identifying targets for quality improvement and therefore improving outcomes, as has been repeatedly achieved in the ACS-NSQIP programme.

Initiatives in the UK such as the Emergency Laparotomy and the Hip Fracture Networks hope to provide a framework for reporting risk-adjusted outcomes in these high-risk procedures and may prove to be feasibility studies which can be used for developing a broader outcomes reporting system.

Finally, when contemplating the ‘ideal’ quality improvement framework for anaesthesia, which would use a nationally implemented reporting process for validated patient and peer feedback alongside objective outcome measures, it would be easy to feel defeated by the enormity of the challenge. Despite this, the speciality should be encouraged by the fact that all of the individual elements that would comprise such a framework have been evaluated and implemented in anaesthesia or other specialities, either in the UK or abroad. The major challenge, therefore, is in the
significant investment of time, personnel, infrastructure, and therefore money, which would be required to realize such an ideal. In the UK, the Colleges must work with the regulators and the Department of Health to identify which outcomes should be measured and how; it will then most likely rest with the profession to evaluate the impact of legislation on standards within the health service. Studies of the effectiveness of quality improvement strategies will be essential to ensure that resources are utilized appropriately, especially given the current international financial constraints. Such studies would, however, help reassure both the public and the profession that the aims of both revalidation and the ‘quality agenda’ in healthcare, namely to improve professional standards and patient outcomes, are not just discussed, but are realized.

Conflict of interest
S.R.M. works within the UCLH/UCL Joint Comprehensive Biomedical Research Centre which receives funding from the Department of Health’s National Institute for Health Research Centres funding scheme. S.R.M. is also a Council member of the Royal College of Anaesthetists (RCoA), a member of the RCoA Revalidation Committee and Chair of the RCoA working party evaluating patient and peer feedback for use in revalidation.

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