Editorial

National critical incident reporting: improving patient safety

Learning without thought is labour lost; thought without learning is perilous

Confucius 551–479 BC

One of the key features of the patient safety 'movement' is the belief that safety can be improved by learning from incidents and near misses, rather than pretending they have not happened.[1] Critical incident investigation was first used in the 1940s as a technique to improve safety and perform-ance among military pilots.[2] This focus on critical indents enabled the researchers to investigate the differences between behaviours that led to success and those that led to failure, and to derive conclusions about how people should be encouraged to act, especially by redesigning their work environments to produce more desirable outcomes. In 1978, Cooper and colleagues[3] used what they described as a 'modified critical incident technique' to interview anaes-thetists and obtain descriptions of preventable incidents. It is now commonplace for individual departments of anaes-thesia to record and discuss adverse incidents and near misses with a view to learning from the problems encoun-tered and preventing their re-occurrence.[4] However, the knowledge of, and learning from, these incidents tends to be shared only at a local level, and any subsequent improvement in patient safety thus remains local.

In order to share and expand learning more widely at a national level, a number of critical incident reporting systems have been set up in different countries. In Australia, the Australian Incident Monitoring Study began in the late 1980s as an anaesthesia-specific venture. Later, the Australian Patient Safety Foundation extended incident reporting beyond anaesthesia.[5] An anaesthesia-specific, on-line reporting system has been operating in Switzerland since the mid-1990s[6] and, more recently, the German Society of Anaesthesiology and Intensive Care has set up its own Patient Safety Optimisation System.[7] Both these sites offer the opportunity to report incidents and read those posted by others. Denmark also has a nationally con-ceived Patient Safety Database to which reports can be uploaded, although this is not specific to anaesthesia.[8]

So far, some important improvements, locally and nation-ally, can be attributed to the lessons learned from incident reporting. Individual anaesthetists will be able to cite many instances where they have learned something which changed their practice for the better. On the departmental level, it has been possible to use incident reporting to purchase new monitoring equipment and to withdraw stocks of drugs given in error.[9] Others have found that latent errors can be addressed, and feel that incident reporting provides a means of continuous quality improvement to which all members of the department can contribute.[10] A further benefit is the effect on non-technical factors affecting anaesthetic practice, such as teamwork, communications, and organizational culture. National systems have also resulted in some publi-cations,[10 11] including an Australian manual for the manage-ment of critical situations in anaesthesia.[5] The enduring value of critical incident reporting within the Australian system has been reinforced by a comparative analysis of the most recent 1000 incidents (reported between 2002 and 2006) and the initial 2000 incidents,[12] which revealed many similarities but also some new concerns—for instance, misuse of the laryn-geal mask airway beyond its recommended indications. On a more conceptual level, a link between intraoperative incidents and postoperative problems has also been established, under-lining the importance of attending to factors that predispose to problems.[13] Despite these very useful publications, we believe that the full potential of critical incident reporting still remains unexplored. In particular, a comprehensive approach to learning from incidents, wider dissemination, and significant impact on standards, quality, research, and patient outcome are yet to be realized.

In the UK, the Royal College of Anaesthetists (RCoA) has consistently encouraged incident reporting in

anaesthesia.[14] The UK National Patient Safety Agency (NPSA), established in 2001, set up a Reporting and Learning System (RLS) to collect and learn from adverse incidents and near misses reported throughout the National Health Service in England and Wales. Although this was the first comprehensive attempt to capture all incidents in England and Wales, a number of perceived problems have dogged its use by anaesthetists. The under-reporting of 'eligible' incidents and near misses, which is not in itself specific to the RLS,[15] may be the result of a number of factors: lack of ownership by professionals, problems with understanding what constitutes a reportable incident even in the face of the apparently unambiguous definitions,[16–18] lack of anonymity, and the abundance of reporting systems often with confusing aims. An important aspect of any reporting system is continuing feedback, which is vital to keeping clinicians interested.[19] However, the link between reporting an incident and receiving any sort of feedback or follow-up has often been long and tenuous. Nevertheless, there have been some attempts to analyse anaesthetic incidents from the RLS.[20–22]

The success of any new critical incident reporting system will depend upon making sure that the system is unambiguous, user-friendly, and intuitive.[23] In addition, it is important that the incidents reported are regularly analysed, and that any learning points from such analyses is fed back promptly to those who need to know. At the local level, it is important that a Trust or hospital policy is in place that clearly indicates 'fair blame' and 'no disciplinary action' on incident reporting. This has long been the case in other industries such as aviation, where not only is such reporting encouraged, but it is *failure* to report which is considered a matter for possible disciplinary action. We believe that the profession of anaesthesia should develop such a culture, where incident reporting is a routine occurrence.

Recently, in partnership with RCoA and Association of Anaesthetists in Great Britain and Ireland (AAGBI), the NPSA has developed a speciality-specific critical incident reporting system for anaesthesia, which incorporates most features of a successful system. It is hoped that this will become a single portal for incident reporting for anaesthetists in the UK. The system was piloted for 3 months during 2008 in 12 hospitals in England and Wales. The uptake of the system by the pilot sites has been extremely encouraging. The system is currently the subject of an evaluation which will outline a number of options, including national rollout to anaesthetists. However, the question that remains to be answered is— will this be an improvement over the existing local systems? It is clear that clinicians will not 'waste' their time in reporting unless they see incident reporting being translated into improvement in quality and patient safety. They will also need assurance that they will be at no risk of retribution. The three partner organizations in this endeavour cover a range of areas of governance and professional expertise. The NPSA has the machinery and mechanisms to facilitate reporting, and RCoA and AAGBI have the commitment to professional standards, training, curriculum, examinations, guidelines and recommendations, national audits, and research. This collaboration makes the partnership in bringing the new specialtiy-specific incident reporting system in anaesthesia unique in the world. It has immense potential to act as a springboard to initiate prompt and appropriate actions, reports, and recommendations, which can be disseminated widely using existing channels (websites, journals, and newsletters) within these organizations. To co-ordinate these activities, the RCoA has established a 'Safe Anaesthesia Liaison Group', which has its core membership drawn from the RCoA, AAGBI, and NPSA, and representation from a number of organizations and specialist societies. This group will ensure that the reported incidents are handled by professionals and independent experts, and acted upon in a timely fashion. Incidents of 'severe harm' or 'death' will be scrutinized within 1 week and, if considered appropriate, the NPSA will be recommended to issue nation-wide rapid alerts. In addition, the group will undertake a detailed analysis of all the reported incidents every 3 months and disseminate summary reports to all clinicians through the three partner organizations and relevant specialist societies. The group can make a recommendation to perform root cause analyses of recurrent incidents and, depending upon the nature of the incidents, make recommendations to professional bodies and specialist societies to develop guidelines, plan audits, and support research in the areas of concern. Finally, the group will liaise with the professional bodies to inform their machinery related to training, education, professional standards, and curriculum. In this way, the activities of this group will be crucial in turning the reported incidents into new learning points which will facilitate changes in clinical management, and thus improve patient safety.

The success of these exciting new developments, no doubt, will depend upon the enthusiasm among professionals and the quality of incident reporting. Clinicians will expect to see the incidents they report lead to improvement in patient safety, and the partner organizations will need to ensure that they deliver on these expectations. It is our sincere hope that the new venture will bring great benefits to our speciality. The partnership will harness the enthusiasm of the profession for reporting threats to patient safety and acting to eliminate them. Finally, it will not be too optimistic to speculate that, as in many other areas, speciality-specific national incident reporting in anaesthesia will be a model for future initiatives in other specialities.

It takes a long time to bring excellence to maturity
Pubilius Syrus ~100 BC

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References

1 Smith AF. Patient safety: people, systems and techniques. *Acta Anaesthesiol Scand* 2007; **51** (Suppl 118): 51–3
2 Flanagan JC. The critical incident technique. *Psychol Bulletin* 1954; **51**: 327–58
3 Cooper JB, Newbower RS, Long CD, McPeek B. Preventable anesthesia mishaps: a study of human factors. *Anesthesiology* 1978; **49**: 399–406
4 Rooksby J, Gerry B, Smith AF. Incident reporting schemes and the need for a good story. *Intern J Med Informatics* 2007; **76** (Suppl 1): 205–11
5 Merry AF. Safety in anaesthesia: reporting incidents and learning from them. *Anaesthesia* 2008; **63**: 337–9
6 Available from http://www.medana.unibas.ch/cirs/ (accessed March 2, 2009)
7 Available from https://www.pasos-ains.de/indexSSL.php (accessed March 2, 2009)
8 Available from http://www.dpsd.dk/ (accessed March 2, 2009)
9 James RH. 1000 anaesthetic incidents: experience to date. *Anaesthesia* 2003; **58**: 856–63
10 Short TG, O'Regan A, Jayasuria JP, Rowbottom M, Buckley TA, Oh TE. Improvements in anaesthetic care resulting from a critical incident reporting programme. *Anaesthesia* 1996; **51**: 615–21
11 Beydon L, Conreux F, Le Gall R, *et al.* Analysis of the French health ministry's national register of incidents involving medical devices in anaesthesia and intensive care. *Br J Anaesth* 2001; **86**: 382–7
12 Williamson J, Runciman B, Hibbert P, Benveniste K. AIMS anaesthesia: a comparative analysis of the first 2000 and the most recent 1000 incident reports. *ANZCA Bulletin* March 2008. Available from http://www.anzca.edu.au/news/bulletin/March%2008%20Bulletin.pdf (accessed March 2, 2009)
13 Böelle P-Y, Garnerin P, Sicard J-F, *et al.* Voluntary reporting system in anaesthesia: is there a link between undesirable and critical events? *Qual Saf Health Care* 2000; **9**: 203–9
14 Rollin A-M. Critical incident reporting 2001. *R Coll Anaesthetists Bull* 2001; **9**: 413–4. Available from http://www.rcoa.ac.uk/docs/Bulletin09.pdf (accessed March 2, 2009)
15 Sharma S, Smith AF, Rooksby J, Gerry R. Involving users in the design of a system for sharing lessons from adverse incidents in anaesthesia. *Anaesthesia* 2006; **61**: 350–4
16 Smith AF, Goodwin D, Mort M, Pope C. Adverse events in anaesthetic practice: qualitative study of definition, discussion and reporting. *Br J Anaesth* 2006; **96**: 715–21
17 Baird M, Smith AF. Accuracy of reporters' assignment of patient harm in anaesthetic critical incidents from the UK National Reporting and Learning System. *Eur J Anaesth* 2009; **26** (Suppl 45): 17AP1–5
18 Banks IC, Tackley RM. A standard set of terms for critical incident recording? *Br J Anaesth* 1994; **73**: 703–8
19 Benn J, Koutantji M, Wallace LM, *et al.* Feedback from incident reporting: Information and action to improve patient safety. *Qual Saf Health Care* 2009; **18**: 11–21
20 Catchpole K, Bell MDD, Johnson S. Safety in anaesthesia: a study of 12 606 reported incidents from the UK National Reporting and Learning System. *Anaesthesia* 2008; **63**: 340–6
21 Arnot-Smith J, Smith A. Critical incident reports involving neuromuscular blockade: analysis of the UK National Reporting and Learning System data from 2006. *Eur J Anaesthiol* 2008; **25** (Suppl 44): 136
22 Ode K, Arnot-Smith J, Smith A. Critical incident reports concerning regional anaesthesia: analysis of the UK National Reporting and Learning System (NRLS) data from 2006. *Eur J Anaesthiol* 2008; **25** (Suppl 44): 124
23 Secker-Walker J, Taylor-Adams S. Critical incident reporting. In: Vincent C, ed. *Clinical Risk Management: Enhancing Patient Safety.* London: BMJ Books, 2001; 419