Incident reporting: science or protoscience? Ten years later

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Beginning with this issue, *QSHC* will reprint important studies and reports that have made significant contributions to the fields of patient safety and quality improvement. In this series we will focus on papers that shaped our thinking and are described as seminal or as landmarks. Some of these papers we know about but may be inaccessible, while some we have forgotten but are so wise that modern generations can benefit from reading them. We will invite commentary to reflect on the context and contribution of these seminal papers to these fields. We encourage readers to suggest papers that have helped shape their thinking. We look forward to your suggestions.

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INTRODUCING A NEW SERIES

"You can see a lot just by observing." Yogi Berra

Almost a decade ago a special edition of *Anaesthesia and Intensive Care* devoted to the Australian Incident Monitoring System carried an evocative editorial by William Runciman entitled "Qualitative versus quantitative research—balancing cost, yield and feasibility".[1] It convincingly asserted the value of qualitative research in proving the value of pulse oximetry while recognizing the "gold standard" status of the prospective double blind crossover clinical trial. As a bonus, this valuable new knowledge was gained at far less cost than that required by a clinical trial. Pulse oximetry is considered today the gold standard for patient monitoring. However, clinical trials have yet to show that pulse oximetry monitoring improves patient outcomes. On the other hand, qualitative data such as incident reports have been the cornerstone for mandating the use of pulse oximetry—today no anesthesia would be allowed without its use. The editorial by Runciman provided a powerful example of the insights gained into pulse oximetry through incident reporting.

Despite the passage of time and the continuing contributions of qualitative research, recognition of the parity of its strengths with those of quantitative research remains elusive. It is true, however, that the social sciences lack the precision of the physical or biological sciences, and they are more likely to have political implications. However, it is the "exact scientists" who are the first to point out that the natural universe, for all its complexity, is easier to understand than the human being. Although often discussed, the integrated use of these complementary methodologies is seldom achieved. Dr Runciman's 1993 editorial message remains as timely and thought provoking in 2002 as it was then. It is as appropriate today to reprint it for its currency as its historical prescience.

There is a long tradition in medicine of examining past practice to understand how things might have been done differently. However, morbidity and mortality conferences, grand rounds, and peer review all currently share the same shortcomings—a lack of human factors and systems thinking; a narrow focus on individual performance to the exclusion of team issues; hindsight bias; a tendency to search for human error; and a lack of an integration of microsystems into an organization-wide safety culture. Reporting systems offer a way to supplement these vehicles by rich narrative. Implementing and sustaining incident reporting systems is on the "A" list of proposals by national healthcare systems for improving patient safety.[2 3] Despite the variability and lack of generalizability of individual incident reports, they are useful in generating hypotheses and in modelling new, rare, or particularly troubling events. They are also used to monitor the system's pulse and the effects of a system change. Perhaps the least appreciated and most unique attribute is the potential for incident reporting to engage the staff in safety activities. This involvement may bring about mindfulness and a change in safety culture.

Providing an environment that encourages event reporting is a precondition for engaging staff, particularly for reporting near miss events. A continuum of cascade effects exists from trivial incidents to near misses and full blown adverse events. The reporting of near miss events, which might otherwise remain unknown to the decision makers such as senior management, provides information about the system's latent conditions[4] and also provides insight into the processes of human recovery.[5] Near misses do not carry the baggage associated with patient harm, and a non-punitive environment may more readily tap this rich resource of information. Incident reporting in aviation and other industries has shown that the same patterns of error, failure, and their relationships precede both adverse events and near misses.[6] Only the presence or absence of recovery mechanisms determines the actual outcome. Analysis of near misses has many advantages over adverse outcomes:

- near misses occur 300–400 times more frequently, enabling quantitative analysis;
- there are fewer barriers to data collection allowing analysis of interrelationships of small failures;
- recovery strategies can be studied to enhance proactive interventions;
- hindsight bias is more effectively reduced.

In addition, near misses offer powerful reminders of system hazards and so retard the process of forgetting to be afraid.[4]

It has been said that an environment supportive of event reporting can be created by establishing a "just" culture[7] in which reckless behavior, rather than human error, should be the trigger for punitive action. This would assure fairness while preserving professional responsibility. In a more recent editorial[8] Runciman draws upon his experience in event reporting to argue for the usefulness of anonymous reporting. Anonymity, however, may be criticised for its threat to accountability and transparency, both at variance with the ethics of professionalism. Runciman considers this admittedly controversial choice a particularly important alternative by which to recruit the medical staff. This advocacy of anonymous, rather than confidential, reporting to increase physician involvement is justified by him with the usual medicolegal and regulatory concerns. The powerful element of

shame—the proverbial elephant in the room—considered in the previous issue of *QSHC*[9]—is another barrier to confidential reporting. In Runciman's approach anonymity not only extends to the reporter, but also is required for those actors observed by the reporter. The potential incompleteness and inaccuracy often ascribed to anonymous reporting has, in Runciman's experience, not been significant when compared with the wealth of human factors information obtained. Others have described similarly successful use of anonymous incident reporting.[10 11] Anonymous reporting might serve as a useful transition to event reporting in a just culture.

If the social sciences seem soft, it is largely because the subject matter is so difficult, not because human behavior is somehow unworthy of scientific inquiry. We must promote a deeper understanding of how science and technology influence human affairs—social, political, economic and personal. To maximize the usefulness of reporting systems there will be a need to balance accountability, system transparency, and protections for reporters. We believe that, at this stage, the science of reporting is more of a protoscience than a science. Its data are uncorroborated and its methodology still unsystematic. Not enough researchers work in this area, so the field lacks the give and take that would filter out subjectivity. This is changing rapidly.

Qual Saf Health Care 2002;**11**:144–145

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SPEAK UP ....

National campaign urges patients to join safety effort

Two of the leading advocates of healthcare quality and safety in the US have launched a national campaign to urge patients to take a role in preventing healthcare errors. Dubbed "Speak Up", the ground breaking program sponsored by JCAHO encourages patients to become active, involved, and informed participants on the healthcare team. The simple steps are based on research which shows that patients who take part in decisions about their health care are more likely to have better outcomes. Such efforts to increase consumer awareness and involvement are supported by the Centers for Medicare and Medicaid Services (CMS).

As a Joint Commission accredited health care organization, the JCAHO hopes patients will take an active role in supporting this critical campaign. Recognizing that physicians, healthcare executives, nurses, and other healthcare workers are already working hard to address this ongoing problem, it is now time for patients themselves to become part of this effort.

Accredited health care organizations will be receiving information about the Speak Up campaign and samples of the Speak Up campaign brochure and buttons. The brochures are being tailored to specific organisations, beginning with hospitals. It has a blank panel which will permit hospitals (and eventually other types of healthcare organizations) to add information about their commitment to patient safety and their logo. Healthcare workers are urged to make the brochure available to patients. Additional buttons for staff (15 cents each plus shipping and handling) are available from the Customer Service Unit at (630) 792-5800. The artwork for hospitals is available on the JCAHO website.

For more information see the content of the Speak Up brochure (available at http://www.jcaho.org/tip/j_online0302.html#speakup). For questions, contact Cathy Barry-Ipema, cipema@jcaho.org or 630-792-5630. More information is available in the May issue of Joint Commission Perspectives.