

Review Article

Incident reporting in surgery: a review of the literature

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ABSTRACT

There has been a worldwide recognition to report and learn from error in surgery. Adverse events if identified and reported can serve as learning points to prevent repetition. A number of schemes have emerged to report adverse events both nationally co-ordinated as well as independent voluntary reporting systems. It is envisaged incident reporting of the future will be a process whereby surgeons learn from adverse events from each other globally and collaborate to make healthcare safer.

Keywords: Incident reporting, Safer surgery, Adverse events

INTRODUCTION

The institute of medicine in the United States in its “to err is human” paper in 1999 estimated that were up to 98000 deaths a year due to medical error. Worldwide, there has been recognition to report and learn from human error. Reporting systems previously were unable to provide relevant clinical data and failed to function as a source of evaluation of clinical and system performance which could be used by clinical and administrative leadership.¹

The institute of medicine recommended voluntary reporting of adverse events and medical errors. It was stated that if adverse events can be identified and reported there will be a possibility to take appropriate action to prevent further repetition of similar events. Studies have reported that whilst adverse events occur in 30% to 40% of cases there is a report of a complication in only 6.2%. Studies have also concluded that a staggering 65% to 91% of adverse events are not reported. Reporting modules were infrequently used even in case of adverse events.²

The three main categories of incident reporting are harmful incidents, a no harm incident and a near miss. Each of these should be assessed and analysed into a reporting system. The WHO (World Health Organisation) recommends that multidisciplinary learners should be competent enough to report adverse events as well as near misses. The reporting of no-harm incidents or near misses facilitates the monitoring of the resilience of health care processes.³

There are various bodies which are still working towards developing a standardized taxonomy for incident reporting. An effective coding scheme allows for the formulation of improved summary and reports documentation which, in turn, assists with performing comparisons across institutions. It is important to follow and develop a proper system of reporting to make the system more transparent which will allow for the adoption of quality improvement initiatives which can then lead to enhanced patient safety.²

The various factors which have been cited by surgeons, as the reason for the non-reporting of critical and adverse

events in surgery are time constraints, concerns of punishment, litigation, and worry about self-reputation in front of peers. The limiting factors which impede the development or even redesigning the system of documentation include the tolerance of stylistic practices, information non-availability and a fear of punishment which inhibits correct reporting.¹

TRADITIONAL REPORTING METHOD

The traditional reporting method is manual i.e. if an adverse event occurs, the assigned staff member completes a paper form. This form is then reviewed by the manager and sent to the quality or the risk management department. Here the information is documented and saved in an electronic format and analysed. Due to the multiple steps involved, there can be a significant delay between the event occurrence and the availability of the electronic data, using this manual method of reporting. Another drawback is that this paper form is not secure and can be lost, misplaced or photocopied.⁴

Improvements to this method included the introduction of web-based occurrence forms which were more robust and in line with the technological changes of organisations.⁴

AVIATION MODE OF INCIDENT REPORTING

In the aviation industry, there was a drastic change in incident reporting when the role of human factors in determining the final outcome of errors was established. In this regard, health care organizations have paid increasing attention to patient safety measures. According to the aviation mode of incident reporting, the precursors to incidents may not be due only to technical or non-technical skills but their analysis is considered to be a complex framework in which all the parts of the system are directly or indirectly evaluated. The analogy is made between an accident and an adverse medical event which has caused serious harm or death of the patient. There may be many near misses or errors related with this which may have led to the particular adverse event. The aviation model offers a voluntary, confidential, protected and anonymous reporting form which is also made available on the intranet. In order to avoid misunderstandings, clear definitions and classifications are provided for all terminology and events. These forms are then accessible to a team coordinator who is the only person responsible for assessing, evaluating and processing the form to an intranet reporting system. A research study suggested that in order for this aviation style reporting process to work effectively, all the people involved should be within the same institution.⁵

DERMATOLOGICAL REPORTING IN BRITAIN

In a research study conducted in Britain, adverse events were reported as a step towards risk management. It was found that regular monitoring of the documentation of

adverse events is necessary to ensure safe practice and also to detect any new risk at an early stage. As a new approach to improve skin cancer care in England, records were maintained for advice to patients regarding their diagnosis and the management of their skin cancer.⁶ It has been noted that reporting of adverse reactions follows a well-organized structure in western countries and schemes are present in other countries such as USA. However, the major drawback faced by them is the problem of under-reporting. It is important that clinical incidents are assessed by distinguishing between potential harm and particular adverse occurrence.⁶

THE USE OF TECHNOLOGIES IN REPORTING

The failure of professional monitoring systems in United Kingdom which were highlighted by the Bristol Cardiac Disaster spurred the need for an improved system of incident reporting.⁷

A research study was designed to study the feasibility of the use of PDA software packages which include a bedside log book, a self-assessment tool utilizing the cumulative summation technique for specific procedures and the ability to collect data in case of adverse events. It was reported that PDA can be successfully used by clinicians in reporting incidents in surgery.⁷ A US study implementing an electronic physician reported event tracking system, reported should become an integral part of all surgery departments and become an important part of the procedure.²

PATIENT SAFETY REPORTS

There has been an increasing interest in including patients in the evaluation of their safety. An enhanced focus on patient participation and empowerment in the healthcare setting has been noted. A much broader and complex view of safety dimensions and perspectives in health care has given an impetus to follow the patient centric approach. Since patient safety reports are still in infancy there have been variations in the method of reporting, accepted time spans, terminology, criteria for assessment and response rate. A National patient-experience survey conducted in hospitals in Norway reported that there were many questions which patients found difficult to answer and a decline in patient responses threw light on the need to develop and assess a short incident reporting instrument. It was concluded in the Norwegian report that patient reported incidents provided excellent data quality at hospital level and also offered hospital level reliability.⁸

NSQIP IN USA

A report on the American College of Surgeons National Surgical Quality Improvement Project (NSQIP) noted it is necessary for hospitals to be aware of their own clinical outcomes to be able to improve. Post-operative adverse events occur frequently in almost all types of surgical

cases And NSQIP provides and intervention for measurement, evaluation and reporting surgical outcomes. The key features of the reporting strategy of NSQIP is comprised of the following:⁹

1. Concurrent collection of clinical data
2. Peer controlled database
3. Bringing forth assessment of outcomes by considering risk
4. Results returned to hospitals and surgeons
5. Providing bench-marks by comparison of 30 day surgical outcomes from numerous participating sites
6. Regular audit to check accuracy of data

The reporting of surgical outcomes and their evaluation improves operative mortality and morbidity. Other settings such as New York State CSRS (Cardiac Surgery Reporting System) have similarly shown improved surgical outcomes. This concept of reporting adopted by New York State CSRS has also spread to other parts of the USA and there has been a growing interest in the systematic reporting of surgical outcomes.¹⁰

VOLUNTARY REPORTING

One study has reported that if an adverse event is rectified doctors do not give priority to the reporting of the incident. Various bodies have promoted voluntary incident reporting systems as a means to improve patient safety but they are seen as complex systems. Even the reporting of a remedied mistake is invaluable. A fix and forget culture means the event is lost to organizational learning and may hamper efficiency.³

IMPLEMENTATION OF ICPS FRAMEWORK OF REPORTING IN KOREAN HOSPITALS

Korean hospitals follow the ICPS (International Classification of Patient Safety) framework for the standardized reporting of patient safety issues. Incident type and patient outcomes have been classified as group incidents which are clinically meaningful. It also makes use of different grading systems to distinguish the degree of harm to patients. The descriptive information included in this type of report is comprised of patient characteristics, incident characteristics, contributing factors or hazards, and organizational outcomes. It has also been suggested in different studies that a common reporting form should be used nationally to bring down the rate of variations in incident reporting.¹¹

CORESS

CORESS (Confidential Reporting System in Surgery) is a reporting system used widely in the UK whose

fundamental principle is confidentiality. It is independent of the health services.¹² When a report is received, it is transferred to a stand-alone computer which is not connected to any other network and the identified data only available to the director. Any confidential data is removed before the report is reviewed by an advisory committee. This concept was first introduced to Ireland and Britain in 2005.¹³ CORESS was established by surgeons with an interest in flying and directly based on CHIRP (Confidential Hazardous Incident) in the aviation industry. Any member of a surgical team is open to report to CORESS and reports are published in surgical journals.

NRLS IN THE UK

The National Reporting and Learning System (NRLS) established by the National Patient Safety Agency is a system that has been used in England and Wales since 2003. There has been an increasing trend of reporting adverse events with this system and this has correlated with increasing safety culture.¹⁴

SUMMARY

Incident reporting in hospitals documenting actual or potential harm to patients are crucial for the development and functioning of safer health care systems.¹¹ It is well accepted that that incident reporting is sensitive in nature as well as complex based on the multifaceted and diverse culture of healthcare organizations. It is therefore important to formulate a common framework which makes data collection effective for analysis and assessment. As safety culture is more widely recognised and taken up national reporting systems that provide learning tools have potential to be more effect. With the increasing global nature of healthcare and co-operation within it, it is envisaged that reporting systems and innovations in them will become more standardised such that healthcare providers have a large pool of learning and development opportunities.¹⁵

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