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Critical incident reporting systems

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Summary Approximately 10% of all hospital admissions are complicated by critical incidents in which harm is caused to the patient — this amounts to more than 850,000 incidents annually. Critical incident reporting (CIR) systems refer to the structured reporting, collation and analysis of such incidents. This article describes the attributes required for an effective CIR system. Example neonatal trigger events and a management pathway for handling a critical incident report are described. The benefits and limitations of CIR systems, reactive and prospective approaches to the analysis of actual or potential critical incidents and the assessment of risk are also reviewed. Individual human error is but one contributor in the majority of critical incidents. Recognition of this and the fostering of an organisational culture that views critical incident reports as an opportunity to learn and to improve future patient care is vital if CIR systems are to be effective.

Introduction

Any event or circumstance arising during the NHS care of a patient, which could have or did lead to unintended or unexpected harm or injury, loss or damage can be considered to be an adverse or critical incident. Terms such as 'clinical incident' or 'adverse clinical event' are also used to describe such episodes. Critical incident reporting (CIR) systems refer to the structured reporting, collation and analysis of such incidents. CIR systems at the level of individual NHS Trusts and within clinical directorates are a recent development, although such systems have been a feature in healthcare organisations in North America and elsewhere for some years now. Indeed, they have existed for several decades in non-healthcare organisations, for example within the aviation and in the manufacturing industries, with the critical incident technique first described in 1954 in relation to non-commercial aircraft accidents.[1]

This article describes the attributes required for an effective CIR system at the level of a clinical service. Example trigger events and a management pathway for handling a critical incident report are described. The advantages and disadvantages of CIR systems, approaches to analysis of adverse events and the assessment of risk are also

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briefly reviewed. The overarching area of risk management as opposed to CIR alone is a large and complex one and readers are referred to some of the many excellent texts on this growing area.[2–5]

Why have a CIR system?

The government paper, *An organisation with a memory*[6] highlighted that whereas much NHS care is carried out to a good standard, there remains a significant burden — both to patients and to the NHS — when serious failures in care occur. The paper estimates that approximately 10% of all hospital admissions are complicated by a critical incident in which harm is caused to the patient — this amounts to more than 850,000 incidents annually. Adverse clinical events involving medical devices alone accounts for some 400 deaths or serious injuries annually for NHS patients. The financial cost to the NHS of all critical incidents is estimated to £2 billion per year, a sum that covers only the cost of prolonged hospital stays. The additional burden of psychological and physical harm to the patients, as well as the effect on staff of involvement in such incidents is unquantifiable. To this also needs to be added the ever increasing costs of litigation — estimated in the region of £400 million per year. The government review compared the NHS's systems for managing critical incidents unfavourably with those established in industry and commerce. In particular, the lack of systematic review of critical events means that the NHS as an organisation has failed to learn from its past mistakes. Generally applicable lessons that could be disseminated to the advantage of a whole clinical service, Trust and indeed to the wider NHS are lost, with any learning restricted — at best — to the individuals involved in the given incident. Furthermore, without appropriate analysis of the fundamental causes of critical incidents, the opportunity to implement clear plans for future risk reduction cannot be made.

The key benefits of CIR systems can be summarised as follows:

- to allow learning from adverse events
- to allow monitoring of underlying trends and patterns to allow early detection of potential future adverse events
- to allow timely investigations to be made and, importantly, to have comprehensive and contemporaneous notes to be made in case of possible future claims
- to allow feedback of accurate information to the patient about the nature of the adverse event.

Why do critical incidents occur?

Multiple factors are invariably involved in the sequence of events that eventually produces an adverse clinical outcome. There is a huge body of work on why adverse events occur and the overwhelming conclusion from much of this work is that, with the rare exceptions of malicious acts, adverse events seldom arise as a result of single human errors.[7–10] It is much more likely that a set of circumstances coincide and align in time and space in such a manner that an adverse clinical event occurs. This has been described as the 'Swiss cheese' model of adverse event causation, where the holes all line up to allow harm to pass through the defences from one side to the other (i.e. to the patient). The contribution of human errors in the causation of an adverse outcome has in turn been considered to be either latent or active failures.[7] The former refers to strategic, design or planning decisions — taken in the past — which create a process in which errors can arise. Active failures comprise the lapses, slips, mistakes or procedural violations of individuals that occur often immediately before the adverse event.

Factors affecting healthcare delivery can be compartmentalised further[10] and include:

- individual staff factors
- team factors
- institutional factors
- environmental factors
- patient attributes
- the task to be undertaken.

Again, the role of individuals can be seen to be a contributing, but not necessarily the key, factor leading to the adverse outcome.

Requirements and features of an effective CIR system

Organisational culture

An environment and organisational culture where CIR is seen as a positive means to improving quality of health care is vital. However, CIR is unlikely to gain widespread acceptance if it is seen as yet another manifestation of a blame culture. A positive role for CIR requires support from the highest levels within the organisation.