



Learning from patient safety incidents in incident review meetings: Organisational factors and indicators of analytic process effectiveness



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ABSTRACT

Learning from patient safety incidents is difficult; information is often incomplete, and it is not clear which incidents are preventable or which intervention strategies are optimal. Effective group processes are vital for learning but few studies in healthcare have examined in depth the processes involved and whether they are effective. The aims of this study were to identify factors that facilitated and hindered the process of analysing incidents in teams and to develop and apply a framework of indicators of effective analytic processes. Incident review meetings in acute care and mental health care were observed. Full field notes were analysed thematically. A framework of process measures was developed and used to rate each meeting using the field notes. Reliability was analysed. Factors hindering analysis were lack of organisational support, high workload and a managerial, autocratic leadership style. Facilitating factors were participatory interactions and strong safety leadership. Process measures showed deficits in critiquing the causes of incidents, seeking further information, critiquing potential solutions and solving problems that crossed organisational boundaries, supporting observational data on the importance of effective leadership. Organisational legitimacy, administrative support, training, tools for incident analysis, effective well trained leaders who empower the team and sufficient resources to manage the high workload were all identified in this study as necessary changes to improve learning. Future studies could develop and validate the proposed framework of process indicators to provide a tool for teams to use as an aid to improve the analysis of incidents.

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1. Introduction

Incident reporting has been a major focus of efforts to improve patient safety in the U.K. and elsewhere (see for example, Department of Health, 2000; Kohn et al., 1999; World Health Organization, 2005; Keogh, 2013). Reporting systems are seen as providing the opportunity for organisations to identify adverse events, analyse their causes and contributing factors, and find and implement ways to prevent such occurrences in the future (Barach and Small, 2000; Pham et al., 2010). In practice, there are concerns about the effectiveness of learning from failures in the NHS. Revelations about failure to learn from problems at the Mid Staffordshire hospital and the resulting patient harm have led to increased public concerns about patient safety in the UK, and a

renewed policy emphasis on the importance of learning (The Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013). The large number of incidents reported in hospitals means it is not feasible to analyse each incident in depth using formal methods such as root cause analysis. Typically a mixture of formal investigations and relatively unstructured discussion of incidents in team meetings occurs (Vincent et al., 2008). This means that although serious incidents are likely to receive in depth analysis resulting in changes to processes, responses to low harm incidents focus on improving incident identification and analysing the contributory causes (Ginsburg et al., 2009).

There are difficult challenges in learning from patient safety incidents; analysts do not have complete information, they must determine which incidents are preventable and make inferences about likely causes and optimal intervention strategies (Macrae, 2014). Learning has been termed a process of sense making as analysts piece together information to make inferences about actions they can take to improve safety (Battles et al., 2006).

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Surprisingly, the process undertaken by teams to analyse incidents has been the subject of few in depth studies (Lukic et al., 2010).

Most studies of incident reporting in healthcare have focussed on factors associated with the reporting and analysis of incidents, such as staff willingness to report incidents (Evans et al., 2006), the culture surrounding reporting (Waring, 2005; Kreckler et al., 2009; Pfeiffer et al., 2010), classifying and monitoring the number of incidents reported (Hutchinson et al., 2009; MacLennan and Smith, 2010), and the design of incident reporting systems (Regenbogen et al., 2010; Wallace et al., 2009; Karsh et al., 2006). Although these problems are important, there is a need to understand in more depth how teams undertake incident analysis and the factors that facilitate or hinder this process.

Organisational learning in general is the process of creating and applying valid knowledge to enable an organisation to improve (Lipshitz et al., 2002). Recent theoretical developments have emphasised that learning is distinct from event analysis. According to this view learning refers to changes in behaviour that result from sharing the results of event analyses; learning processes occur after events have been analysed (Ramanujam and Goodman, 2011). Although we agree that event analysis does not always result in learning, we argue that effective event analysis is a necessary part of the learning process. It is therefore important to study the process, especially as changes in behaviour or procedures may not always be necessary or observable. In this study we focused primarily on the analysis of events as one important aspect of learning.

Several recent reviews of the literature on analysing incidents have identified the factors associated with better learning. For example, Drupsteen and Guldenmund (2014) found that organisational trust, the impact or severity of the incident and the expertise of the investigators were important determinants of learning. Lukic et al. (2010) identified the type of knowledge attained, the nature of incident causes, the process used for learning and the people involved as crucial dimensions of incident analysis. These reviews highlight the importance of personal factors as well as the nature of the task and the incidents in shaping the analysis process. Although organisational trust was identified in one review (Drupsteen and Guldenmund, 2014) it could be argued that these findings downplay the importance of organisational factors which have been found to be very powerful influencers of organisational learning.

For example, management commitment to safety (Hofmann and Stetzer, 1998) and safety climate (Hofmann et al., 2003) have both been found to be related to various measures of safety communication and performance. At the team level, there is growing awareness that inadequate team processes inhibit learning (Glendon et al., 2006) and of the importance of the leader's role in facilitating teams. The leader can increase team effectiveness by framing the activity appropriately as a learning task rather than an instrumental task, taking the role of an interdependent team member rather than as an individual expert and decision maker, empowering participants by creating psychological safety, and supporting cross boundary working (Edmondson, 2012). Team leadership has been found to be crucial in facilitating learning in surgical teams implementing new technology (Edmondson, 2003), improving the safety performance of hospitals (Nembhard and Edmondson, 2006) and implementing quality initiatives (Ginsburg et al., 2010). Team factors such as the quality of team interaction and shared clarity of purpose are also important (McFadden et al., 2009).

Although many studies have highlighted the importance of organisational learning, the findings are often not detailed enough to provide practical strategies and solutions to improve the process. For example, Cooke et al. (2007) examined staff perceptions of organisational ability to learn from patient safety incidents in

a Canadian tertiary care centre, and found that perceptions were most influenced by the investigation and learning components of the system, including effective communication and leaders' commitment to safety. Although staff perceptions of the process are important, there is a need to study how incident analysis occurs at the team level and how it can be maximised.

In this study we aimed to investigate both the organisational factors that affect how teams conduct event analysis and the analytic process that teams used. We developed a process measure of meeting effectiveness adapted from a framework developed by Zelik et al. (2009) of eight attributes of rigour in the analysis of intelligence information. Although originally developed for a different domain, both the analysis of intelligence information, and learning from adverse incidents in healthcare involve making decisions based on incomplete or uncertain data (Patterson et al., 2008) and so the concept of analysis rigour is relevant and potentially useful. Rigour is defined as the depth of the analysis and the mechanisms to increase rigour are analytic strategies that serve to slow down the analytic process and make it more explicit to the analysts (Waltz, 2014). Although studies of organisational learning have proposed high level frameworks of the factors that influence learning, we are not aware of another framework that enables examination of the process of analysing and building a picture of the causes of incidents and proposed actions.

1.1. Aims

Incident reporting has been a requirement in UK National Health Service (NHS) hospitals for approximately 15 years and it is timely to revisit the question of how incident analysis occurs and how it can be improved. In this qualitative study we investigated processes for learning from adverse events in incident review meetings in an acute care and a mental health hospital. The overall aim was to investigate processes for learning from incidents and improving safety, thus the focus was on interactions within the meetings. We had the following objectives: first, we aimed to identify factors that facilitated and hindered the process of group learning from incident data; second, we aimed to develop and test a framework of process indicators for assessing the effectiveness of incident review meetings.

2. Methods

2.1. Settings

The participating organisations were two NHS Foundation Trusts in London; one providing acute care and the other providing mental health care. Both hospitals provide care and treatment for a local population, as well as specialist services to patients across the country. The acute hospital offers specialist services in addition to general medicine and surgical care. The mental health hospital provides a wide range of mental health care and treatment including specialist treatment services in substance misuse and in-patient facilities. The hospitals had similar scores in the NHS National Staff Survey (2011/12) for "fairness and effectiveness of incident reporting procedures", both of which were in line with the national average.

In both hospitals, a hospital-wide reporting system was in operation, and reporting was voluntary and anonymous. Doctors, nurses and allied health professionals reported incidents in both hospitals. Both hospitals had an electronic reporting system and the mental health hospital also operated a parallel paper-based system. The two hospitals had different systems for reviewing incidents. In the acute care hospital, risk managers were assigned to each department and worked closely with the department's risk

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