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Whose safety? Flexible risk assessment boundaries balance nurse safety with patient care



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ABSTRACT

Working effectively requires judgement to balance risks while achieving work goals, one of which is safety. Existing occupational health and safety risk assessment theories compartmentalise hazards as discrete entities and treat the resultant risks objectively. This approach overly simplifies the nature of work, neglecting the interaction and reconciliation of rapidly changing task demands, individual and organisational factors, implying that risks remain fixed. Such an approach suggests a divide between theory and practice. This paper explores how this divide is managed in safety critical contexts where risk assessment must respond to the evolving nature of risk and workers must actively participate in managing it. We highlight the dynamic and adaptive nature of safety decision making as a skilful response to risk in complex environments, where workers apply a flexible boundary to their assessment and management of risk.

Nurses from three Australian metropolitan hospitals were interviewed and provided stories about patient interactions in which they encountered a risk to their own safety. These stories were analysed thematically to identify how and what factors influenced nurses' decisions.

Results revealed that nurses applied a flexible boundary of risk assessment and management to balance patient and nurse needs, constantly re-evaluating their decisions to determine 'safe enough' strategies. Nurses used risk-based reasoning to determine this flexible boundary which may result in nurses' health and safety being traded off to achieve patient priorities. These findings highlight that managing risk is dynamic and the risk assessment and decision strategies adopted are flexible in response to evolving demands.

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1. Introduction

Creating safety at work is everybody's business, not just the province of managers and technical specialists. Occupational health and safety (OHS) is premised on principles of risk assessment and control. Risk assessment principles, particularly as they are embodied in regulation, focus on the objective and quantitative nature of risk (Aven and Zio, 2011; Work Health and Safety Act 2012 (SA), 2012). Risk assessment models typically quantify risk in terms of likelihood, exposure, frequency, duration, and consequence, suggesting that it is a fixed entity that can be reduced to a snapshot in time.

In practice, typical OHS risk assessments focus on the presentation of the hazard in an often narrowly derived analysis of the work (Pickering and Cowley, 2010). Such an approach ignores the fact that the many contemporary work environments are inherently complex in terms of technology, systems, and interactions (Fennell and Adams, 2011; Runciman et al., 2007). Risk assessment in such environments must involve the workers as active participants; and be responsive to the evolving nature of risk. The aim of risk assessment is to establish tolerance for accepting risk or to signal the need for intervention. This paper reports on workers evaluating risk and making decisions during evolving work activities. It proposes that workers make practical safety decisions by applying a flexible boundary of assessment to determine action.

2. Background

Contemporary work is often complex because it is dynamic, non-linear, and increasingly technologically driven, involving

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participants who work across teams and divisions, and perform under time pressures (Runciman et al., 2007). In an effort to tame this complexity, there has been a shift towards management, bureaucracy and governmentality (Sumner and Townsend-Rocchiccioli, 2003). Managerialism concerns the control of both the human and material resources and is exemplified by 'rules, regulations, directives and policies' (Sumner and Townsend-Rocchiccioli, 2003 p. 165). The outcome has been the proliferation of management systems that seek to define and order the work through an abundance of policies, procedures and forms. The management of OHS presents a typical example where managerialism has seen complex interactions and concepts of risk reduced to policies and procedures that are often perceived as mundane additions and complications to the business of getting work done (Hale and Borys, 2013b). Polices and procedures are valuable for training and coping with routine, predictable situations. However, the workplace is becoming increasingly complex and workers must acquire experience and expertise to facilitate the effective application of procedures while at the same time being adaptable in responding to novel events.

2.1. Managerialism, risk and OHS

Managerialism has had a significant impact on the practice of OHS in organisations. There has been an increasing emphasis on building management systems, often at the expense of systematically managing to proactively address hazards and risks as an integral part of business management (Blewett and O'Keeffe, 2011). OHS is premised on principles of risk assessment and control, though principles for assessing risk are grounded in objective and often quantitative approaches that extract risk from the socio-cultural environment in which it exists (Gherardi, 2004; Lupton, 1999). For this reason, OHS risk assessment theories have a tendency to treat risk objectively (Work Health and Safety Act 2012 (SA), 2012), particularly as they are embodied in OHS legislation. In practice however, work is more sophisticated and decisions on risk are a dynamic feature of work, yet this has been neglected in the literature and OHS policy.

Quantitative risk assessment aims to identify the sequence of undesirable events that transform a hazard to damage, determining the probability and consequence of each event and its outcomes (Aven and Zio, 2011). Quantitative risk assessment is therefore a tool that provides decision support in that results inform decision makers regarding technical risks, which should then be taken to consultation and debate to address the social and political factors (Aven and Zio, 2011). This may be so in the case of the high hazard environments which apply reliability engineering but less so in the everyday workplace. Creedy (2011) also highlights that risk assessments often place a greater focus on equipment failure and physical activities than behaviour and organisational factors. Risk assessments of routine work are often done with the involvement of a small work group, or in the worst case, by the health and safety manager in isolation. In timestrapped, complex work environments, risk assessments may be treated as inconvenient administrative tasks that take time away from achieving the real work.

2.2. Decision making, risk and safety

Decision making is typically considered to be a cognitive activity (Alby and Zucchermaglio, 2006; Klein, 2009) that progresses by constantly making sense of the environment. Where decisions involve uncertainty, decision makers are guided by a set of rules or heuristics which account for the environment, allowing them to integrate risks and goals (Booth and Nelson, 2014). Heuristics may take different forms in the literature, for example frames

(Weick, 1995), schema (Goffman, 1974), scripts (Abelson, 1981), and mental models (Klein, 2008). Heuristics have value in that they reduce mental effort when there are large volumes of information available or they guide action where there is ambiguous or insufficient information (Shah and Oppenheimer, 2008).

In complex and dynamic environments, like healthcare, effective decision making involves managing uncertainty. Grote (2015) discusses different conceptions of risk control as involving reducing uncertainty, maintaining uncertainty or increasing uncertainty. For example, engineers seek to reduce uncertainty, while social scientists advocate increasing uncertainty as a means of increasing options that maximise flexibility and innovation. Grote (2015) argues that the most effective way of responding to uncertainty is to build co-operative teams and apply flexible rules. Rules can be classified as being of three types: goal, process and action (Hale and Swuste, 1998). Rules that are focused on achieving a goal or that give guidance on how to follow a process are flexible rules, in that they allow decision latitude. Action rules specify the outcome to be achieved, often in the absence of defining the goal and are of most value when stability of processes is required (Grote, 2015).

The use of rules however implies rigidity rather than flexibility and that there is one best response rather than several suitable options. The central proposition of this paper is that decision making is a fluid and ongoing process that occurs across a flexible boundary of risk assessment, acceptance and action. The concept of decision making taking place across a boundary has been advanced by other authors, where the boundary is conceived of as a shared space across which interactions between groups take place in the absence of consensus (Star, 2010). The boundary is defined by sets of work arrangements that are both material and processual; and socially located. Through interaction, their vague nature is worked upon by participants to become more specific to local use. In this sense, rules and models, such as those applied to risk assessment, can be seen as boundary objects that direct attention towards organisational thinking and systems (Wiig et al., 2014).

Haves (2012) also highlighted the concept of a boundary of decision making about risk in her work with operational managers in three high risk organisations. The research examined how operational managers balanced safety with commercial and productivity pressures. While compliance with rules strongly featured in operational managers' decision making, Hayes (2012, p. 424) also highlighted their 'line in the sand' approach when using expertise to manage abnormal operating situations. In practice, operational managers applied situation-specific, selfimposed, short term limits to maintain the integrity of safety barriers, rather than considering risk from first principles. Operating beyond the defined envelope of operational limits is clearly unsafe. However, operation within the envelope is not automatically safe, given there is always the potential for adverse events not foreseen by the experts who wrote the procedures being followed. In such situations, managers used their experience to set their risk acceptance boundaries and worked within them

The notion that nurses use a flexible boundary of risk assessment in making decisions about safety has parallels with findings about how they protect their psychological safety at work (Hayward and Tuckey, 2011). Nurses manipulate emotional boundaries to either create an emotional distance or connection with patients and their families. These boundaries are used to manage anticipated, emerging and felt emotions. Nurses' management of emotions is adaptive in two ways. First, nurses use strategies to create a protective barrier, preventing the evolution of experienced emotion and its detrimental effects. Second, adaptive emotional management can be used to cultivate personal

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