HealthManagement
Promoting Management and Leadership

Volume 15, Issue 4/2013 - Safety Supplement

Hazardous to Your Health: Why Does Healthcare Struggle to Manage Risk?

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Healthcare is known to be dangerous to patients – the very people it seeks to help. Of the 421 million hospitalisations in the world annually, 42.7 million are estimated to be associated with some degree of adverse event – this makes unsafe care the “14th leading cause of morbidity and mortality, comparable to the burden from tuberculosis or malaria”.

Healthcare providers and policy makers are seeking to change this and the evidence shows that change is possible. Other safety critical sectors have been more successful at reducing harm by using risk based approaches: assessing risk and acting to ensure that they have an appropriate number and strength of prevention and mitigation controls in place relative to their hazards.

In healthcare there is evidence that the use of system level methods to assess and manage risk improves quality. For example, the recent EU funded MARQuIS study found that hospitals “that have either ISO certification or accreditation [i.e. hospitals that can demonstrate effective risk management] are safer and better than those which have neither”. The aim of this paper is to share the lessons learnt in identifying challenges for applying risk management in healthcare for patient safety.

Methods

A two phased study was conducted over the period 2012-13:

Phase I: A systematic literature review was carried out. For the purposes of the review, proactive risk assessment (PRA) was defined as any method (qualitative, semiquantitative or quantitative) used to estimate or evaluate the likelihood and consequence of hazards to patient safety before they happen to facilitate decisions on preventing harm. The search terms for specific PRA methods were identified through consultation with PRA experts in other safety critical industries (i.e., aviation, road, construction, maritime, oil and gas, rail, energy, telecommunication). Figure 1 shows the search strategy with incorporated subject headings and text words (in title and abstract). Reference lists of included studies were also examined for any additional relevant studies not identified through the searches.

Phase II: Empirical data was collected using a multiple case study approach. Semistructured interviews were conducted with hospital staff in three hospitals in Europe (See Table 1). Individual interviews were carried out in each hospital until data saturation point was reached. In hospital 1, staff were selected from a patient pathway, whereas for hospital 2 and 3, staff were selected from two specific clinical areas; this reflected the different ways in which care was organised. In all three hospitals, staff were selected that represented different levels of experience, roles and responsibilities. The interviews were focused on identifying risk assessment at a system level, including staff’ experiences with using these processes.

Figure 1: Search strategy

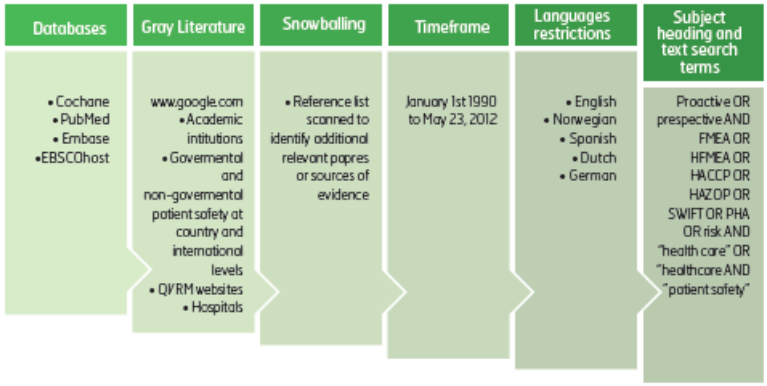


Table 1: Description of the participating hospitals in the case study

Case study	Hospital 1	Hospital 2	Hospital 3
Type of hospital	Acute	Acute	Acute
Country	Norway	The UK	The UK
Size	200 beds	1200 beds	900 beds
Number of units assessed	8 units covering the patient pathway "hip fractures in elderly"	2 units	2 units
Positions of interviewees	Line management and operational staff, senior managers and administrative staff	Operational staff, unit manager, senior manager	Operational staff, unit manager, senior manager
Number of interviewees	25	23	22

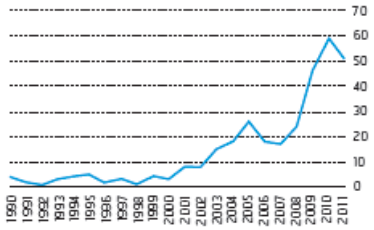
Results

Findings from the systematic literature review (phase I) The initial search strategy identified 387 references. The abstracts of each reference were screened independently by three researchers (ET, SL, AHR). After abstract screening, 96 articles were obtained and read in full by two researchers independently (ET, SL). Thirty four articles met the inclusion criteria.

The review shows that the rate of publication on PRA methods has increased over the last 20 years (Figure 2). Despite the increased publication rate, the literature on the use of systematic methods of PRA in healthcare is largely descriptive with limited empirical evidence showing successful adoption or impact (e.g. a decrease in the number and severity of incidents post PRA implementation) or identification of the healthcare specific strengths and weaknesses of the processes described. Most articles identified through the review simply set out the steps to using particular PRA approaches (most frequently Failure Modes Effect Analysis - FMEA).

The literature suggests a number of barriers in applying PRA approaches to healthcare (table 2): the need for dedicated time, resources and an organisational structure 2ready and able to support PRA approaches (e.g. with the necessary information to make appropriate judgements). For example, FMEA requires on average 10 hours including 4-8 hours of team meetings. In addition to dedicated time, many healthcare staff had difficulties in understanding the concept of PRA. Staff often perceived some PRA methods (e.g., Hazard Analysis and Critical Control Points or HACCP) as time consuming, burdensome, unnecessary and difficult, even after staff attending workshops explaining the process and the methods' potential value. This is likely because staff perceived the PRA approaches, with their emphasis on process mapping and discussing potential failure points, as theoretical and removed staff from direct patient care, which makes PRA unattractive to action- orientated health professionals.

Figure 2:
Number of publications identified through the literature search over time



In addition to internal factors described above, there were also external factors of barriers to apply PRA methods into healthcare. For example, the lack of trust towards the external facilitators who introduced the PRA methods, and the perception that facilitators take advantage of business, may impinge the staff's motivation to be involved in the PRA.

Findings from the case studies (phase II) The interviews revealed that most staff were only aware of clinical risk assessments such as falls risk assessment, manual handling, VTE, and pressure ulcers. Some senior staff with a managerial role conducted risk assessment related to a broader issue such as infrastructure and facility layout, but this practice was limited and inconsistent across staff grades. One hospital mentioned that risk assessment was conducted for determining the staffing levels and staff skill mix. However, no further actions were taken by hospital management on the results of that assessment.

Where system PRA processes were in place, there was mixed understanding of their use and potential value. There was some evidence that the risk assessment methods in use had become rituals, arising from national and local policies (e.g. to prevent the apportionment of blame), rather than meaningful ways of tackling risk. This was compounded by a perceived disconnection between senior management and front-line staff in some of the hospitals. In the absence of formal PRA processes clinical staff frequently discussed patient safety issues, but used a less structured or systematic approach (e.g. the discussion of concerns in general meetings).

Table 2: Barriers to PRA

Barriers to PRA internal to a team	Barriers to PRA external to a team
Inadequate organisational structure	Lack of trust in external facilitators
Limited competence in healthcare practitioners in PRA methods	No or limited awareness of rules and regulations governing healthcare practice by external consultants or facilitators
Resource limitations	Lack of control over the risk register (i.e. the database of if identified risks) once the risks are reported out of a team, ward or unit
Ineffective communication	
Misperception of the method	
Lack of awareness	
Perceived lack of validity of and reliability of quantitative elements of PRA (e.g. risk priority numbers)	

Where hospitals had risk registers for the logging and tracking of identified risks, some interviewees reported that there was a lack of local accountability for the population and management of the risk registers. Staff thus did not know how the registered risks were handled and used.

Discussions

Findings from the literature review and the case studies show that, in general, the knowledge and practice of formal risk assessment on a system level for patient safety is limited and with variable maturity. The staff interviewed had mixed understanding of the use and potential values of the formal risk assessment. There was evidence that this is because the processes had become ritualistic rather than an opportunity for staff of all grades and other stakeholders (including the users of services) to engage in a meaningful dialogue on the hazards to patient safety and to put in place actions for reducing unacceptable risks. This is ironic and unfortunate given the fact that one of PRA's potential values is in moving beyond ritual to making the real life processes of care delivery explicit so that the processes are amenable for improvement.

In the absence of formal processes for assessing and managing risks, staff used staff meetings or informal conversations to discuss their patient safety issues, including dealing with risks. These ways, nevertheless, were not done systematically or in a structured way, which meant that it was possible for risks to be 'lost' in the system and for staff and other stakeholders to disengage with managing risk and improving patient

safety.

Conclusions

PRA has the potential to be an important tool in addressing the urgent need to enhance patient safety. A preventative, data driven approach that enables healthcare providers to address human, technical and organisational factors by mapping their processes and identifying, eliminating or minimising hazards before they cause injury has worked well in other safety critical sectors. It fits with the needs of health services that are struggling to improve safety.

Despite this, our literature review and initial case studies show hospitals are struggling to make use of PRA. Healthcare has not yet reached the maturity of other sectors in enabling the assessment and management of system level risk as an integral part of all staffs' work. As a result, healthcare has too often yet to engage with PRA as more than a technical, tick box exercise. To change, healthcare organisations must address their culture, mindsets, competence and resources to enable all levels of staff to identify, assess and manage risk from a system perspective. This is a vital step in delivering patient safety for all.

Published on : Mon, 3 Feb 2014