Local rationality question tool: understanding why it made sense at the time

Louise Roe

Maternity and Newborn Safety Investigations (MNSI) programme

SUMMARY

Local rationality describes how people make decisions, based on what made sense to them at the time (Eurocontrol, 2014). While the importance of understanding local rationality in safety investigations is acknowledged, there is little to support safety investigators with how to effectively gain this knowledge when meeting with staff involved. A local rationality question tool was developed to help healthcare safety investigators understand why an action or inaction made sense at the time, without staff feeling blamed or interrogated.

KEYWORDS

Local rationality, decision making, tools and techniques

Introduction

In the field of safety investigation, it is vital to explore local rationality and fully understand why a decision, action, or inaction made sense at the time, without making the staff involved feel interrogated or blamed. In practice this can be easier said than done, and a trade-off can occur; where either the quality of information gained is sacrificed in fear of interrogating staff, or their psychological safety is neglected to get the information needed for the investigation.

In healthcare, the impact of a patient safety incident is devastating for patients and their families. Alongside this, the emotional effects on the staff involved are well documented (Wu and Steckelberg, 2012). Due to the nature of the healthcare industry, it is observed that staff will regularly individualise blame on themselves following a safety incident. The role of the healthcare safety investigator is not to add to this burden further by the way that questions are asked.

Understanding a situation from the perspective of those involved, to include their mindset, knowledge, demands, goals, the context of a situation, and any other information available to them at the time, is the essence of local rationality (Eurocontrol, 2014; Dekker, 2014). The safety investigator needs to be mindful of this and not use hindsight to judge what they think should have been obvious at the time, because it may well not have been.

The Maternity and Newborn Safety Investigations (MNSI) programme is part of a national strategy to improve maternity safety across the NHS in England. When undertaking maternity healthcare safety investigations, it was identified that whilst there was a clear understanding of the importance of local rationality, there was little information to support healthcare safety investigators to ask the *right* questions, in the *right* way, for both the investigation and the staff involved. In response to this a local rationality question (LRQ) tool was developed.

Method and approach

A literature review was undertaken and 8 English language journal articles and textbooks by safety science experts were selected. Literature selection was based on content that included decision-making, cognitive ergonomics, and incident investigation. Existing questions from safety science experts were selected and underpinning theories on factors that impact decision-making and task performance were used to provide supporting information. Questions were chosen on their ability to facilitate exploring 'why it made sense at the time' while considering the emotional impact on the staff involved and to prevent them from feeling interrogated or judged. Leading or influencing questions were avoided by adapting them, where necessary, using the tell, explain, describe approach. Some phrases were altered to ensure they were not accusatory. The tool's purpose was to bring together a collection of questions, in one place, that healthcare investigators could use to explore local rationality effectively and easily when speaking with staff involved in a patient safety incident.

The final selection of questions was collated into a functional table design (table 1) and categorised into areas of focus, to allow easy navigation in real-time practice. Categories included situation, thoughts and decision-making, preparedness, communication, and anticipation/thinking ahead. Supporting information was added to the table to make it easier to select the right questions for the information needed. The use of the tool was trialled during the author's investigations, and improvement in the quality of information obtained was evident, along with increased confidence and positive experience when speaking with staff. The selected questions were later peer-reviewed to ensure they met the needs of MNSI investigators. The tool was implemented for optional use during MNSI investigations, before being shared widely with healthcare stakeholders and safety investigators from other industries.

Table 1: Local rationality question tool

No.	Question	Comments
	Situation	
1	Describe to me what was happening at the time?	Allows exploration of dynamic elements of a work environment.
2	Describe to me what was happening around you?	How did the situation unfold around them; what cues did they get when?
3	If you had to describe the situation to your colleague at that point, what would you have told?	
4	Describe to me what you were seeing/hearing?	
5	Tell me what the workload was like for yourself and those around you during this time?	Workload intensity or inactivity. Helps to explore fatigue and stress as well. Were their multiple goals at the same time?
6	Can you tell me about any time pressures to complete tasks or any limitations on what you were able to do at that time?	Workload intensity.
7	Tell me about any reassessments of the situation?	Immediate feedback, careful monitoring and assessment of the situation. Shifting goals as patient's condition changes and new problems/complications arise.
8	Can you breakdown … (name the task) into three to six steps. Of these steps, tell me a bit about those that required assessment/decision making/problem solving, if any.	Complete task diagram for very complex procedures/situations. This can provide road map and inform subsequent

		interviews. Helps to explore situations with dynamic quality to them.
	Thoughts/decision making	
9	Describe what you were focusing on?	
10	Can you explain what your aim (goal) was during this time?	Not knowing the outcome, you now know about now. Selecting information to confirm their current hypothesis rather than explore others.
11	Tell me what was the aim when undertaking …	What were they trying to achieve.
12	Can you tell me about any previous experiences you have had in similar situations?	Pattern matching – always previously turned out OK, never been in situation before to anticipate outcome.
13	Can you tell me what options were considered or available for managing … or does this situation fit into a standard scenario	
14	Tell me about what information you used to help you make this decision? … How did you obtain this information? … Tell me about any barriers you had obtaining this information?	Was all the information available to you to help you make the decision.
15	Can you explain to me what information you would need to make … decision?	Was all the information available to you to help you make the decision.
16	Were there any other options available at the time that should have been?	
17	Can you tell me what level of experience would be required to make this decision?	
18	For staff less experienced, describe to me what guidance/aids there are to help them make these decisions?	
	Preparedness	
19	Can you tell me a bit about the training that you/staff have to deal with this situation? … What training, knowledge, or information might have helped?	
20	Tell me what guidelines/policies there are in your unit to help manage this situation?	Any rules that applied clearly here
21	Can you tell me about any other sources of knowledge (staff, aids) you used to help you with this situation?	Application of knowledge - processing of knowledge, usable for situation, apply in correct context – was the right knowledge present for that situation.
	Communication	
22	Describe how the team communicated to each other during this time?	Communication patterns in team performance.
	Anticipation/thinking ahead	
23	Describe what you were expecting to happen?	Thinking ahead. Would also answer (did outcome fit expectation)
24	Can you explain to me what you were hoping would happen as a result of…	Imagined possible consequences of action. How were they imagining events would unfold. How did they judge they could influence the course of events?
25	What could possibly happen at this point?	What mistakes/slips were likely at this point? Don't use the word mistake when speaking to staff.

	Questions are based on/adapted from the following references: Dekker, 2014: questions 1, 2, 4, 5, 10 Hoffman et al, 1998: questions 4, 6, 11, 12, 13, 14, 19, 24 Klein, 1998: questions 3, 4, 6, 7, 9, 11, 12, 13, 19, 20, 21, 23, 24, 25 Klein et al, 2010: questions 14, 15, 16, 17, 18 Militello and Hutton, 1998: question 8 Mitchell 2013: question 12 Patel et al, 2002: questions 1, 5, 7, 8, 12, 22 Pitz and Sachs, 1984: question 10

Outcomes

The LRQ tool has been embedded into practice by the author for the past four years. Staff discussions were observed to flow better with a conversational structure. The information obtained was rich and effectively explored system or process issues, highlighting various influencing factors when standard practice was deviated from. The author reported feeling more comfortable during staff discussions as they were confident the questions they asked were system or human factors focused, rather than 'finger pointing'.

Four years into the tools use, MNSI investigators reported using the LRQ tool for planning staff discussions, real-time conversations, and when finding it hard to phrase difficult questions. MNSI investigators, new to the role, found it particularly helpful. The LRQ tool encouraged investigators to maintain an open-ended questioning approach, using an inquisitive non-blame approach that identified system issues and barriers. Investigators were able to explore nuanced information that may not have been obvious from other sources of information collected during the investigation. Using questions from the tool that explored staff's past experiences, prevented investigators from making assumptions based on staff's role or seniority. There was a desire for further support with how to ask some of the questions in the tool, along with more questions to help explore specific situations, and stress and fatigue.

Staff shared how they had been concerned about meeting with the MNSI investigator and at the end reported having had a positive experience, and greater awareness that the purpose of the meeting was to gain information to improve healthcare services rather than apportion blame. When using the LRQ tool, MNSI investigators perceived staff to show a positive response to the questions asked and were reassured and receptive, providing more information around the context of the situation.

Learning

The LQR tool is designed for 'pick and mix' use and inspiration, rather than a script, which is not recommended. Once investigators become more familiar with the LRQ tool, they will be able to integrate it into real-time staff discussions as needed, as well as use it to plan for these conversations. Reflection is always encouraged following a staff discussion to identify if there may have been a better way of phrasing a question or if the question led to staff sharing local rationality information.

Given the LRQ tool aims to explore local rationality, which in turn allows for a better understanding of how systems, processes, and human factors interact with decision-making, the tool aligns well with the Systems Engineering Initiative for Patient Safety (SEIPS) model (Carayon et al, 2006; Holden et al, 2013). However, the LRQ tool will work well alongside any investigation analysis model that allows for the 'whys' to be explored.

Limitations include the need for a formal evaluation of the tool, using recognised human factors and ergonomics methodology. The inclusion of the wider healthcare sector and other investigation

industries would provide an opportunity to develop a second version of the tool in response to evaluation findings.

The use of the LRQ tool is transferable to any safety investigation industry. Human factors specialists have fed back that the tool has been positively received by investigators within the mining industry and is being shared within UK civil aviation. In healthcare, patient safety teams have fed back how the tool supports their investigations and where information obtained has led to significant changes to departmental processes and equipment. The LRQ tool can help safety investigators ask the right questions in a way that promotes psychological safety. As a result, staff share their full experience, which in turn, reduces hindsight bias by encouraging the safety investigator to focus on only the information that people had available to them at the time. Questions that promote this thinking, allow for a just culture (Eurocontrol, 2014; NHS England & NHS Improvement, 2018), while accurate findings result in effective recommendations for systemic change.

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