

Insight into the detection of complications and errors by clinical staff: A qualitative study

Dunn K.L., Reddy P., Bowes G.

Objective:

To provide insight into the process of detecting errors and complications in the clinical setting.

Methods:

Reason's Swiss cheese model¹ for adverse events highlights the figurative layers of defence that must be penetrated before the patient is harmed. In health care many of these layers are staff members who detect that something is amiss, but little is known about how they do this. This lack of knowledge limits the potential benefits that may be gained if staff could be taught to be better detectors.

We conducted a qualitative research study at a tertiary paediatric hospital to further understand the process of detection in a clinical setting. The participants consisted of 30 clinical staff (doctors, nurses, allied health) who were recruited to cover a breadth of clinical fields and years of experience. Participants came from the major clinical disciplines of general and specialist medicine and surgery (including operating theatre), intensive care, accident and emergency, pharmacy and technology, and included recently qualified nursing and junior medical staff to the most experienced senior clinicians. Participants were invited to tell their story of a near-miss* situation in which they were involved (*where an error or complication may have resulted in patient harm if it had not been detected). Interview data were transcribed verbatim and data were analysed for emergent themes. Themes were validated within and between the data and between analysers of the data. While the interviews were wide ranging the emergent themes pertaining to detection are presented here.

Results:

Following *rules and regulations* is an important layer for detecting errors, however, the rules may be undermined by short-cuts, rationalisation, hierarchy, local culture, and changing the context so that the rule cannot be applied.

"I said that's not what's written in the pharmacopoeia in the pharmacopoeia it says to give this dose we're not going to do that."(comment by consultant).

Amid the complexity of health care, staff develop their own rules for doing things but with little knowledge on the reliability of the rule and do not necessarily apply the same rule for like situations. Input from others, in the form of comments, for example, or self-reflection can prompt staff to detect an error if they are perceptive to the cues.

"Everything goes through your head of what you'd done during the day...and I got to that particular event and something in my head just went oh my god"(doctor).

Increasing experience allows for instant recognition of an abnormal pattern that may not be apparent to less experienced staff.

"I think the look of the child from the end of the bed was enough to lead me to that conclusion" (consultant doctor).

Experience may be beneficial in some situations eg. diagnosis, but may be over-relied upon in other situations eg. calculating medication doses.

Conclusions:

This qualitative study provides insight into the process of detection in a clinical setting and forms the basis for future research. The study highlights the forms of detection employed by staff from different clinical streams, of varying levels of experience and performing a variety of tasks in detecting an error or complication. While the methods may be recognisable to clinical practitioners the barriers to carrying out the detection and the reliability of the method are not well appreciated. A greater understanding of *detection* is needed in order to strengthen this layer of defence against patient harm.