



HARC Scholarship Report

Current practice in risk management in Emergency Departments in particular the evaluation of incidents and the application to practice

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Background

In 2014 I was successful in securing a HARC scholarship. The aim of the HARC Scholarship Program is to build skills in future leaders who will:

- have advanced skills in using research in policy making
- be experts in evidence based practice and policy
- be connected to international and national experts in health services research

With this scholarship I visited experts in the UK and USA and undertook a systematic literature review on incident/adverse event classification in Emergency Departments (EDs).

1. Introduction

Based at the Agency for Clinical Innovation, the Emergency Care Institute's Incident Advisory Committee (IAC) reviews serious incidents that occur in NSW EDs. My role is to provide support to the IAC. As part of this, I previously coordinated the development of an incident review taxonomy. This is a classification framework or system to help investigate, understand, collect data, classify and monitor the causes and contributory system factors pertaining to ED incidents (e.g. 'errors'). However, there were some areas for further development:

- Such classification and analysis of incidents would benefit from a literature review
- The taxonomy could be further improved from embedding within a recognized framework of risk management
- By building in an international dimension to the taxonomy/classification it had the capability to become an internationally recognized tool in incident investigation

2. Methodology

The project therefore had three main objectives that formed the project methodology:

1. **Critical review** of the IAC taxonomy and proposed literature review strategy through discussion with international experts on ED risk and safety
2. **Literature review.** Conduct a literature review to identify evidence and practice in risk management and the classification of clinical incidents in EDs
3. **Disseminate and apply** the revised understanding to real incidents in Australia

3. Project activities, findings and dissemination

3.1 Critical review (*international visits*)

As part of the project I visited the following experts in the USA and UK:

- Professor Bob Wears, Department of Emergency Medicine, University of Florida
- Suzanne Mason, Professor of Emergency Medicine, School of Health and Related Research, University of Sheffield
- Dr. Janet Anderson, Senior Lecturer, Florence Nightingale School of Nursing and Midwifery, King's College London
- Jonathan Benn PhD, Centre for Patient Safety & Service Quality, Imperial College London
- Candace Imison, Deputy Director of Policy, The King's Fund, London.

All of the above were identified as being expert in the topic of risk and safety in health services. The visits sought to draw on their expertise as it applies to EDs and incident classification, and to introduce the ECI existing taxonomy/classification system to review and critique. The visits also sought to identify how incident classification data is collected and processed in different administrations in the context of risk management.

Findings

Selected learnings from these visits were as follows. All health administrations have classification systems to collect data about incidents. However, there is no agreed 'best' classification system. Indeed, experts on classification itself as a concept have argued it is impossible to design a perfect classification system. This is because one cannot fully account for the variety of different user perspectives. For example, classification may be used locally by a risk manager to capture locally important contextual or operational data, yet these classifications may be meaningless at a State level, or cannot be accurately aggregated across other facilities to generate State-data. Furthermore, in some administrations there can be concerns about incident classification systems as they can be used as performance measures, which may still not accurately reflect true safety.

Furthermore, some types of classification terms can be subjective or pejorative. For example, the term 'missed diagnosis' may imply an error to some, yet patients may routinely and normally leave the ED without every condition clearly identified. Providing a textual definition may not resolve this as the overall classification system soon becomes so weighted with explanations and caveats as to lose value as a tool, or they are not read. Classification ambiguities, however, many not always be a weakness. They may still provide a means to flag cases for later retrieval and review. Furthermore, they can be accurate as a classification of the views of subsequent reviewers (i.e. there was a misdiagnosis 'debate' by reviewers).

Some experts also question the value of detailed classifications for multiple 'root causes', or simple clinical or human factor failures. There can be more strategic, underlying drivers of quality and safety, such as the existence of a system operating beyond its capability or capacity, or the presence of blurred boundaries of what constitutes 'safe operation' by participants/actors. If the boundaries of safety and risk are unclear in the system in the first place, then it may be impossible to simply 'classify' incidents according to safety.

Despite the varied critiques, incident classification can be a valuable tool – even with inherent imperfections it can be a means to help manage large volumes of incident data. Overall, it is as much how it is used as how designed.

Conference poster presentation

The visit to the UK also included a poster presentation and attendance at the 3- day UK College of Emergency Medicine Annual Scientific Conference, Exeter, UK. The poster is attached (Annex A). This provided a summary incident framework to promote discussion amongst attendees. An abstract has also been submitted to the Australian College of Emergency Medicine Scientific Meeting in November 2015.

3.2 Literature review

A literature review was undertaken on the following topic: *"A systematic review of Emergency Department incident Classification Frameworks"*. This reviewed emergency medicine, health management and medical journals, using the health library service Ovid SP to interrogate Embase (1974-2015) and Medline (1940-2015) and was undertaken to identify any type of taxonomy or classification system for ED related incidents with English language

abstracts. A draft of the literature review is presented in Annex B: this is presently a draft and should ***not be generally circulated or published*** as this may compromise the proposed publication plan - Peer Review Journal. However, the following provides a summary of findings.

The review identified 15 references proposing some form of incident classification framework applied to EDs. Cross-comparison found that there was no widely accepted common classification framework. This aligned with feedback from international visits.

A finding was also that the ED is distinct from other aspects of healthcare in that it is a particularly dynamic, multi-system and complex area of delivery. For example, unlike acute surgery, it is not possible to manage serious problems by cancelling patients or closing facilities. The ED must operate and so has parallel to other systems or services that involve dynamic flows. As such, there is an opportunity to give more prominence to the complex organisational, system-orientated aspects, such as literature in regards organisational resilience and complex-system risk management, not only clinical and human factor explanations. In this way, safety can be better understood in the ED.

A classification system can also have power by providing language. It can help improve safety through empowering people to discuss risk management and safety in EDs by simply setting out legitimate concepts and ideas to describe what is observed.

The review has been used to develop a guide or checklist of Factors that may assist ED incident investigations (included at the end of Annex B).

3.3 Disseminate and apply

The literature review will be submitted to a Peer Review ED or Safety Journal. Its impact will be measured from the volume of citations it attracts over time. There will also be presentations at conferences and workshops.

There is also the potential to refine the current IAC taxonomy based on the literature review and consultations. This could involve restructuring the sequence of classifications according to recognised hierarchal approaches to reviewing socio-technical systems as part of risk management, for example:

- **The patient:** Matters pertaining to the patient including: demographic factors, situational factors and how sick the patient already was on presentation.
- **Activity Descriptions** of the physical or practical experience of care, the clinical care pathway.
- **Staff** How individual people work, including human factors, fatigue, cognition, slip-ups and personal conditions.
- **Environment** These are relatively fixed parameters or physical aspects that define the working environment.
- **Organisation** These operate at the hospital and ED organisational and managerial level.
- **External** These factors can include the wider institutional, funding and regulatory context, and includes Primary Care services.