



## Why do healthcare organisations struggle to learn from experience? A Safety-II perspective

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### Abstract

*Context:* Healthcare organisations are investing significant resources into learning from adverse events, but despite these efforts organisations struggle to create actionable learning to improve patient safety.

*Objectives:* To examine learning from experience in healthcare based on a Safety-II perspective.

*Methodology:* An illustrative example about learning from incidents in the discharge of patients who are on warfarin is analysed.

*Results:* Failure to learn from past experience is in part due to organisations' lack of appreciation of the contribution of dynamic trade-offs and adaptive behaviour. Such performance variability is at the heart of keeping complex systems safe and functioning.

*Conclusion:* Healthcare organisations should consider everyday clinical work as a complementary focus for learning from experience in order to improve patient safety. Shifting the focus of learning from negative outcomes to everyday clinical work might support organisations in establishing a more sustainable culture of learning and improvement.

**Keywords:** resilience, organisational learning, healthcare organisations, Safety-II

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### 1. Introduction

Over 15 years ago, the National Health Service (NHS) in England set out to become an organisation with a memory, which would learn from past experience and improve patient safety (Department of Health, 2000). However, major scandals, such as the failings resulting in patient deaths at Mid Staffordshire (Francis, 2013), as well as the large number of adverse events documented in the literature suggest that patients frequently suffer preventable harm (de Vries, Ramrattan, Smorenburg et al., 2008). Questions have been raised about whether care was getting safer at all (Vincent, Aylin, Franklin et al., 2008). The need to learn from experience in order to improve patient safety was reaffirmed more recently by the Berwick report (National Advisory Group on the Safety of Patients in England, 2013), which provides lessons for the NHS after Mid Staffordshire. The report title sets the agenda: "A promise to learn – a commitment to act". Why have healthcare organisations been struggling to learn, and why have they failed to act to improve patient safety?

In this paper, we argue that failure to learn from past experiences is in part due to the focus on incidents and adverse events as the dominant source of learning. This focus on negative outcomes is characteristic of a traditional safety engineering perspective, where safety is perceived as the absence of such negative outcomes (Safety-I) (Hollnagel, 2014). This view

can be contrasted with an alternative perspective that regards safety as the ability to succeed under varying conditions (Safety-II). We use an example of the discharge of patients on warfarin in the following, to analyse why learning predicated on Safety-I failed to provide improvements in this instance, and to explore some additional insights a Safety-II perspective might offer, based on recent developments in the area of resilient healthcare ([Hollnagel, Braithwaite, Wears, 2013](#); [Wears, Hollnagel, Braithwaite, 2015](#)). We propose that healthcare organisations should direct their attention towards learning not only from that which goes wrong, but also consider that which goes right most of the time, in the form of everyday clinical work. Learning from everyday clinical work might provide additional insights about the complexities and tensions that healthcare professionals need to navigate and resolve in order to provide high-quality and safe care. We argue that such insights would provide a better foundation for creating actionable learning and improvements to healthcare practice.

## 2. State of the art

In healthcare, incident reporting systems are a key mechanism for learning from past experience ([Anderson, Kodate, Walters et al., 2013](#)). These reporting systems were modelled on experiences from other industries, such as commercial aviation ([Barach, Small, 2000](#)). They are based on the assumption that the collection of incident data can lead to useful learning about precursors and contributory factors (Reason, 1997). The specific issues identified could then be remedied and guarded against to prevent similar incidents from happening in the future ([Hollnagel, 2008](#)).

Incident reporting in the NHS has been very successful if measured by the staggering number of incidents are reported every year. However, despite the large number of potential learning opportunities questions have been raised about the effectiveness of incident reporting systems to contribute to improvements in patient safety ([Braithwaite, Westbrook, Travaglia et al., 2010](#); [Macrae, 2015](#); [Pasquini, Pozzi, Save et al., 2011](#); [Sujan, Furniss, 2015](#); [Vincent, 2004](#)). There are now many studies that document barriers to effective incident reporting in health care. Such barriers include, for example, fear of blame and repercussions, poor usability of incident reporting systems, definitional problems about what constitutes an adverse event rather than a complication, perceptions among doctors that incident reporting is a nursing process, lack of feedback to staff who report incidents, and lack of visible improvements to the local work environment as a result of reported incidents ([Benn, Koutantji, Wallace et al., 2009](#); [Braithwaite, Westbrook, Travaglia et al., 2010](#); [Lawton, Parker, 2002](#); [Macrae, 2015](#); [Sujan, Ingram, McConkey et al., 2011](#); [Sujan, 2012](#)). Among management staff in particular, there continues to be widespread misperception that incident reporting systems might be useful for monitoring incident frequencies, despite evidence that suggests that incident reporting data are poor indicators of actual incident frequencies ([Westbrook, Li, Lehnbohm et al., 2015](#)).

One could argue that learning from healthcare incidents has been focussed too much on the collection and categorisation of data ([Anderson, Kodate, 2015](#); [Macrae, 2015](#)), whereas successful learning from experience should inherently be a social and participative process ([Lukic, Littlejohn, Margaryan, 2012](#); [Macrae, 2015](#)). Healthcare professionals might perceive incident reporting systems as a management tool, and this might act as a barrier to such a social and participative process. Approaches such as lunchtime discussions and informal cross-departmental improvement groups, which give greater ownership to healthcare professionals, might be useful to encourage greater local learning and improvement ([Sujan, 2015](#)).

### **3. Objectives and Methods**

The objective of this paper is to examine learning from experience in healthcare organisations from a Safety-II perspective. This is done in order to point out weaknesses with current approaches, and to suggest productive alternatives that might be explored.

To this end, we first describe a specific example of learning from experience that was triggered by a number of incidents. In the following sections, we then critique the learning that was generated and the improvements implemented from a Safety-II perspective.

#### **3.1 Case study – Discharge of patients on warfarin**

A large inner city hospital sustained a number of incidents whereby patients were prescribed warfarin (a blood thinning medication that requires active monitoring) and were then sent home without being given a follow-up appointment. This resulted in both under and over thinning of the blood, with potentially serious outcomes for the patients. The incidents were reported and formally reviewed in accordance with the hospital's risk management and clinical governance policies.

This review and learning process resulted in the recommendation to create and implement a discharge policy (a standard operating procedure, or SOP), where no patient was allowed to be discharged without a follow-up appointment being made first. On face value, this SOP sounded eminently sensible and safe practice.

However, what was not recognised was that there was no 24-hour appointment booking system for the anticoagulation clinic. This led to patients staying in hospital extra days (overnight or over the weekend) to ensure that the policy was adhered to. This affected both the patients, who stayed in hospital longer, and the wider organisation, which had fewer available beds for patients waiting to be admitted.

At a Junior Doctor Forum for foundation year doctors (early career), a case was presented of a patient, who was ready for discharge from the acute ward on a Friday afternoon. In line with the SOP, the patient needed an appointment made at the anticoagulation clinic before they left. The appointment system is accessed by telephone, but as it was Friday afternoon there was no one available to take the call. There was no alternative means of making a referral. The formal and mandated solution was for the patient to remain on the ward all weekend in an acute bed until the clinic was open on Monday.

The junior doctor weighed up the benefits of following the SOP with the needs of the numerous patients waiting for beds. The doctor decided that, as the patient was lucid, sensible and mobile, they could go home, but they had to return to the ward in person to ensure that they had follow-up arranged for them. The patient was discharged and duly returned to the ward on Monday. Another hospital policy is that patients do not return for follow up arrangements to an acute ward. The appointment was made and arranged, but an incident form was submitted as the patient had been discharged without formal follow-up having first been made.

### **4. Results & Discussion**

#### **4.1 The problems with Safety-I as a basis for learning**

When adverse events happen, organisations as well as patients want to know why they occurred, and how they can be prevented in future. The focus on negative outcomes is one of the defining characteristics of traditional safety management approaches. From a Safety-I

perspective, safety management aims to reduce harm and adverse events as far as possible, by either eliminating the causes of harm or by controlling the risks associated with these. Safety-I management frequently leads to the implementation of additional safeguards or defences in order to reduce or eliminate vulnerabilities in the system. Specific safeguards and defences often include attempts aimed at eliminating human error – by constraining behavior and reducing variability through standardisation of practice (Reason, 2000).

This is illustrated by the example above, where the incident analysis suggested that the “root cause” was the fact that patients were discharged without a follow-up appointment. The intuitive response was to standardise practice, and to eliminate variability through the introduction of a new standard operating procedure (SOP). The logic dictates that if everyone follows this procedure, then patients would be safe.

This view on the system by those who design and manage clinical work has been referred to as work-as-imagined (WAI) (Hollnagel, 2015). However, the way everyday clinical work actually unfolds is markedly different, and never standard or routine (work-as-done, WAD) (Hollnagel, 2016). This is because modern healthcare systems are not simple, linear systems, but might be more accurately described as complex adaptive systems (Braithwaite, Clay-Williams, Nugus et al., 2013). While some limited aspects of healthcare can be described in a relatively tractable and linear fashion, there are many aspects where this is not the case, and interactions can be both non-linear and complex, and the resulting behavior of the system is emergent (Robson, 2015). When learning from experience is confined to the tractable and linear analysis of incidents, there is the danger that lessons and resulting interventions are not grounded in a thorough understanding of everyday clinical work. Rather than leading to improvements in practice, the resulting interventions can all-too-often introduce additional constraints, tensions and contradictions for the practitioner, and thereby widen the gap between WAI and WAD (Sujan, Pozzi, Valbonesi, 2016).

This gap can be seen in the example, where its designers failed to consider the interdependency between the new SOP, and the availability of the appointment booking system. The latter was available only during office hours, and the introduction of the new SOP put healthcare professionals in a difficult double bind during the nighttime and over the weekend. Healthcare professionals were forced to make a trade-off between following the mandated procedure and promoting the safety of all patients, including those who were waiting to be admitted.

#### **4.2 Safety-II learning**

Situations such as this might appear quite simple, but often require complex decision-making skills. Safety-II regards such trade-offs and performance adjustments as essential components of organisational resilience (Braithwaite, Wears, Hollnagel, 2015; Sujan, Spurgeon, Cooke, 2015). From this perspective, we argue that the focus of learning from experience should be not so much on the extraordinary failure, but rather on the ordinary, everyday clinical work (Sujan, Pozzi, Valbonesi, 2016). Learning from everyday clinical work can lead to an appreciation of how performance adjustments are a necessary part of transforming WAI into safe practice.

Notably, failing to build such an understanding and appreciation of the role of performance adjustments, might lead to situations where the trade-offs made by healthcare practitioners are regarded as unnecessary deviations from and violations of best practice guidance. This can have seriously detrimental effects on the ability to learn from experience, and on patient safety. When practitioners work in a culture where performance variability is regarded as one of the root cause of adverse events, they might be tempted either to refrain from making the

difficult trade-offs, thereby threatening patient safety, or they might wish to keep the performance adjustments they make “under the radar” – lest they are reprimanded or penalised. In either case, managers become unaware of the widening gap between the work they are imagining, and its practice (Debono, Braithwaite, 2015). The inaccurate beliefs thus introduced into the system are detrimental to resilience of organisations, and could lead to more brittle systems of care.

In the example introduced earlier, the junior doctor decided to violate the new formal SOP, and to send the patient home without an appointment. Their decision resulted from deliberations that included consideration of the risk to the patient, as well as the risk to all the other patients waiting to be admitted. The effort-to-benefit ratio of making the trade-off was high for this clinician. In order to ensure the safety of patients, they deliberately went against organisational policy, asked the patient to do something outside of their expected plan (coming back in again later), and also increased the workload of another colleague, who needed to arrange the appointment at a later time. Practitioners, like the clinician in the example, most of the time receive no support to resolve their dilemmas and complex tensions. But they receive all the blame when they fail.

## 5. Conclusion & perspectives

Why do healthcare organisations still struggle to learn from experience? Based on the analysis presented in this paper, one might conclude that this is in part because they are committed to safety management approaches that were fit for improving the safety of industrial systems in the 1960s – 1980s, but which have clear limitations when applied to modern healthcare systems. Healthcare systems are more complex and less tractable, and they rely much more on performance variability as a means to provide organisational resilience and to deliver safety, high-quality care.

What does this mean for the future of learning from experience? Learning from experience remains a key component of any safety management system, but organisations need to consider learning processes that can complement and provide an alternative to the existing incident reporting systems. Such alternative processes need to be able to generate actionable learning from everyday clinical work so that the contribution of trade-offs and performance variability can be adequately accounted for. Learning from experience does not necessarily have to be a centralised activity – learning from experience should happen at all levels of an organisation, and through different processes, both formal and informal.

A word on culture: many practitioners still work in a culture where performance variability is regarded as the root cause of adverse events. Transforming learning from experience and transforming culture likely go hand in hand. Shifting the focus of learning from negative outcomes to everyday clinical work might support organisations in establishing a more sustainable culture of learning and improvement.

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