Never say never again: post-incident change and the investigation trap

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ABSTRACT

This article explores the problems of implementing change in hospital operating theatres, following a series of patient safety incidents known as ‘never events’ due to their serious nature. Such incidents open a ‘window on the system’, exposing gaps in an organization’s procedures and practices, and highlighting the need for change. However, as documented in other sectors, the recommendations from investigations into the causes of such events are not always implemented. What are the problems? Information was gathered from interviews, from hospital documentation and external reports, and from a theatres team workshop. Analysis of these incidents and the sequence of events that followed demonstrates how post-incident changes were impeded by the mandatory reporting and investigation procedures that were designed to identify and encourage those changes. Institutional regulations and expectations generated a path dependent process, which locked the organization into a narrow range of actions which could be addressed quickly, but which overlooked the wider systemic changes that had been identified as desirable. Post-incident change was caught in an ‘investigation trap’, sprung by the combination of external demands and internal procedures. Path creation measures for escaping from this trap are suggested, in the interests of effective post-incident change, and improved patient safety.

KEYWORDS

Healthcare; patient safety; never events; change management; path dependence

Introduction: shock and awe

Magill was a National Health Service (NHS) hospital with a reputation for teaching, research, and patient safety. In 2011, the hospital’s safety reputation was jeopardized by four serious incidents, or 'never events', in operating theatres. These events were (pseudonyms):

(1) Mr Henley’s clamp: a small clamp was left in the patient's neck during surgery for mouth cancer
(2) Ms Christie’s bladder: surgery performed on the wrong side of the patient’s abdomen
(3) Mr Somerton’s fish: a surgical lapromat (a silicon ‘fish’ used to prevent bowel puncture) was left in the patient’s abdomen during liver transplant surgery
(4) Mr Mitcham’s lens: a cataract surgery patient was given another patient’s intraocular lens implant

The patients suffered no permanent harm, but staff were shocked that such errors had occurred, and were anxious to discover the causes in order to prevent further incidents. These incidents presented a valuable research opportunity, for several reasons. First, they occurred during research fieldwork, providing ‘real time’ access to staff and information. Second, the research team was then able to follow events for 15 months after the incidents had occurred. Third, as designated ‘never events’, they were subject to mandatory investigations. Fourth, these incidents were well documented, by the initial investigations, an internal ‘listening exercise’, a theatres team workshop, a review by a national regulatory body, and a further commissioned review. Many of the suggestions for change arising from those investigations and reviews were not implemented. Consequently, this was an appropriate setting in which to explore mechanisms influencing post-incident change.

‘Never events’ were defined as serious incidents that should not have occurred if appropriate measures were in place, and which were thus ‘intolerable and inexcusable’ (Department of Health, 2012, p. 4). The Magill incidents involved (1) retained object after surgery, (2) wrong site surgery, (3) retained object, and (4) patient misidentification and wrong implant.

Regardless of sector, accidents and failures offer ‘free lessons’ on safety (Rose, 2004). In healthcare, patient safety incidents thus provide an ‘audit’ of the organization’s working practices, a ‘window on the system’ (Vincent, Burnett, & Carthey, 2013). Change following such incidents should perhaps be welcome. However, recommendations from investigations are not always implemented – a problem that occurs in other sectors (Buchanan, 2011; Elliott, 2009). This study aimed, therefore, to explain the difficulties in implementing post-incident change. We first assess current research and theory, then outline the institutional context, then describe our research methods and analytical approach to developing a process narrative, which explains the problems of post-incident change with the concept of an ‘investigation trap’.

What’s the problem?

Serious incidents harm patients, disrupt services, damage individual and organizational reputations, and generate costs. The now substantial body of work in this area was triggered by the landmark publication To Err is Human, which estimated the annual cost of healthcare errors in the USA to be between $17 billion and $29 billion (Kohn, Corrigan, & Donaldson, 2000). The number and costs of incidents in the UK are discussed below. However, in their annual review, the UK Care Quality Commission (CQC, 2013) reported that, year on year, hospitals were making no improvements in patient safety, and quality of care had deteriorated. The patient safety literature is rich in guidelines, diagnostics, protocols, checklists, and alerts, but this advice is not always implemented, and research confirms that there has been little progress in patient safety since 2000 (Landrigan et al., 2010; Leape & Berwick, 2005; Leape et al., 2009; Leistikow, Kalkman, & de Bruijn, 2011; Noble & Donaldson, 2011; Shojania & Thomas, 2013).
Even in the aftermath of tragic events, remedial change is not guaranteed. One iconic example of the failure of post-incident change concerned the death of 17-month-old Peter Connelly in 2007 (CQC, 2009; Laming, 2009). Previously, in 2000, eight-year-old Victoria Climbié was killed by her guardians in the same London borough where Peter lived. The inquiry into Victoria’s death highlighted systemic failures among agencies responsible for monitoring vulnerable children: local authority, social services, NHS, police (Laming, 2003). Laming later noted that many child protection agencies had ignored his recommendations: ‘I despair about the organizations that have not put in place the recommendations which I judged to be little more than basic good practice’ (BBC, 2008). Why would change not be welcomed in such circumstances?

This study sought to understand why, following the serious incidents at Magill, the recommended changes were not implemented. Possible explanations include limited organizational receptiveness (Burnett et al., 2010); individual and group resistance (Rafferty, Jimmieson, & Armenakis, 2013); unclear change agenda; changes too costly; unclear change management responsibilities (Gustafson et al., 2003). None of those explanations applied. Magill had a history of innovation in medical practice and service delivery. Staff did not want to harm more patients. Recommendations from the initial investigations were unambiguous, and those arising from the workshop and listening exercise were generated by staff themselves. Most recommendations were cost neutral, involving new policies, documentation, and behaviours. Clinical leads were responsible for implementation, and Magill commissioned an independent review of progress. In addition, these events drew the attention of a national regulatory body which put the change agenda at Magill under further pressure that was reinforced by local commissioners (healthcare purchasers). In other words, the conditions for implementing post-incident changes appear to have been ideal.

The processes of post-incident change have attracted little research interest (Buchanan and Denyer, 2013; Elliott & Macpherson, 2010). Change management research focuses on codifying the implementation of positive, developmental initiatives (making things happen), and has paid little attention to the defensive, preventive changes that should follow incident investigations (stopping those from happening again). Kotter (2007, 2012) identifies why corporate transformational change programmes fail, but does not explain why smaller-scale changes that are welcome are not implemented. A recent review (Buchanan and Denyer, 2013) demonstrated how crisis research has concentrated on crisis incubation, accident causality, crisis management, and the role of inquiries and investigations. What Turner (1976) called ‘cultural readjustment’ – the implementation of remedial changes – is presumed to be straightforward.

There is, however, a small but fragmented body of research investigating the problems of learning from extreme events (work that is related to, but is distinct from, the study of organizational learning and the learning organization). Since the 1990s, this research has explored the process of and barriers to learning from accidents, failures, and other crises. Failures in post-incident change have thus been treated as organizational learning difficulties (Smith & Elliott, 2007); most research and commentary reveals the lack of learning.

Clarke and Perrow (1996), for example, attribute learning failures to the symbolic nature of unrealistic and optimistic organizational plans, particularly in high-technology, high-risk contexts. From his research in nuclear power generation and chemicals processing, Carroll (1998, p. 699) found that learning was impeded by ‘fragmentary, myopic and disparate
understandings of how the work is accomplished’, and that effective learning requires an integration of competing explanations for why incidents happen. Carroll (1998, p. 705) describes as ‘root cause seduction’ the practice of focusing on a small number of causes and simple solutions, overlooking more complex systemic problems. That focus, he argues, leads to ‘fixes that fail’, because they do not address the underlying issues, potentially making the problems worse, thus leading to further incidents.

Beck and Plowman (2009) argue that organizations do not learn from crises because the interpretation of these events is coloured by cognitive biases and hierarchical position; remote senior executives are less well-informed about events than middle managers. Similarly, from their analysis of the Challenger and Columbia disasters, Mahler and Casamayou (2009) conclude that failures to learn, especially in public sector settings, are often attributable to political and budgetary pressures which focus management attention on other priorities. Elliott (2009) argues that failures to learn from crises stem from a misunderstanding of the learning process, which involves knowledge acquisition, assimilation, and transfer. The final transfer phase concerns the translation of new knowledge into operating practice, but these three phases are often not integrated. Those responsible for investigation rarely implement the recommendations which they generate, and recommendations do not flow into an ideal organizational context that will simply absorb and apply them. Elliott and Macpherson (2010) argue that mandatory investigation processes may even contribute to failures to implement necessary changes.

Exploring these issues from a leadership perspective, James, Wooten, and Dushek (2011, p. 459) argue that ‘merely resolving a crisis, without also engaging in learning practices, can potentially limit future possibilities for organizational innovation and change’. Crisis leadership must adopt a wider agenda, exploiting opportunities beyond immediate damage control, ‘learning from and prospering post-crisis’ (p. 473), but these researchers do not explore how, focusing instead on crisis typologies. From their study of the global orbital launch vehicle industry, Madsen and Desai (2010) conclude that organizations learn more effectively through experience with failure than success. Success leads to complacency, rather than to a search for understanding. Once again, however, their discussion does not consider the learning mechanisms, and the organizational setting was idiosyncratic (‘failure’ involves a vehicle blowing up, with the loss of extremely expensive equipment).

Smith and Elliott (2007) argue that the organizational climate in the aftermath of a crisis is often highly charged and emotional – properties that inhibit learning and the implementation of lessons. They identify several other barriers: rigidity of core beliefs and values; ineffective communication; the disregard of outsiders; management distracted by other issues; reductionist focus on components and not systems; threat minimization; board members who lack the knowledge to challenge assumptions; and a focus on changes that leave organization culture intact. Organizational learning is also a political process (Lawrence et al., 2005). Elliott (2009) thus argues that public inquiries can be hindered by political considerations, to protect vested interests, and identify scapegoats. Elliott and Macpherson (2010) also argue that lessons learned from extreme events may be influenced more by stakeholder power, than by careful analysis of the event. One of the aims of public inquiries, they observe, is to demonstrate that government is responding to a matter of public concern.

Despite offering opportunities for change, Madsen and Desai (2010) identify a number of barriers to learning from failure. Failures are often stigmatized. Organizational members
may be reluctant to acknowledge failure, and ignoring failures may be institutionalized practice. Fear of punishment may inhibit openness, and communications may be constrained. Madsen and Desai (2010) thus focus on the barriers to learning, and the mechanisms through which organizations learn from failure are not clear (the available data offer few clues).

From a study in UK healthcare, Nicolini, Waring, and Mengis (2011a, 2011b) explore the barriers to learning from patient safety incidents. These barriers relate to: the leadership of investigation teams; information analysis processes; lack of staff participation (other than as witnesses); time constraints; limited resources; competing priorities; lack of change expertise on investigating teams; competing understandings of the nature of the problems; and localized learning not shared across the organization. Complex issues are often overlooked, on the assumption that they will be difficult to resolve, and investigators are under pressure to produce quick and tangible results. These researchers also observed that producing a well-presented, competent investigation report is often seen as a valued end in itself.

In summary, post-incident change is problematic, not automatic, and the processes for implementing new practices are not well understood. Learning failures have been attributed to properties of investigation processes: focus on simple solutions; lack of change expertise; competing perceptions; poor understanding of learning processes. Other organizational barriers to learning include political and emotional tensions, rigid thinking, poor communication, and other distracting priorities. Toft and Reynolds (2005) distinguish between passive learning (identifying lessons) and active learning (implementing changes). Figure 1 depicts the ‘ideal’ sequence of post-incident events: an investigation establishes the causes, which inform a change agenda, which then triggers a change process. Failures in post-incident change appear to be generated by weaknesses in passive learning processes and by barriers to active learning. It would thus be appropriate to conceptualize these failures in terms of change management as well as organizational learning. At Magill, there was no lack of passive learning. The aims of this study were to understand why the implementation of that learning was limited and slow, and to develop a theoretical understanding that could potentially inform other post-incident change settings.

**Theoretical perspective**

To develop understanding of the problems of post-incident change, this study adopted a processual perspective, complemented by a systems-theoretical view of incident causality.
**Processual perspective**

As this research was able to follow events for over a year after the incidents occurred, a process perspective was considered appropriate. This perspective seeks to explain how outcomes are shaped by factors at different levels of analysis combining and interacting in a given context (Dawson & Andriopoulos, 2014). Temporal factors – timing, pace, sequence, and duration – are fundamental to processual understanding (Langley, 1999; Langley, Smallman, Tsoukas, & Van de Ven, 2013).

The post-incident process appears to have been influenced by several factors. When a never event occurs, the nature and timing of internal procedures must follow national guidelines. The number of events that had occurred triggered a review by a national agency, whose report led to a mandatory response from the hospital. The independent external review also made recommendations, as did the hospital’s commissioners. It is thus likely that those internal and external pressures influenced the substance and pace of the change agenda.

One approach to understanding the role of these influences lies with the process phenomenon of *path dependence*, which is said to occur where an organization becomes predisposed, or committed, or ‘locked in’ to a course of action through the influence of past decisions and events (Greener, 2002; Pierson, 2003; Sydow, Schreyogg, & Koch, 2009). In his review, Greener (2002, p. 614) explains that, ‘While early in an organizational history a number of different paths may be equally possible and probable, once a given path has been laid, each subsequent decision is at least influenced by, and probably reinforces, what has gone before’. Greener (2002, p. 614) also notes that, ‘path dependence stresses the importance of rules and routines’ which in the NHS prescribed the approach to never event investigation and management.

Sydow et al. (2009) develop a theory of organizational path dependence, which recognizes the importance of past events and decisions, and of the way in which self-reinforcing feedback drives this process. This perspective seeks to explain how ‘sustained persistency and lock-in’ occurs, following an organizational path which takes the form of a ‘tapering social process’ (Sydow et al., 2009, p. 690). This process is initially triggered by a critical event (decision, accident, and crisis), which can often favour a particular solution. If this in turn triggers positive, self-reinforcing feedback, at critical junctures, that solution can become dominant, and can then ‘crowd out’ alternative solutions. Sydow et al. (2009) propose a model of path dependence with three phases: preformation, formation, and lock-in.

**Phase 1: Preformation.** The scope for action is broad, but still conditioned by past decisions and events. A decision during this phase may trigger a self-reinforcing process.

**Phase II: Formation.** A dominant response emerges, the range of options narrows, and it becomes increasingly more difficult to reverse the initial choices and actions.

**Phase III: Lock-in.** The dominant pattern becomes fixed, and eventually the actions become fully bounded to one path or ‘action pattern’; flexibility is then lost.

As Garud, Kumaraswamy, and Karnøe (2010, p. 765) explain, ‘Lock-in is an important concept that is manifest in situations where actors are unable to move to a new state despite all involved preferring to do so (what has been called a “penguin effect” in economics)’. However, the concept of path dependence has attracted criticism. Kay (2005) argues that the term is difficult to operationalize, that it explains stability and not
change, and that implications for practice are unclear. Vergne and Durand (2010) note that researchers often use the term loosely, and that it is not clear what constitutes acceptable empirical evidence for path dependence. From a constructivist stance, Garud et al. (2010) argue that those who are involved in a given setting may turn the conditions that they face to their advantage, to generate and to sustain desirable paths, rather than be subject to exogenous forces. Those involved in paths in-the-making are thus not necessarily helpless. They call this approach ‘path creation’.

In examining the process narrative relating to the never events at Magill, we will consider whether and how the organization may have become committed to a set of actions which impeded the implementation of many of the changes that investigations and reviews had indicated. Theory and practice have traditionally focused on making change happen, often in the face of resistance. A key contribution of this paper thus lies with understanding why change falters in conditions where it should be welcome.

**Systems-theoretical view**

With regard to incident investigation methods, NHS hospitals had limited discretion. Despite the criticisms discussed above, root cause analysis (RCA) was recommended (Department of Health, 2012). Leveson (2004, p. 4) also argues that, ‘the emphasis in accident analysis needs to shift from “cause” (which has a limiting, blame orientation) to understanding accidents in terms of reasons, that is, why the events and errors occurred’.

In response to those arguments, systems-theoretical views move attention from ‘cause’ to ‘why’ (Reason, 2000; Rasmussen & Svedung, 2000; Qureshi, 2008). Figure 2 summarizes what Rasmussen (1997, p. 185) calls ‘the problem space’, identifying the layers of control that are often implicated in accident causation, and ‘environmental stressors’ such as changing political climate, public expectations, financial pressures, changes in education and competencies, and the pace of technological change. Rasmussen (1997, p. 189) argues that most incidents, ‘have not been caused by a coincidence of independent failures and human errors, but by a systemic migration of organizational behaviour toward accident under the influence of pressure toward cost-effectiveness in an aggressive, competitive environment’. The systemic nature of serious incidents in healthcare is

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<td>management</td>
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*Figure 2.* The problem space: sociotechnical system risk management hierarchy.
reflected in 'the London protocol' which identifies seven sets of factors influencing clinical practice: institutional context, organization and management, work environment, team factors, individual (staff) factors, task factors, and patient attributes (Vincent, Taylor-Adams, & Stanhope, 1998, 2013). The London Protocol was summarized at the end of Magill’s internal investigation guidelines, which were based on RCA.

The incident investigations at Magill used RCA – a first ‘window on the system’ – to establish what went wrong, and to develop recommendations. These incidents were then subjected to two other investigations which opened more windows. The change agendas suggested by these additional windows were not addressed.

**Research setting and methods**

This study was part of a wider investigation involving six hospitals, with the intention of documenting and analysing one or two historic cases of (successful and unsuccessful) post-incident change at each site. During fieldwork at Magill in 2011, these four never events occurred, and access to documentation and staff was facilitated by a senior hospital manager who had been seconded full-time as a member of the research team. Information was gathered from the four incident investigation reports, and from interviews with 14 clinical and managerial staff who had been involved with these events. Interviews were based on a topic guide following the ‘ideal’ event sequence (Figure 1). Given the serious nature of the incidents, management also conducted a ‘listening exercise’, asking theatre staff to discuss ‘life in theatres’. That report was distributed in March 2012. Also in March 2012, the researchers conducted a workshop for 11 theatres staff who developed ‘mess maps’ (Horn & Weber, 2007) exploring the causes of these events and appropriate responses (see Figure 3). Other documents included the regulatory ‘compliance review’, an external review of operating theatre practices, and a review by the hospital’s commissioners.

Data collection was informed by the ‘ideal’ event sequence (Figure 1) and by a systems-theoretical perspective. Data analysis involved the development of a temporally bracketed, descriptive process narrative (Langley, 1999, 2009). The systems-theoretical lens provides a structuring framework, clarifying the factors and interactions involved in event causality, and the processes that trigger and shape the post-incident change agenda and event sequence.

The process narrative and conclusions were presented to a group of 12 medical, nursing, and management staff who were involved in these incidents. This group included a divisional director, the hospital’s director of quality, an assistant director of operations, a divisional head of nursing, two senior clinical nurses, two clinical directors, two operations managers, and two deputy operations managers. Participants were asked to comment on the accuracy, interpretations, and conclusions of our analysis (Locke & Velamuri, 2009). In expressing agreement with this account, the group emphasized that, while the change agenda had become ‘locked-in’ as described, the focus on checking procedures in theatres was a significant improvement. Based on four incidents in one organization, the contribution of this study lies with analytical refinement (Tsoukas, 2009; Buchanan, 2012) rather than statistical generalization. The mechanisms impeding post-incident change in this case can be found in other healthcare and public sector settings, where similar investigative protocols and regulatory regimes apply, and could be met in similar forms in other sectors.
**National context, local management**

The NHS paid significant attention to the number and nature of serious incidents and never events, and how they were handled. Following several ‘high profile’ service failures, patient safety was a national priority (Department of Health, 2010). From 2003, a voluntary

![Figure 3. Mess map of the Mr Mitcham never event.](image)
reporting scheme operated by the National Patient Safety Agency (NPSA) was in place; the National Reporting and Learning System (NRLS), which invited healthcare organizations to report serious incidents, and which was linked to a Strategic Executive Information System (STEIS). From April 2010, reporting was mandatory. There were over 1.3 million incidents in England and Wales in 2011 (NRLS, 2013). Over 90% of those led to no or little harm. Around 8,000 led to severe harm, and a further 3,000 resulted in death, those two categories accounting for just under 1% of the total. More than 80% of never events in 2011/2012 occurred in hospital operating theatres (Calkin, 2012). Some incidents led to compensation, the total cost of which in 2010/2011 was £800 million, more than double the cost in 2004/2005 (attributed to the ‘no win no fee’ market where claimants could litigate with no financial risk, and to agencies ‘farming’ complaints against the NHS; Sherman, 2012). By 2012, a typical settlement for a catastrophic injury claim was £6 million. In 2014, the NHS had liabilities of £25.6 billion for clinical negligence claims (Smyth, 2014).

In handling never events, hospitals followed a closely prescribed procedure, starting with mandatory reporting to NLRS and STEIS (Department of Health, 2012). An investigation team had to be formed within 24 hours, and an investigation report had to be submitted to local commissioners within 60 days of the incident.

The two main national regulatory bodies, Monitor and the CQC also scrutinized the handling of never events. Monitor focused on governance and finance. The ‘quality governance framework’ required the timely reporting of events, seeking assurance that hospitals had effective governance systems for monitoring patient safety. This framework noted that, ‘A failure by an NHS foundation trust to have in place adequate procedures to identify, learn from and report to Monitor relevant serious incidents requiring investigation, may be reflected in its governance risk rating’ (Monitor, 2012, p. 29). If a hospital was in breach of this framework, Monitor had legal powers to enhance its level of scrutiny, and to remove and replace any or all of the directors. The CQC (2010, 2011) reviewed the compliance of healthcare providers with 28 ‘essential standards’, covering patient involvement and information, care and support, safety, staffing, care quality, and suitability of management. CQC could conduct a ‘compliance review’ at any time, or if there was cause for concern. A review could lead to a request for ‘compliance action’. Penalties included warning notices and cautions, suspension of registration, a fixed penalty (fine), and in extreme cases civil or criminal prosecution.

To comply with national frameworks, the Serious Incident Investigation Guidelines, produced by the Magill Risk and Patient Safety Department (June 2011) explained how incidents should be managed. The first 12 of the 60 pages were devoted to the investigation process. The remainder described tools such as ‘five whys’, ‘brainstorming and brainwriting’, and ‘gap analysis’. Other advice covered types of human error (4 pages), timeline analysis (5 pages), the analysis of failed defences and controls (5 pages), and how to undertake investigative interviews (7 pages, and a further 3 pages on preparing witness statements). The guidelines ended with 7 pages describing a ‘contributory factors classification system’ based on Vincent et al. (1998, 2013).

The concept of a ‘witness statement’ had legal connotations. The guidance asked those preparing their statements after an incident to focus on, ‘what you said, what you did, what you saw, what you didn’t do, and why’. Staff were advised that, while statements would be treated as confidential, they could be used for purposes such as, ‘responding to a complaint, coroner’s inquest, clinical negligence claim, and hearing in connection
with a child protection matter. Staff thus had to consider the wording of their statements with care.

Investigation guidelines emphasized the need to identify contributory factors and root causes as well as immediate failures and human errors. However, recognizing the potential range of contributory factors, investigation teams were advised that:

The root causes will be one or more of the contributory factors that had the biggest impact on the incident occurring and will be the earliest point at which action could have been taken to avert the course of the incident or prevent its occurrence.

Investigation teams were thus encouraged to focus on the immediate timeline, and on a small number of causal factors. Similar advice was offered with regards to recommendations which the guidelines suggested should be, ‘clear, concise and kept to a minimum’ (emphasis added), drawing attention to ‘intelligent use of checklists’, ‘minimal dependency on short-term memory and attention span’, and ‘simplification and standardization of tasks and procedures’. The focus thus lay with individual capabilities, controls on behaviour, and task simplification.

Once an incident had been defined as a never event, staff had to follow mandatory procedures, which specified who should be informed and when, the investigative tools to be used, the maximum time that should elapse at key stages, how recommendations should be developed and presented, and the criteria for ‘closing’ an incident. The designation of an incident as a never event thus triggered a sequence of steps in which later decisions and actions were conditioned by earlier decisions – characteristics of a path-dependent process.

The process narrative

This section follows the sequence of events triggered by these incidents, and considers the fate of the recommendations generated by the series of investigations and reviews over 15 months. To develop theory from process data, Langley (1999, 2009) advocates the construction of a descriptive narrative, with temporal bracketing around critical periods. Table 1 summarizes the process narrative, from September 2011 to December 2012.

**September–October 2011: the four never events**

This analysis is based on the four never events mentioned earlier: Mr Henley’s clamp, Ms Christie’s bladder, Mr Somerton’s fish, and Mr Mitcham’s lens. As we will see, these events

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<th>Date</th>
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<tr>
<td>September 2011</td>
<td>Mr Henley’s clamp: retained object</td>
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<tr>
<td>September 2011</td>
<td>Ms Christie’s bladder: wrong site surgery</td>
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<tr>
<td>September 2011</td>
<td>Mr Somerton’s fish: retained object</td>
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<tr>
<td>October 2011</td>
<td>Mr Mitcham’s lens: patient misidentification and wrong implant</td>
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<tr>
<td>October–November</td>
<td>Incident investigation reports published</td>
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<td>March 2012</td>
<td>Theatres workshop (conducted by the research team)</td>
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<td>March 2012</td>
<td>Never events listening exercise report</td>
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<td>April 2012</td>
<td>Care Quality Commission team arrive to conduct compliance review</td>
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<td>July 2012</td>
<td>Care Quality Commission compliance report</td>
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<td>July 2012</td>
<td>Magill action plan</td>
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<td>November 2012</td>
<td>Independent enquiry and report</td>
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<td>December 2012</td>
<td>Visit by commissioners to review never event prevention</td>
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opened not one but three windows on the system of care at Magill. Based on the original incident investigation reports, Tables 2–5 summarize the root causes, contributory factors, and recommendations relating to these events.

**October–November 2011: incident investigations and the first window**

Immediately after each incident, a ‘serious incident management group’ was formed, with six to eight senior staff members. Their first task was to establish that the incident met the criteria for a never event, and to report this accordingly. This group then oversaw the work of two or three investigators, who collected evidence from patient case notes and theatre data, along with witness statements from and interviews with staff involved. Investigation reports were short, running from 7 to 15 pages, following a set format: summary, investigation team and methods, incident description, background and context, the chronology of events, root causes, underlying or contributory factors, and recommendations.

**Table 2. Mr Henley’s clamp**

*Never event 1: retained object*

A small surgical clamp was left in the patient’s neck during an operation for mouth cancer, a routine but complex procedure involving two oral surgery and plastic surgery teams.

**Root cause(s)**

Scrub practitioner did not perform an instrument count before taking the surgical trolley into the operating theatre.

**Underlying cause(s)**

| Scrob practitioner did not perform an instrument count before taking the surgical trolley into the operating theatre |
| Not all theatre team present when the World Health Organization checklist was used |
| An instrument count was not performed on the theatre set before surgery |
| Communication and teamwork between surgeons and theatre staff were ineffective |
| Communications between theatre staff and the sterile services department were poor |
| Pressure from surgeon to begin the procedure before the scrub nurse was ready |
| Staff entered and left during the procedure, without proper handovers between scrub nurses |

**Recommendations**

- Reinforce correct use of World Health Organization theatre checklist
- Written standard operating procedures for scrub practitioners, including instrument counts
- Competency checks for all theatre staff
- Surgeons should not ‘unduly rush’ theatre staff, except in emergencies

**Table 3. Ms Christie’s bladder**

*Never event 2: wrong site surgery*

Surgeon operated by mistake on the right hand side of the patient’s abdomen during a urological procedure.

**Root cause(s)**

Inadequate identification and documentation concerning the location of the patient’s problem which in this case, unusually, was on the left hand side.

**Underlying cause(s)**

| Surgeon not present when World Health Organization checklist was used |
| Surgeon under pressure to begin on time did not adequately examine and assess the patient |
| Pressure on surgeons was amplified by ‘strong monthly performance management’ |
| Generic theatre lists meant that surgeon (a locum) and patient had not previously met |
| Although the case was complex, this patient was assigned to a generic cystoscopy list |
| No communication between locum and the patient’s consultant surgeon |

**Recommendations**

- Review admission processes and theatre start times, to allow for doctor/patient consultation
- Review of hospital procedures for ‘target site’ identification and marking
- Review of guidelines to discourage complex patients from being assigned to generic lists
In the operating theatres, it was standard practice to use the World Health Organization Surgical Safety Checklist, (WHO, 2009, p. 98) which had three stages. The first was ‘sign in’, before anaesthesia, to confirm patient identity and other details. The second was ‘time out’, involving a pause before the surgical incision, to confirm the names and roles of the team members, to check the patient’s identity and details again, and to anticipate critical events. There was a ‘sign out’ before the patient left the theatre, to confirm the procedure, complete instrument, sponge and needle counts, and to discuss patient management and recovery.

The four incidents shared some common causal factors (Tables 2–5). Incorrect use of the WHO checklist was one root or contributory cause of all four incidents, leading to recommendations from three cases concerning the use of the checklist (Henley, Somerton, Somerton).

### Table 4. Mr Somerton’s fish

**Never event 3: retained object**

A surgical ‘lapromat’ (a silicone sheet known as a ‘fish’, to prevent suture needle damage to the bowel) was left in the patient’s abdomen towards the end of liver transplant surgery

**Root cause(s)**

Failure of routine checking procedures; an item taken from the instrument set had not been correctly recorded, and was then not removed at the end of the procedure

**Underlying cause(s)**

Failure to follow the World Health Organization theatre checklist procedure

- Items missing from the surgical instrument set, so more sets than required had to be opened
- When the lapromat was used, it was not written on the ‘count board’
- Unclear leadership in the theatre (nobody remembered asking for or using the lapromat)
- Poor interaction between theatre team and sterile services department
- Pressured environment in theatre with a second liver transplant on the same day

**Recommendations**

- Review and ensure consistent use of the World Health Organization checklist
- Improve checks of surgical instrument sets by theatre teams and sterile services department
- Standardize recording of items put in patients during surgery
- Review standard operating procedures for scrub practitioners
- Clarify who is in charge in theatre
- Competency checks for staff members
- Review working patterns to avoid staff working excessive hours

### Table 5. Mr Mitcham’s lens

**Never event 4: patient misidentification and wrong implant**

The cataract treatment patient was given the wrong intraocular lens implant, when the patient before him was late, and the theatre list running order was altered to save time

**Root cause(s)**

Failure to follow World Health Organization checklist procedures

- Surgeon did not check the patient’s identity and assumed that she had the correct patient

**Underlying cause(s)**

- The anaesthetic practitioner did not tell the theatre team about change to list running order
- Surgeon absent when patient’s identity and consent were confirmed by the theatre staff
- Lens selection was based on the theatre list, not with reference to patient’s medical record
- The surgeon was new to Magill and had not been given guidance on theatre checks
- Cataract patients were on generic lists; surgeons did not always see patients before surgery

**Recommendations**

- Ensure that the World Health Organization checklist is used as intended
- Review staff induction processes in ophthalmology
- Reinforce importance of following checking and handover procedures
and Mitcham). Problems with surgical instrument sets and ‘counts’ were causal factors in two cases (Henley and Somerton); instrument counts were also part of the ‘sign out’ stage of the WHO checks. Other common factors included communication and teamwork. The change agenda from the first window thus focused on the WHO surgical safety checklist.

### March 2012: listening exercise and the second window

Given the alarm raised by these incidents, a ‘never events group’ was formed, to give staff ‘the opportunity to comment on their view of life in the theatres and any factors which might impact on their ability to deliver the highest standards of care to our patients’. A number of ‘listening events’, were held, with senior staff acting as facilitators, and involving over 100 staff. The results, published in March 2012, categorized the ‘impact factors’ as follows:

1. **Procedures and systems**: not enough time to spend with patients
2. **Culture in theatre**: bullying, racism, spinning out procedures to fill the time
3. **Communication and team interaction issues**: inconsistent and contradictory messages
4. **Leadership**: lack of engagement with staff; watching not experiencing
5. **Training**: non-existent induction processes; people moving too quickly
6. **Staffing issues**: lack of porters; ratio of trained/untrained staff cut to critical
7. **Time pressures**: many issues only apparent on morning of operation; WHO checklist
8. **Equipment and instrumentation**: no systematic review of sets; wrong instruments
9. **Other**: incident handling; safety events held at times when most staff could not attend

The change agenda seen through this second window was thus more extensive than that generated by the initial incident investigations. This view highlighted several organizational properties. Despite the evidence concerning these wider issues, the report concluded:

> It should be remembered that the never events were, to varying degrees, the result of *individuals failing to follow procedures and good practice* [emphasis added]. However, if any of the factors identified in the listening events acted as contributory factors then action needs to be taken to address these issues.

The hospital annual report for 2011/2012 also concluded that these events were caused by ‘failure to follow systems and procedures’, noting that, ‘All staff were contacted to remind them of their patient safety responsibility, and their duty to challenge colleagues when standards of care were seen to be falling short’. Individual failures were thus seen as the main causes of never events. Several staff were disciplined ‘proportionately’ (nobody lost their job). However, this approach makes ‘the fundamental attribution error’, of blaming individuals, and overlooking the context in which they work (Ross, 1977).

### March 2012: theatres workshop and the third window

With no previous incidents, the theatres teams had a ‘high performance – high reliability’ reputation, and were surprised by these events. Three members of the research team were invited to run a workshop for 11 theatres staff; this was not a feature of the research
design. The workshop aim was to explore perspectives and tools, one of which concerned ‘mess mapping’, to explain why these events had occurred (Horn & Weber, 2007), and what remedial changes would be desirable. This involved using flipcharts and ‘post-it’ notes, to identify immediate causes, underpinning issues, contributory factors, external context, local conditions, and other reasons. For illustrative purposes, the team’s mess map for Mr Mitcham’s incident is shown in Figure 3. This echoed the findings of the RCA investigation: lax checking procedures, new surgeon, inadequate induction, and poor communications. This analysis, however, identified four other sets of factors:

<table>
<thead>
<tr>
<th>External pressures</th>
<th>the 18 week referral to treatment (RTT) target, and the need for external reporting, even though this patient was not harmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal pressures</td>
<td>the morning clinic was busy, surgeons were under pressure ‘to get a move on’, surgeons arrived late, staff missed their lunch break, surgeons complained that afternoon lists were too long</td>
</tr>
<tr>
<td>Personal preferences</td>
<td>medical staff behaviour could be idiosyncratic, ‘everybody does their own thing’, the new surgeon had her own lens matching practice, the lead consultant was doing paperwork at the time</td>
</tr>
<tr>
<td>Smooth running</td>
<td>the fact that things were going well may have contributed: experienced staff, mundane process, five routine cases, changing list order was commonplace; did a successful team ‘drop their guard’?</td>
</tr>
</tbody>
</table>

This mess map, produced in a short time by staff who were involved in the incident, opened a third window on the system, pointing to a more comprehensive change agenda. In addition, this reflected more closely a systems-theoretical model of incident causality. For illustration (and given space constraints), Table 6 combines the factors highlighted by the three windows in relation to Mr Mitcham’s case, locating these in an adapted version of Rasmussen’s (1997) ‘problem space’. This points to a change agenda

<table>
<thead>
<tr>
<th>System layer</th>
<th>Causal and contributory factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>18 week RTT target</td>
</tr>
<tr>
<td>Regulators</td>
<td>Need to report never events to external regulators</td>
</tr>
<tr>
<td>Organization</td>
<td>Culture in theatre; bullying, racism, filling time</td>
</tr>
<tr>
<td></td>
<td>Busy morning clinic</td>
</tr>
<tr>
<td></td>
<td>Non-existent induction processes, people moving too quickly</td>
</tr>
<tr>
<td></td>
<td>Staffing, lack of porters, ratio of trained to untrained staff critical</td>
</tr>
<tr>
<td></td>
<td>Time pressures, not enough time to spend with patients</td>
</tr>
<tr>
<td>Management</td>
<td>Leadership, lack of engagement with staff, watching not experiencing pressure on surgeons to get a move on</td>
</tr>
<tr>
<td></td>
<td>Surgeons complain afternoon lists too long</td>
</tr>
<tr>
<td></td>
<td>Surgeon did not have adequate WHO checklist training on induction</td>
</tr>
<tr>
<td></td>
<td>Incident handling issues, safety events run when most cannot attend</td>
</tr>
<tr>
<td>Staff</td>
<td>Experienced staff, adequate numbers</td>
</tr>
<tr>
<td></td>
<td>Everyone has their own way of doing things</td>
</tr>
<tr>
<td></td>
<td>Consultant doing paperwork</td>
</tr>
<tr>
<td></td>
<td>Surgeons arrive late</td>
</tr>
<tr>
<td></td>
<td>Anaesthetic practitioner takes patient 7 to save time</td>
</tr>
<tr>
<td></td>
<td>Surgeon selects lens without reference to patient’s notes</td>
</tr>
<tr>
<td>Infrastructure and equipment</td>
<td>Two systems for patient notes; hard copy and electronic record</td>
</tr>
<tr>
<td></td>
<td>No systematic reviews of surgical sets, wrong instruments</td>
</tr>
<tr>
<td>Processes and procedures</td>
<td>Failure to follow checking process, sign in, sign out not completed</td>
</tr>
<tr>
<td></td>
<td>WHO-advised final pre-operative pause not conducted correctly</td>
</tr>
<tr>
<td></td>
<td>Unclear guidance on theatre practice during induction</td>
</tr>
<tr>
<td></td>
<td>Doctor sees patient independently of consultant</td>
</tr>
<tr>
<td></td>
<td>Friday afternoon, mundane process, five cases without problems</td>
</tr>
<tr>
<td></td>
<td>Changing list order is commonplace</td>
</tr>
<tr>
<td></td>
<td>Did staff get a lunch break?</td>
</tr>
<tr>
<td></td>
<td>Nurses do not inform doctor of changed list order</td>
</tr>
<tr>
<td></td>
<td>Changing list order is commonplace</td>
</tr>
<tr>
<td></td>
<td>Patient ID not checked when local anaesthetic given</td>
</tr>
</tbody>
</table>
addressing organization, management, staff, infrastructure, equipment, and process issues, as well as better induction and checking.

April 2012: CQC compliance review

We can speculate that, in March 2012, hospital management may have acted on the combination of issues raised by the incident investigations, the listening exercise, and the theatres workshop. However, alerted by the never events, the CQC decided to conduct a ‘compliance review’ at Magill. The CQC team arrived in April, to examine documentation, interview staff and patients, and observe wards and theatres. They reported in July. Magill was found to be compliant with most of the ‘essential standards’, but there was ‘moderate concern’ with standards 4 and 16. Standard 4 related to, ‘Care and welfare of people who use services’, with regard to safe care. Standard 16 related to, ‘Assessing and monitoring the quality of service provision’, with regard to checking and managing risks to assure patient safety. On Standard 4, the Commission noted that:

Staff did not always follow the trust’s published guidance in the use of the WHO surgical safety checklist to ensure they delivered consistent practice within the theatre department.

The review noted that, while each theatre had a poster explaining the procedure with prompts, these were not followed consistently, and staff relied on consent forms, patient records, and memory to ensure that checks were performed. It was common for one member of staff to be absent from the team briefing as they were collecting a patient from a ward, and could therefore be unaware of risk management issues. The review also observed:

During 8 of the 10 checks that we witnessed the process was not formal or clearly read out to ensure the whole team were involved. Staff were not clear about who was responsible for leading the check. Two junior members of staff did not know what a sign out check was. We saw conversations occurring and staff wandering off before the check had been completed.

With regard to Standard 16, they repeated the observation that, ‘People are at risk because the use of the surgical safety checklist is not consistent and the system to monitor the quality of this process has not been effective’. All of the theatres kept registers of patients’ names and details, and one theatre had added a column in which to record whether or not the WHO checks had been carried out. But in this theatre, the Commission found that ‘sign in’, ‘time out’ and ‘sign out’ checks were incomplete, and that staff had signed to say that they had been done anyway. However, senior managers were able to reassure the Commission that those issues had been addressed, as their report indicated:

They described the process they had taken to conduct an in-depth review so they could establish how the incidents had occurred and plan improvements to reduce the risk of any further occurrences. This included communications with staff, training programmes, disciplinary processes and the implementation of an action plan that was monitored weekly by a team appointed specifically for the task. We were informed that some long term actions were still ‘work in progress’ and this included reviewing team communication.

The Commission’s recommendations thus focused on the WHO checklist, including theatre instrument checks and counts, requiring that the guidance be followed
consistently, and that practice should be monitored more closely. The Commission’s recommendations and comments made no mention of the other remedial changes indicated in Table 6. From this point onwards, the policies, procedures, and expectations of this regulatory body, reinforced by national policy concerning the mandatory investigation of serious incidents, and the use of RCA investigative methods, ‘crowded out’ (Sydow et al., 2009) the wider change agenda.

July 2012: Magill action plan

After a CQC review, a hospital had 14 days to develop an action plan showing how it would become compliant in areas of concern. Magill’s plan listed eight actions, three of which had been addressed by the time the plan was produced. The three ‘completed’ items were:

1. Trust not using surgical safety checklist recommended by WHO and NPSA.
2. Theatre registers with an extra column for recording WHO checks but not filled in.
3. Processes not in place to monitor quality of checks being undertaken.

Actions listed as ‘work in progress’ were:

1. Existing policies, guidelines and documents require updating to reflect new checklist.
2. Use of checklist not consistent in areas outside of theatres.
3. Not all staff attending/involved in team briefings; key checks not undertaken and no method of briefing staff arriving after the team brief.
4. Staff awareness, education and training on new surgical safety checklist.
5. Scheduling of theatre cases: incorrect operative side written on list and list not signed.

The mandatory response to the CQC thus focused almost exclusively on the WHO checklist. Magill was assessed in October 2012 as being compliant with Standards 4 and 16.

November 2012: independent enquiry and report

To check progress on implementing the action plan required by the CQC, Magill commissioned its own independent review of systems and procedures. This was carried out in November 2012, by a surgeon and a theatres manager from other hospitals. They met with senior staff, visited the theatres, and spoke to front line staff, concluding that Magill had, ‘a very proactive safety culture involving excellent reporting of safety events’. This review also noted that a revised version of the WHO checklist had been implemented, and was being used consistently in the main theatres.

However, so much work had been put into developing a new version of the checklist that this had led to ‘modification fatigue’ among theatre staff. The review noted that, ‘It is believed that the checking that is going on is at the extreme end. There is a perception among staff that if the checklist is not followed to the letter, and if anything goes wrong, they will be seriously chastised’. But also, ‘It was conceded that the extreme checking was effective as things were being picked up and so things were safer’. The new checklist had also reduced patient flow; one consultant said that his average list had dropped from 14
cases to 10. Staff complained about stress, suggesting that the new checklist was contributing to this.

The CQC review had noted that theatre staff were not always clear who was in charge and responsible for leading the surgical safety checklist steps. In response, the anaesthetic practitioner was given responsibility for the ‘sign in’, the scrub practitioner for the ‘time out’, and the ‘sign out’ was led by either the surgeon or the scrub practitioner. The independent review said that,

we clearly saw nurses identified by a red flash on their uniform indicating that this was the practitioner in charge at any particular time. Staff we spoke to liked this and it was clear to us who was in charge.

December 2012: visit by commissioners to review never event prevention

By November 2012, there had been no further never events at Magill. However, the local commissioning body sent three of their senior staff to conduct a ‘considered responsive review’ of the preventative actions taken by Magill. They reviewed progress since July, along with the findings of the previous independent review, noting the ‘positive comments’ in the latter’s report, the amount of work that had been undertaken, and the hospital’s ‘good safety culture’. Nevertheless, they made a number of further requests. One concerned a plan for the ‘roll out’ of the WHO checklist to other specialties (radiology, endoscopy, and maternity). Another was to provide more detail in future reports concerning the hospital’s methodology for auditing compliance with the WHO checklist. A third related to the lack of a formally documented ‘escalation’ process in the event that staff were not following WHO procedures. Finally, they requested an update of the action plan prepared for the CQC, ‘following which we would be able to close the never event serious incident investigations’.

Over a year had now passed since the four never events occurred. In addition to misuse of the WHO checklist, the other causes of these incidents had included: externally imposed targets and reporting requirements; internal pressure of work; inconsistent medical practices; complacency when procedures ran smoothly; weak systems; bullying culture; poor communication and teamwork; lack of leadership and staff engagement; inadequate induction training; staff moving between jobs too frequently; staff shortages; equipment problems; and concern over serious incidents handling, including the complaint that safety events were held at times when staff could not attend. Nevertheless, despite the evidence concerning these other issues, management were still facing external pressure to confirm further details relating to the way in which the WHO checklist was being used in operating theatres, and how that usage was monitored.

Discussion: the investigation trap

Our review of previous research indicated that explanations for failures in post-incident change lay with a combination of weak learning processes and organizational barriers. The Magill experience supports those explanations, pointing to flaws in investigation procedures, and problems in implementing changes. However, this study contributes to our theoretical understanding of post-incident change in two other significant ways. First, the
narrative demonstrates how a path dependent process committed Magill to a narrow change agenda, overlooking the wider issues revealed by the three ‘windows on the system’ of operating theatres work. Second, the evidence reinforces the view of Elliott and Macpherson (2010), that national and local agencies, regulations, and procedures can inhibit the post-incident changes that they were designed to promote.

**Path dependence and the narrow window**

Several significant changes were implemented. The WHO checklist was revised (different hospitals use WHO guidelines in different ways). Its importance was emphasized, resulting in high levels of compliance with its use. So much attention was paid to the checklist that staff suffered ‘modification fatigue’. A new induction checklist was introduced. Specific theatre staff were nominated to carry out the WHO checks. Two extra staff were appointed to monitor the use of the checklist in theatres. Workshops were held to develop teamwork and raise awareness of bullying.

Most of the post-incident change effort was devoted to the WHO checklist. Magill recorded no never events in 2010/2011, five in 2011/2012 (including the four discussed here), and three in 2012/2013. Most of the issues in Table 6 were not pursued, although developments in those areas could potentially have had at least as much, if not more long term impact on patient safety, and on staff motivation and performance. (The number of other serious incidents at Magill rose from April 2010 to March 2012, but fell subsequently Table 7.)

The process narrative indicates that Magill became ‘locked-in’ to a concern with the WHO checklist. To explain why, Table 8 plots once again the events and critical junctures in the process narrative, this time bracketing the stages of preformation, formation, and lock-in.

The preformation phase lasted two months, September and October 2011, as the incident labelling was agreed with commissioners, the never events were reported externally, and investigation teams were appointed. The decision to label an incident as a never event triggered a set of time-dependent procedures, and at this stage the Department of Health never events framework and the hospital’s own internal guidelines became applicable. Neither of those documents favoured any particular conclusions that the investigations would reach, although they had guidance concerning investigative tools and the development of recommendations. The formation phase then ran from November 2011, when the investigation reports were produced, to April 2012, when the CQC team arrived to conduct their compliance review. The investigations found that one of the main root causes of these never events involved failures to use the WHO checklist correctly. Remedying this started to become ‘the favoured solution’. In March 2012, however, there were two

<table>
<thead>
<tr>
<th>Table 7. Serious incident reporting at Magill, 2010–2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting period</td>
</tr>
<tr>
<td>April 2010–September 2010</td>
</tr>
<tr>
<td>October 2010–March 2011</td>
</tr>
<tr>
<td>April 2011–September 2011</td>
</tr>
<tr>
<td>October 2011–March 2012</td>
</tr>
<tr>
<td>April 2012–September 2012</td>
</tr>
</tbody>
</table>

escape routes’ from this emerging dominant path, based on the conclusions from the theatres workshop and the findings of the ‘listening exercise’. Mandatory external pressures blocked those paths.

**Regulatory inhibitions**

As indicated earlier, the lock-in phase thus began in July 2012, when the report of the CQC compliance review was received. From this juncture, the direction of the hospital’s future actions in response to the four never events became fixed and irreversible. The compliance review focused on the WHO checklist. The hospital’s action plan, explaining the actions that would be taken to restore compliance, concentrated on how the checklist would be revised and implemented, and how usage would be monitored. This ‘dominant response’ was reinforced in November 2012 by independent enquiry’s findings, and again in December 2012 by comments and requests following the review by commissioners. The policies, regulations, procedures, and expectations of national agencies thus inhibited implementation of the wider systemic changes that the windows on the system of care had opened.

*Postscript:* In November 2012, the other national regulator, Monitor, declared that Magill was ‘in significant breach’, due to failures to meet waiting times targets, and poor financial performance. To address those issues urgently, Monitor insisted on the appointment to the hospital board of a turnaround director. While work on patient safety continued, Monitor’s intervention generated another pressing change agenda, focusing on cutting costs and meeting performance targets, until the middle of 2014.

**Table 8. Path dependence and ‘lock-in’ at Magill**

<table>
<thead>
<tr>
<th>Path dependence phases</th>
<th>Critical junctures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preformation</strong></td>
<td>September–October 2011</td>
</tr>
<tr>
<td></td>
<td>Incidents were categorized as ‘never events’</td>
</tr>
<tr>
<td>2 months</td>
<td>Department of Health framework and local guidelines applied</td>
</tr>
<tr>
<td></td>
<td>External reporting to various bodies became mandatory</td>
</tr>
<tr>
<td><strong>Formation</strong></td>
<td>November 2011</td>
</tr>
<tr>
<td>(‘Three windows’)</td>
<td>Incident investigation reports focused on WHO checklist errors</td>
</tr>
<tr>
<td>3 months</td>
<td>March 2012</td>
</tr>
<tr>
<td></td>
<td>Theatres workshop and ‘listening exercise’ identified other factors</td>
</tr>
<tr>
<td>6 months</td>
<td>April 2012</td>
</tr>
<tr>
<td></td>
<td>CQC team arrived to conduct compliance review</td>
</tr>
<tr>
<td><strong>Lock-in</strong></td>
<td>July 2012</td>
</tr>
<tr>
<td></td>
<td>CQC report focused on WHO checklist errors</td>
</tr>
<tr>
<td></td>
<td>Magill action plan focused on WHO checklist improvements</td>
</tr>
<tr>
<td>6 months</td>
<td>November 2012</td>
</tr>
<tr>
<td></td>
<td>Independent enquiry focused on WHO checklist improvements</td>
</tr>
<tr>
<td><strong>Postscript</strong></td>
<td>November 2012–October 2013</td>
</tr>
<tr>
<td>12 months</td>
<td>Monitor declares Magill to be ‘in significant breach’ for not meeting waiting times targets, and for poor financial performance</td>
</tr>
<tr>
<td></td>
<td>A turnaround programme is launched, to achieve financial balance and meet performance targets; lasts until October 2013</td>
</tr>
</tbody>
</table>
The lock-in phase of this path-dependent process can be described as an ‘investigation trap’ in which the properties of post-incident procedures worked against the implementation of wider suggestions for change. The dimensions of this trap appear to have included:

- **Intervention by external agencies**: regulatory bodies, with their own agendas, had power to intervene and channel investigations in the directions they favoured.
- **Mandatory reporting**: this forced an incident labelling process, which then triggered a fixed sequence of events with a given timetable.
- **Root cause seduction**: RCA-based investigations focused on immediate causes and simple solutions, overlooking more significant systemic issues.
- **Delay**: as time elapsed during the initial investigations and subsequent external reviews, any sense of urgency present immediately after the events dissipated.
- **Staff exclusion**: those who were involved in the incidents were excluded from the investigations, and from determining recommendations for change.
- **Witness treatment**: those who were directly involved were drawn into a quasi-legal process which encouraged guarded statements with regard to what happened.
- **Lack of change orientation**: the impartial investigation teams had limited change management expertise, and were unlikely to be involved with implementation.
- **Fundamental attribution error**: investigators were encouraged to attribute blame to individuals, rather than to explore wider systemic issues.

These findings challenge some of the propositions in the literature reviewed previously. First, staff at Magill openly accepted that failures in care had occurred, and reluctance to acknowledge this was not, as Madsen and Desai (2010) argue, a barrier to change. Second, rather than inhibit understanding of these incidents (Beck & Plowman, 2009), multiple perspectives generated a broad systemic understanding of their causes, even if this did not translate into remedial solutions. Third, even if RCA had been replaced formally by a systems-theoretical view (as Carroll, 1998; Nicolini et al., 2011a, 2011b, imply), factors driving the path-dependent process would almost certainly have continued to inhibit the change agenda. Finally, the separation of those recommending from those implementing change (noted by Smith & Elliott, 2009 and by Elliott, 2009) was in this case compounded by the further degree of separation between local staff and management, and the national regulatory bodies which generated pressures and constraints based on their own agendas.

Post-incident change problems have been seen as organizational learning difficulties. This is a partial view, which neglects the value of a change management perspective. Change management research, in turn, has neglected this problem domain. It would thus be appropriate to explore the role of path-dependent processes in inhibiting and facilitating post-incident change in other settings and sectors. Change management research evidence and theory that could avert future accidents, failures, and other crises may be especially welcome in a funding environment that emphasizes the significance of ‘impact’.
Implications: escape from the investigation trap

How can this investigation trap be avoided? Several aspects of the response to never events are set by national policy, and compliance failures attract penalties. However, the concept of ‘path creation’ may be useful in identifying other routes, perhaps running parallel to mandatory paths, to avoid the lock-in seen in this case (Garud et al., 2010). Creative steps suggested by the Magill experience might thus include:

First, the staff who were involved in an incident could be engaged in determining causality and framing the change agenda. Second, staff involvement could occur immediately after an incident, capturing ideas before witness statements are completed and the sense of urgency has decayed. Third, senior management could ‘buffer’ staff from the demands of external agencies, through rapid response, and the timely provision of information and reassurance. Fourth, incident analysis could be informed by a systems-theoretical perspective, and not confined to RCA. Finally, it would be valuable to create an expectation of rapid post-incident change, not dependent on the outcomes of formal investigations.

Where patient safety incidents are viewed as ‘systems audits’, they can lead to significant organizational change and development. That could have happened at Magill, given the ‘three windows’ that were opened on the care system. However, investigation procedures may encourage a narrower view, endorsing current practices, with the implicit argument that only a small number of minor changes are necessary. The path dependence that leads to the investigation trap could be avoided by creating one or more parallel paths, of the kind that started to emerge at Magill, that would establish a broader understanding of causality, accompanied by an appropriate agenda, and an effective change process. Path dependence theory thus exposes the irony that the externally mandated policies and procedures specifically designed to address these kinds of events, by encouraging swift action to prevent further occurrences, can have consequences opposite to those which were intended.

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References


