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HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm.
(Florence Nightingale Notes on Hospitals, London, 1859)

Doctoral Thesis

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To be submitted by 25th November 2022
DECLARATION

I declare that this thesis has not been and will not be submitted in whole
or in part to another university for the award of any other degree.
I declare that this thesis is entirely my own work.

Signature: Robert Gillespie of Blackhall

25th November 2022
CONTENTS

HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING? ................................................................................................................................. 1

ACKNOWLEDGEMENTS ............................................................................................................. 8

ABSTRACT ................................................................................................................................... 9

CHAPTER 1 INTRODUCTION ..................................................................................................... 10

CHAPTER 2 LITERATURE REVIEW ............................................................................................. 14

2.1 Introduction to the Literature Review .............................................................................. 14

2.2 Implementation of hospital-process improvement ......................................................... 17

2.2.1 Poor Process Improvement in the NHS ...................................................................... 17

2.2.2 Poor process know-how .......................................................................................... 19

2.2.3 Inaction due to bureaucracy ..................................................................................... 19

2.2.4 Volatile management ............................................................................................... 20

2.2.5 Opening the Door to Change (CQC 2018) ................................................................ 20

2.3 Barriers to process improvement and manager-clinician relations .............................. 25

2.3.1 Resistance to Quality Improvement ......................................................................... 25

2.3.2 Confounded management, physician power play, standoffs and gaming .............. 30

2.3.3 Insufficient enforcement ......................................................................................... 31

2.3.4 Change paralysis and inaction ................................................................................ 32

2.3.5 The problem of NHS Workarounds ....................................................................... 34

2.3.6 Little or poor quality incident reporting .................................................................. 38

2.3.7 Little enthusiasm for a best practices database ....................................................... 40

2.3.8 Partial data and poor analysis ................................................................................ 40

2.4 Organisational learning about risk in healthcare .......................................................... 41

2.4.1 Toyota Production System ....................................................................................... 41

2.4.2 Cybernetics and standard procedure ..................................................................... 41
CHAPTER 5 RESEARCH FINDINGS ...........................................................................................................87

5.1 CQC assessments of risk in inadequate hospitals ...........................................................................89
5.2 CQC assessments of learning in inadequate hospitals .................................................................100
5.3 CQC assessments of risk in outstanding hospitals ........................................................................109
5.4 CQC assessments of learning in outstanding hospitals .................................................................124

CHAPTER 6 DISCUSSION ..................................................................................................................134

6.1 Why respect of procedure is important .........................................................................................134

6.1.1 The role of TPS respect for procedure in improving hospital processes ......................................140
6.1.2 Getting clinical staff to apply procedure ..................................................................................145

6.2 Why providing process feedback is important .............................................................................149

6.2.1 The reasons to report ..............................................................................................................150
6.2.2 Reporting barriers ..................................................................................................................152

6.3 Categories of hospital-staff behaviour .........................................................................................153

6.3.1 Inaction ......................................................................................................................................154
6.3.2 The Workaround .....................................................................................................................154
6.3.3 The Process-Capability cycle .................................................................................................159
6.3.4 The Risk-Prevention cycle ......................................................................................................163
6.3.5 The Continuous Learning Cycle .............................................................................................166
6.3.6 Organisational Learning in practice .......................................................................................170

6.4 Leadership focus on process improvement ......................................................................................173

6.5 How can hospitals proceed? ........................................................................................................175

6.6 Contribution to knowledge ............................................................................................................177

CHAPTER 7 CONCLUSION ..............................................................................................................180

7.1 Limitations of the study ................................................................................................................189

7.2 Directions for future research .....................................................................................................190
APPENDIX................................................................................................................ 193

CQC assessments as secondary data................................................................. 193
CQC assessments concerning risk in Inadequate hospitals ...................... 193
CQC assessments concerning risk in outstanding hospitals ..................... 200
CQC assessments concerning learning in Inadequate hospitals ............... 206
CQC assessments concerning learning in outstanding hospitals ............... 211
Nvivo grounded thematic coding................................................................. 216
Further grounded coding employing Gioia Data-Structure forms ............. 236
Pilot Interviews .............................................................................................. 254
NHS Never Events ......................................................................................... 262
Care-Quality Commission Regulations ....................................................... 268
Published Journal Letter ............................................................................. 269
Glossary: Technical and Acronyms ............................................................... 271
Bibliography .................................................................................................. 275

Histogram of published dates in the bibliography ........................................ 281

Researcher Bio ............................................................................................... 282
TABLE OF FIGURES

Figure 1 Schematic learning cycle as a cybernetic-process feedback loop ..........67
Figure 2 Distribution of CQC assessments among English NHS hospitals ..........74
Figure 3 Mention frequencies in all Nvivo coded assessments .................................80
Figure 4 Key major categories for risk: all hospitals ..............................................83
Figure 5 Key major categories for learning: all hospitals .........................................84
Figure 6 The error cycle .........................................................................................100
Figure 7 The increasing difficulty of meeting the 4-hour A&E limit in NHS England ..106
Figure 8 Two different views of the patient journey .................................................111
Figure 9 The Workaround .....................................................................................159
Figure 10 The Process-Capability cycle .................................................................164
Figure 11 The Risk-Prevention cycle .....................................................................165
Figure 12 Infirmary bed rails prevent falls ...............................................................166
Figure 13 Floor Template for allocating floorspace ...............................................168
Figure 14 The Continuous Learning cycle ..............................................................167
Figure 15 The Gioia templates ...............................................................................236
Figure 16 Histogram of publication years in the bibliography .................................281

TABLES

Table 1 Correspondence between Nvivo and Gioia levels of abstraction ..............77
Table 2 Frequencies mentions in Nvivo grounded coding ........................................79
Table 3 Categories of all Gioia theoretical constructs ..............................................82
Table 4 Grouped inadequate behavioural themes by aggregate dimensions ...........85
Table 5 Project examples using the Process-Capability Cycle ...............................162
Table 6 Project examples using the Risk-Prevention Cycle ...................................165
Table 7 Project examples using the Continuous Learning Cycle ...........................170
Table 8 Ranking of Process-Control behaviours in hospitals .............................173
Table 9 Targeted analysis of inadequate and outstanding performance ............179
Table 10 CQC Regulations ....................................................................................268
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ABSTRACT

This thesis presents a process-improvement analysis of organisational learning and of risk-prevention, which brings NHS staff to respect, apply, and update standard procedures.

The research methodology employs grounded coding of Care-Quality Commission assessments of NHS-hospital risk and learning to show that procedures are not always respected, that workarounds result from this, and that, without consistent feedback and corrective action on process incidents, hospitals which the CQC assesses as inadequate, will probably remain so.

The research adopts cybernetic principles to model this behaviour finding that respecting updated Standard Operating Procedures in compliance with TPS principles is a key countermeasure to risk conditions in controlling hospital processes. Furthermore, continuously updating procedure is found to be a path to organisational learning because, as staff act to stop process-output error, they prevent risk and learn.
CHAPTER 1 INTRODUCTION

The Berwick, (2013) report stated that between 400 and 1,200 patients died, in some cases needlessly, from 2007 at the Mid Staffordshire NHS trust: the report counselled training staff, which it found to be largely untrained in quality and safety in processes. The document also reported difficulty in learning from incidents: Beaussier et al., (2016) identified a corresponding failure to identify risk as a result.

In addition to Berwick, the Francis (2013) report stated that the action management took to investigate and to resolve concerns "was inadequate and lacked an appropriate sense of urgency". Moreover, Lindsay et al., (2020) comment that they find trust management to show a general inability to identify and to implement effective action to mitigate risk. Without organisational learning from incidents, there is limited understanding of clinical risk and little awareness of how to improve hospital processes (Anderson & Kodate, 2015): indeed, on a nation-wide basis Dixon-Woods, (2019) goes as far as claiming that “the NHS admires problems without solving them”.

These authors illustrate the need for stemming risk and for improving organisational learning to ensure mastery of hospital processes, but inaction in some NHS trusts seems to sustain risk and to paralyse learning (Reason et al., 2001): such findings have led to formulating the research question, which is the title of this thesis.

Furthermore, there is limited knowledge among hospital staff of how processes function or of how to improve them, and efforts to become more efficient and effective meet with resistance and ‘gaming’ from senior NHS clinicians, who openly declare their discomfort with, and actively resist, such change (Lazarus & Neely, 2003; Van Kooy & Pexton, 2018; Lindsay et al., 2020).

Since 2009, the Care Quality Commission (CQC) exists as an independent third party to monitor and to evaluate the performance of NHS healthcare establishments throughout England. It reports periodically, both to the NHS, and to the general public on its four grades of outstanding, good, requires improvement, and inadequate assessment of care quality:
each establishment is evaluated under the categories of safety, effectiveness, caring, responsiveness to people’s needs and leadership. The objective nature of the ratings and content of the CQC reports provides this research with the elements to determine the properties of outstanding and inadequate hospital quality. Certain Trusts are evaluated as outstanding outlier cases of excellence and, at the opposite extreme, are found others assessed as inadequate with outlier performance judged as unacceptable. The middle ground does not meet the requirement of understanding the contrast between outstanding and inadequate quality in their healthcare processes: middle-range good or requires improvement reports do not expose the nature of excellent or of appalling hospital performance. Accordingly, of no significance for this research, these two categories are excluded from this analysis to better grasp how and why outstanding and inadequate performances are judged as such by the CQC inspectors.

Also, the research showed that, because outstanding performers show a variety of individually excellent characteristics, it requires more than one outstanding qualitative content analysis to expose a grounded range of factors of outstanding performance. Clearly, the same goes for evaluating inadequate performance.

Furthermore, the Care Quality Commission (CQC) reveals that NHS staff consider that what they do is “essentially safe” (Opening the Door to Change: CQC 2018) in direct contradiction with the observation that “hospitals are now widely considered to be dangerous places” (Kenney & Berwick, 2010). Indeed, NHS staff are reported by the CQC in this paper to have no common understanding of what is meant by patient safety, risk being seen by clinicians as just “part of the job”, where conversely, safety is a pervasive, long-standing objective everywhere in industrial processes, where management and staff concur that working people work to make a living, not to get hurt.

This thesis researches process drivers of risk, learning, and of healthcare staff unfamiliarity with process behaviour to find paths for NHS staff to take control of broken

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1 The CQC can and does take enforcement action, issuing notices to poorly performing Trusts, particularly in the case of a breach in legal requirements.
hospital processes to reduce risk and to learn, as an organisation, how to improve the patient journey through the hospital. Unfortunately, hospital staff are frequently stressed, as extensively reported during the Covid pandemic and, to care for their patients, they are brought at times to rely on disruptive workarounds to solve problems caused by dysfunctional processes.

The CQC provides publicly available data which focuses on the drivers of process dysfunctions which lead to behaviour causing workarounds. Among these, CQC data surfaces the most prevalent clinical staff dysfunction as the tendency to not respect, to not update, or to not apply procedure. In acting in this way, staff aggravate risk in the clinic and obstruct organisational learning around their work.

This thesis shows that bringing together models provided by TPS\(^2\) in respecting and developing procedure, and by cybernetics in revealing how to control processes, provides an understanding of how to prevent risk and to secure collective learning around hospital processes.

As an outcome of the Berwick report, the research is presented as a question: -

**RQ:** How can NHS hospitals manage processes to reduce risk and to improve learning?

And two improvement objectives are introduced to elucidate the analysis: getting staff to effectively control risk by the proper respect and management of procedure and engaging with procedure in a way which fosters collective learning.

This thesis begins by presenting the backdrop to NHS staff behavioural difficulties with risk and learning by discussing process-control in hospitals, firstly through a Literature Review (Chapter 2); then it presents the Theoretical Framework of the thesis (Chapter 3) followed by grounded coding methodology applied to CQC assessments of inadequate and outstanding hospitals (Chapter 4). Subsequent analysis is divided between a Findings Chapter (5) which presents a grounded narrative of CQC assessed research findings, and a

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\(^2\) TOYOTA PRODUCTION SYSTEM: A structured, Japanese sociotechnical system embodying numerous theories and management philosophies developed by the Toyota corporation to continually reduce all forms of waste, while delegating responsibility to operators within a standardised work environment.
Discussion Chapter (6), which engages the research findings with the literature, leading to the Conclusion Chapter (7). An Appendix, placed at the end of the thesis to avoid burdening the narrative with data, includes, among other content, a glossary of the terms used and the bibliography.
CHAPTER 2 LITERATURE REVIEW

2.1 Introduction to the Literature Review

The literature was consulted and assembled over four years from 2018 during successive versions of this document. Initially, the terms *Lean, Six Sigma, healthcare+ efficiency, healthcare+ effectiveness*, and process quality with a date filter starting 1985 were researched. 400 articles have been stored in Zotero since then, of which more than 150 appeared significant enough to feed into an earlier research question entitled ‘Implementing process improvement for NHS hospital performance’.

Subsequently, the research question was changed to bring focus onto the more specific process questions of hospital risk and learning, finally as: ‘*How can NHS hospitals manage processes to reduce risk and to improve learning?*’

Thus, in addition to articles surfaced by previous searches, NHS hospitalANDrisk, hospitalANDprocess and NHS hospitalANDlearning were added to the search. This search then surfaced the need to scope around cybernetics more deeply with learning, organisational learning, Toyota Production System (TPS)ANDlearning, patient safetyANDlearning, patient safetyANDmodels which were added to the search instruction, this time with an early date limit of 2015. Extensive use was made of Google Scholar, of LexisNexis, Nexus Scholar and Pubmed in searching the healthcare journal articles. A final list of 88 documents cited in this thesis forms the basis of the Literature Review: they are listed in the Bibliography (p275), which also presents a histogram of the publication dates (p281).

Of note, The Institute of Medicine, (1999) *To Err is Human: Building a Safer Health System* text constitutes a turning point in the literature on hospital risk, which led to many publications relevant to this thesis.

The Institute of Medicine’s, *To Err Is Human* was transformational for patient safety. It brought the problem of medical errors into the public eye and highlighted why every health care organization in the US must consider safety as a priority. Before the
report’s release, many—including leaders in major health care organizations—simply did not do so (Bates & Singh, 2018).

Subsequently, in 2013, important reports were published by Berwick, Francis and Keogh concerning dysfunction at the English NHS Mid Staffordshire trust (Berwick, 2013; Francis, 2013; Keogh, 2013).

And, in December 2018, the CQC issued *Opening the Door to Change*, which marks another important turning point in the evaluation of risk and learning in the NHS.

In searching this and other literature on how to reduce risk and to improve learning in NHS hospitals, the reader is confronted with authors often exposing on the one hand, that NHS hospitals are in general poor at process improvement, and on the other that they are paralysed by change to the point of an inability to improve.

The paragraphs which follow show that this apparent inadequacy of the NHS to improve its processes appears to arise not only from the tendency of medical professional groups within NHS hospitals to resist process-quality improvement, but also from a lack of know-how to achieve it. Many staff continue to prefer workarounds to standard procedure in hospitals and often show scant focus on the *patient journey* itself.

Additionally, change paralysis appears to confound hospital management to the point of inaction: in some ways, this arises from professional medical staff in hospitals engaging in powerplay, stand-offs and gaming when management attempts efficiency and effectiveness improvement. Thus, broken processes survive disregarding the value of incident data, while clinicians regularly pitch excuses such as ‘complexity’ to further stifle any likelihood of getting change. On the other hand, physicians are under heavy pressure as Interview 2 in the Appendix relates.

The literature review also shows that the remote nature of hospital bureaucracy and political and public scrutiny of trusts further stiffen management frustration in hospitals assessed with *inadequate* performance.

In order to proceed, risk and learning need to be defined with a process focus for the purposes of this research. Two hybrid definitions are chosen:
Risk is a perceived threat of damage or uncertainty involving hazard, injury, loss, or of any unfavourable event involving patients, staff, equipment, hospital resources and facilities resulting from a behavioural, technological, or other dysfunction in a process: it is evaluated by probability of occurrence and magnitude of impact of negative or undesirable consequences and may be avoided through preventive action.

Learning is the process by which hospital staff gain, record and apply knowledge over time to improve procedures, and hence processes: learning entails studying events and errors to continually improve performance by focussing on procedural discipline, formal training and repetition; learning is thus a cyclic process.

OED simple definitions are of ‘risk’ as, exposure to the possibility of loss, injury, or other adverse or unwelcome circumstance; a chance or situation involving such a possibility; and of ‘learning’ as, to gain knowledge or skill by studying, from experience, from being taught. These were not adapted to the requirements of this thesis, so further research was necessary.

Chambers defines ‘risk’ as the chance or possibility of suffering loss, injury, damage, etc; danger, and ‘learning’ as, to be or become informed or to hear of something; to gain knowledge of or skill in something through study, teaching, instruction, or experience.

Google research of ‘technical risk’ gives, the risk associated with the evolution of the design and the production of the system of interest affecting the level of performance necessary to meet the stakeholder expectations and technical requirements, and of ‘technical learning’ gives, the skills needed to design, develop, implement, maintain, support or operate a particular technology or related application, product or service.

‘Process risk’ is defined as, a loss in revenue as a result of ineffective and/or inefficient processes.

‘Process learning’ is a more difficult term to research, as the engines default to the ‘process of learning’. The term ‘cybernetic process learning’, however, gives, where learning occurs when there is a mismatch between intention and outcome, which is useful in the context of this research and is compatible with the definition chosen above.
2.2 Implementation of hospital-process improvement

The *Berwick Review into Patient Safety*, (2013), following the safety problems discovered at the NHS Mid-Staffordshire Trust from 2007, recommended that the NHS should become a learning organisation. The report confirmed the importance of educating all staff in quality and patient-safety sciences, stating that these practices should be part of the preparation and education of all health care professionals, including managers and executives.

2.2.1 Poor Process Improvement in the NHS

However, Dixon-Woods, (2019) points out that stimulating the NHS to improve is not the same as knowing how to do it. Many trusts lean towards quality improvement projects, but these require dedicated leadership and significant resources to succeed. Anderson & Kodate, (2015) support this view, noting however that there is a lack of organisational support for team leaders having the skills or inclination to run NHS improvement teams.

Furthermore, there is a purported lack of evidence to support any need for quality improvement, which explains the ongoing reluctance of the NHS to fund it. However, the Royal colleges, including the Royal College of Physicians have taken on the task of driving quality in health systems through various mechanisms, including their traditional education and training functions (Dixon-Woods, 2019).

Spear & Bowen, (1999) found waste in hospitals arising from stressing people and equipment through excessive and irregular workplace loading. Tucker & Edmondson, (2003) found that nurses are worn out by the task of 'swimming upstream' against an incessant tide of small, annoying problems. Rotenstein et al., (2018) performed research on burnout among physicians and found evidence of weakening physician mental health and well-being. The Lancet, (2019) reports that broken, inefficient, ineffective, and risky processes weigh heavily on hospital-staff morale. Finally, The Guardian of 25/7/2022³ reports the worst NHS

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staffing crisis in history: a national emergency, and hospitals are not even advertising vacancies. And Dr Fiona Donald, President of the Royal College of Anaesthetists, states that the crisis in NHS hospitals results from overcrowding because social care cannot take in patients quickly enough in order to free up beds.

There are a lot of people in hospital who don’t need to be there and should be in social care. The health service is a continuum, all the way through from primary care to social care, and across-the-board needs to improve, so that we can deal with patients most appropriately where they need to be dealt with. As an anaesthetist I am thinking about operating theatres as a team sport, which needs everyone in place during an urgency: nurses, systems practitioners, recovery staff, diagnostics, and also doctors in radiology and pathology. All those areas. So really it comes down to having the full team, all the workforce, and having space within the hospital for the patients. A lot of what we do these days in operating theatres can be done as day-case procedures or short-stay procedures: there is a lot of emphasis on that and has been for a number of years now. But, when a hospital becomes full, even those sorts of things become difficult. (Quote: Dr Fiona Donald ITV News 26/10/2022)

Holden, (2011) comments that Lean projects create a shared awareness of how chaotic and risky care processes can become, and Simsekler et al., (2015) comment that systems approaches, such as PHA (Prospective Hazard Analysis), or FMEA (Failure Mode Effects Analysis) or SWIFT (Structured What-If Technique) can provide strong results to facilitate risk identification and risk prevention, but that these are only rarely used in healthcare. However, Cima et al., (2011) and Mason et al., (2015) describe how Six Sigma DMAIC and FMEA are at times used to create process checks during procedures and to introduce methods of stopping NHS ‘Never events', (such as the risk of Retained Foreign Objects or the risk of wrong side/site surgery). Such checks can imply the design and use of checklists in the operating theatre.

Also, Tomlinson, (2018) describes in the case of chaos in an operating theatre, one safety tool which brings any member of the surgical team to call out "10,000 feet" at any time when he or she finds that staff focus is lost.

Dixon-Woods, (2019) adds that both healthcare and research about healthcare have a bad habit of describing problems but not of solving them. They should cease to “admire
problems” and put effort into solving them in an evidence-based way: she claims that the effort that goes into collecting NHS data is not balanced with the effort that goes into solving problems.

2.2.2 Poor process know-how

Meier et al. (2007) affirm that, under TPS, how you achieve an outcome is as important as the outcome itself; that it is essential to run processes well; but Sujan et al., (2017) stress that many NHS hospitals have difficulty, not just in understanding process weakness, but in getting effective change in practice too. Anderson et al., (2015) confirm that process learning from patient safety incidents is found at the NHS to be difficult, as information is often incomplete and as it is not clear which incidents are preventable. A meeting between hospital staff showed difficulty in discerning causes and an inability to critique them to identify effective actions or even to know whether previous interventions had been effective, particularly as teams did not view an available incident database as a useful source of information and did not access it. Furthermore, Rafter et al., (2015) find that the current state of event monitoring is not even able to demonstrate trends in patient safety.

2.2.3 Inaction due to bureaucracy

Heylighen & Joslyn, (2003) state that multiple control levels in a hierarchy can have negative effects on regulatory ability, and, in social organisations which tend to multiply the number of bureaucratic levels, control ability suffers from ‘noise’, corruption and delays. Massey & Williams, (2005) add that the NHS is operating in a ‘politically driven and shifting environment, and in 2013, Jeremy Hunt, then Secretary of State for Health, remarked that advancing patient safety in the NHS lies much more in its potential to be a learning organisation than in the top-down mechanistic imposition of rules, incentives, and regulations, although this thesis searches to show that learning is indeed the outcome of respecting procedure.

Dixon-Woods, (2019) sees healthcare developing into a poly-centric regime involving multiple agencies and actors that include regulators, commissioners, insurers, academics,
consultants, charities, and patients and their advocates. Unprecedented external regulation, accountability, oversight, and surveillance are now the norm, displacing the slogan that "doctors know best and can be trusted to do their best without interference" as no more the prevailing philosophy. She adds that having hundreds of organisations all trying to do their own thing means a very high level of waste and reinvention, because people moving around the system must learn new processes every time. She adds that trusts receive too many safety-related messages from too many different sources. As a result, trust staff struggle to cope with large volumes of safety guidance; and they try to implement guidance in addition to a demanding and busy role, which does not always allow such work the protected time it requires.

Also, the Opening the Door to Change (CQC 12/2018) report claims that NHS safety alerts are seen as too bureaucratic and too long to implement: Eshareturi & Serrant, (2017), even find CQC commissioners input to be managerial.

2.2.4 Volatile management

The volatile nature of trust CEOs, where bold leaders willing to contend with the necessity of change, and to act on it, rarely remain long enough in their jobs to protect their improvement programme from professional sniping and to observe their own success or failure. Massey & Williams, (2005) find that trust CEOs tend to launch change programmes on their arrival, but that they often leave the position before completion and are not around to witness and to take responsibility for outcomes: so, through lack of ongoing support from successive CEOs, change is not sustained and soon wanes. Such are among the difficulties at the NHS which appear to cripple its ability to learn as an organisation.

2.2.5 Opening the Door to Change (CQC 2018)

In December 2018, the CQC published a paper on patient safety entitled, Opening the Door to Change (CQC 12/2018). Introductory comments by Ted Baker, Chief Inspector of Hospitals included: -
We were struck by how differently healthcare thinks about safety compared with other industries. They (industries) speak of their work as high risk… safety protocols are followed without question. Healthcare, which in statistical terms is higher risk than any of the industries we consulted, in contrast took the view that safety was the norm and things only went wrong exceptionally. Staff are not expected to make errors. Staff know that what they do carries risk, but the culture in which they work is one that considers itself as essentially safe.

The text includes certain remarks and recommendations.

There is confusion in the NHS where people do not share a common understanding about what is meant by patient safety. Risk appears to be accepted because incidents are seen as being part of the job. Staff do not see a safety alert as a priority: they feel that current processes are good enough, although staff do not always understand what good looks like (Opening the Door to Change (CQC 12/2018)).

The report claims that safety should be made a top priority with roles and responsibilities defined at every level from senior leadership to the front line.

Never events (p262) are serious incidents which are wholly preventable because guidance or safety recommendations that provide strong systemic protective barriers are available at national level and should always have already been implemented by healthcare providers. But work to prevent Never events often only takes place after their occurrence, as trust staff believe Never events could not happen to them (Opening the Door to Change (CQC 12/2018)).

In the trusts reviewed by the CQC for this document, no board discussion was found concerning Never events; no information had been asked for and no follow-up discussion suggested. Trust boards are not consistently prioritising discussions about Never events and safety alerts (Opening the Door to Change (CQC 12/2018)).

NHS Improvement should take account of the difference in the strength of kinds of barriers to error, distinguishing between those that should be prevented by human interactions and behaviours, such as using checklists and signing processes, and those that

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4 Of approximately 2 million patient-safety incidents reported to the National Reporting and Learning System in the year ending 31st of March 2018, 468 of them were classified as Never events.

5 NHS Improvement is the regulatory body for NHS Foundation Trusts, for NHS Trusts and for independent providers that deliver care that is funded by the NHS.
could be designed out entirely, such as by removing equipment clutter or fitting physical barriers to risks (*Opening the Door to Change* (CQC 12/2018)).

However, NHS safety alerts are seen as too bureaucratic and too long to implement. Key cited causes of safety alerts are non-adherence to approved procedures, human error, complex pathways and time pressures, lack of leadership, lack of staff and distractions during procedures. Due to high workloads, implementing patient safety alerts can be seen as just one more thing to do and can lead to staff taking a mechanistic and siloed approach to implementation: other challenges include lack of engagement and limited internal expertise (*Opening the Door to Change* (CQC 12/2018)).

There is a lack of confidence that standardisation improves practice and, in the NHS, because standard procedures (SOP p271) are not always respected, workarounds are common. The document adds that it is not appropriate for staff to ignore standard procedures in favour of their own methods. But senior clinicians are cynical of the benefits of standard procedures and tend to delegate to junior members rather than to engage with procedure themselves. Allowing workarounds or disregarding standardised protocol should be a thing of the past with a more open and honest dialogue taking its place, where all speak a common language and improve safety together (*Opening the Door to Change* (CQC 12/2018)).

In industry, frontline staff get involved in adapting guidance in a culture where everyone can be involved in creating and maintaining standard operating procedures. Safety is seen as a key part of everyone's job, where all are involved in designing and implementing standard procedures.

As staff have difficulty ascertaining which processes lend themselves to procedural standardisation, NHS Improvement should develop a framework for identifying clinical processes and other elements concerning equipment and governance which could benefit from this. Greater standardisation should make it easier for staff to speak up with confidence if procedures are not being followed, although there is a concern that standardisation of procedure should not override clinicians’ ability to use professional judgement and to act
flexibly when circumstances require this. Rigid hierarchical structures are said to prevent people from speaking up where there is concern among clinicians about a blame culture, and where fear of disciplinary action is claimed to be a barrier to incident reporting. However, there is pressure to move away from a culture of blame to one that accepts that errors do occur and is supportive of staff: investigation is brought thus to focus on the context in which clinicians work and not on individual actions. As a result, trusts attempt to create a ‘just culture’, where learning from chance interactions, and not blame, is the priority. *Opening the Door to Change* (CQC 12/2018) states that some trusts have also launched ‘Human Factors’ and ‘Situational Awareness’ training.

When roles are not clear, teamwork is difficult to achieve, and when teamwork does not exist, each individual can act alone but with no real obligations to any other member. When roles are clearly defined with the concept of teamwork clear, team members follow standardised work, and the team leader fulfils his or her role of writing standardised work which the group leader approves. Defined roles are essential in TPS: they are an allowed set of behaviours for a specified context around the work and show the amount of discretion allowed for carrying it out. Roles provide norms, rules, and contextual cues of how to act within the organisation (Marksberry, 2012). And, under TPS, the belief is that documenting a job as Standard work occurs before improving a job.

The current system concerning patient safety is confused and complex with no clear understanding of how it is organised nor who is responsible for what, making it difficult for trusts to prioritise what needs to be done and when. Trusts receive too many safety-related messages from too many different sources. Trust staff struggle to cope with large volumes of safety guidance. They try to implement guidance in addition to a demanding and busy role and do not give the work the protected time it requires (*Opening the Door to Change* (CQC 12/2018)).

Embracing a safety culture is entirely dependent on the leadership and governance in the trust and the way it prioritises safety. Unfortunately, safety education does not appear to be a priority for leaders in the same way that operational targets are. Also, there is a need
for leaders with responsibility for safety to have the appropriate expertise to embed an effective safety culture, and clarity is needed concerning accountability for deciding acceptable risk level and for investing in safety measures (*Opening the Door to Change* (CQC 12/2018)).

The CQC also finds that safety education is not a priority for leaders, and patients are not consistently involved in discussing safety systems. Patient safety training should be more explicitly incorporated within professional healthcare programmes, particularly at undergraduate level. Furthermore, there is no clear system for staff to learn from each other at national level (*Opening the Door to Change* (CQC 12/2018)).

The CQC's document, *Opening the Door to Change* (12/2018), appears as a landmark in showing how attitudes to safety in healthcare do not conform with approaches found in industry or in airlines, which present superior safety performance.

Certain points made in the opening remarks to this CQC document appear material to the content of this thesis, and merit repetition. Firstly, risk is generally not given importance in NHS hospitals because:

- risk appears to be accepted because incidents are seen as being an unavoidable part of the job;
- staff are not expected to make errors; staff know that what they do carries risk, but the culture in which they work is one that considers itself as essentially safe;
- safety education does not appear to be a priority for leaders in the same way as operational targets are;
- clarity is needed concerning accountability for deciding acceptable risk levels.

Secondly, the solution of providing large quantities of guidance to resolve this problem has not been successful because trust staff struggle to cope with large volumes of safety guidance.

Thirdly, the lack of procedural discipline is a major reason for workarounds (p154), which NHS hospitals appear to tolerate.
The CQC document shows how conforming even with safety procedure is met with scepticism by physicians, although safety is fully accepted and practised as part of the work culture outside the hospital world.

There is work by Hollnagel, (2015) distinguishing between work as done (WAD) as reality in hospitals and work as imagined (WAI) by process designers, this research shows how more study is needed of how hospital staff, who operate processes, apply procedure and on how they manage process dysfunction.

Furthermore, the challenge of medical staff to change by claiming the ‘complexity’ of clinical processes, who erect silo resistance between management and physicians, and who exercise peer protection, appears to block any initiative to mend the procedural roots of risk and learning problems in hospitals. This may stem from fear of exacerbating feelings of blame among staff.

The literature on solutions not only requires a basic understanding of process and procedure but also meets this wall of resistance from physicians, who reject change as something managerial, unwanted, and not their concern. In this respect, the 2018 CQC document is brave, but if this is essential literature about the problems, there is still limited literature on how to go about solving them.

2.3 Barriers to process improvement and manager-clinician relations

This section explores resistance to quality improvement at the NHS, where the successful practice of quality improvement sets the scene for the application of TPS respect for procedure.

2.3.1 Resistance to Quality Improvement

Lindsay et al., (2020) find that medical professionals appear to lack the training and skills associated with leadership and teamwork in quality-improvement methodology including basic problem-solving skills. Eshareturi & Serrant, (2017) find that requisite skills which lead to identifying root causes of process problems based on evidence are lacking
and that frontline staff need to be educated in the ethos of incident investigations. However, across the NHS, Dixon-Woods, (2019) claims that training is largely seen as undeserving of evaluation or research, and the risk is that much of it is not done well at all.

Anderson & Kodate, (2015) find that none of the quality meetings researched used a formal model or tools to assist in the process of identifying system factors; clinicians are unlikely to have the requisite skills for incident investigation and analysis because no formal guidance or training is supplied to run such meetings, and members fear to speak out. Similarly, Eshareturi & Serrant, (2017) add that no criteria are chosen to investigate adverse incidents. And the use of a database as a tool to embed learning across the region is not supported: the research found that people don't share because they are scared to give information.

Holden, (2011) writes that, after Lean deployment, most A&Es witness improved patient outcomes, although these are rarely measured; and Waring & Bishop, (2010), in an ethnographic account of the implementation of Lean through lenses of social practice, highlight behavioural difficulties in obtaining Lean improvement in healthcare. Waring & Bishop, (2010) in their ethnographic study, analyse the interaction between the intent to transform work in a hospital by applying TPS respect for procedure with the response of clinicians. Under the titles of rhetoric, ritual and resistance, this research interprets tensions between clinicians and service leaders in implementing Lean improvement. The article, which brings to the fore hostility over purported creeping 'managerialisation' of healthcare, is ethnographic and written in a deconstructive, post-structuralist style. These authors echo that the logic of managerialism has come to replace professionalism in applying techniques of evidence-based guidelines and audit, which tend to emphasise standardisation and reregulation of clinical practice. They hold that streamlining clinical practice reconfigures both established work and clinical leadership. While value-based Lean has appeal in industry, it does not readily translate into healthcare: for example, they ask who and how can

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6 quoting (Foucault, 1980) and suggestive of Jacques Derrida’s (Royle, 2003) deconstruction.
value be specified in healthcare? Also, medical professional groups are subject to jurisdictional and regulatory boundaries: as a result, management practices, which are not so, are poorly adapted to healthcare and can have unintended consequences.

Waring & Bishop, (2010) quote Law, Callon's et al., (1986) work on the use of semiotics to impose ideas and strategies, which finds that actors define problems in ways that justify and locate their own centrality in their resolution. Rhetoric serves persuasion by using such terms as “objectivity” when actors search to legitimate discoveries; but according to Foucault, (1980), such knowledge is rather shaped by values and ideology. This research is thus attentive to how Lean is interpreted and articulated by leaders to persuade others of its relevance to improvement. Attending meetings concerning the introduction of Lean in the hospital, the authors analyse how leaders present arguments to induce the required response in team members concerning the advisability of Lean methodology. Leaders in the meeting attempt to present problems of waste and inefficiency as staff concerns about patient care to bring management and clinicians into a single rhetorical discourse. The Lean promise transforms daily experiences of delays and shortages into efficient stress-free work.

These researchers deconstruct describing how staff raise thorny issues in such meetings, including resource constraints or staff shortages; they add that the language is "shrouded" in “mystic jargon” from Japanese industry. They affirm that leaders work to justify their centrality and legitimacy to enrol like-minded allies and collaborators.

The researchers describe a “ceremonial” quality of project rooms, which showcase process maps, and entire walls of post-it notes constructed during weekly meetings. Group members are described as embracing the terminology and “paraphernalia” of Lean, including spreadsheets and timelines to focus their attention. The authors call the members of this group, “converts to Lean”. They find the teamwork to resemble “hallowed rituals” with “symbolic meaning”, giving the team members status among the wider workforce. They also discover that measures implemented thanks to such teamwork frequently disappear as processes return to their pre-existing conditions they call "messy states". As a result of this, Lean improvement measures are “hollow rituals” and compliance is only symbolic.
Power and resistance are brought into play in this narrative with suspicion expressed by clinicians of the motives of the working group: their opinion was that the working group was dominated by managerial interest to cut costs. Clinicians argue that groups prioritise departmental efficiency and productivity over quality and patient experience, and they struggle to understand how Lean can improve quality. Furthermore, clinicians comment that they are even uncertain about "what hospital managers actually know".

Clinicians are also critical of new procedure being overly standardised and structured; such changes lead to losing skills; also, standardisation in the workforce compromises departmental ability to allocate staff flexibly. One surgeon commented that the departmental manager had, "no business telling me when I should arrive in theatre". Someone had pencilled on a poster "fairy tale; work of fiction", and staff claimed it was more convenient to return to their customary ways of working.

It was also claimed that hospital managers devolve responsibility for service improvement to frontline leaders to avoid direct conflict with clinical staff.

In conclusion, after some initial interest in Lean, clinicians largely regarded it as another bureaucratic and unnecessary task that requires superficial compliance. They were apprehensive about the motives and the legitimacy of service leaders; they had doubts about the evidence and knowledge on which improvement was based and concerned about negative consequences for patients of changing work practices. The Waring and Bishop (2010) document concerning Lean improvement is claimed to be ethnographic and appears in this respect rather as a deconstructive exercise in style. It identifies clinician hostility and appears to discover the customary role of rhetoric in leadership and methods of teamwork in large organisations. This document uncritically supports the opinions of antagonistic clinicians unfortunately without, as is so often the case in this type of article, showing any knowledge at all of what Lean is or does, or of how organisations go about improving processes.

In hospitals, then, TPS respect for procedure can enter a social setting fraught with conflict and disagreement. However, Waring and Bishop (2010) do recognise how clinicians
can corrupt attempts at reform, and they do admit that some of the inconsistencies found may result from poor translation of Lean models and methodologies, which are successfully developed in other settings: however, they insist too that Lean may have unintended consequences in healthcare.

On the other hand, Dixon-Woods, (2019) states that highly performing organisations, including many of those currently rated as outstanding by the CQC, do successfully use structured methods of continuous quality improvement; but that organisations which perform poorly lack not only an infrastructure for QI, but demonstrate a far broader set of organisational failings. The better performers distinguish themselves by the quality of their management practices including continuous quality improvement and skills training. Importantly, their human resources and operational management are convinced of the power of QI too. For example, the in-house NHS Patient First Improvement System (PFIS) methodology developed in part at the East Sussex Healthcare Trust from 2017 is recognised to effectively drive change in learning and risk avoidance. (ESH Trust Quality Account 2017), and certain trusts have launched ‘Human Factors’ and ‘Situational Awareness’ training to extend risk management into the world of process-interaction uncertainty.

Also, the NHS Natssips-Safety-Standards.pdf, (2015) published on national safety standards for invasive procedures recognises that a workforce of both clinicians and nurses working in a standard way reduces stress and produces a safer environment for patients.

Often, organisations focus on the philosophy of continuous improvement rather than building the management system that achieves continuous improvement. In TPS, management sets targets and goals while the means to achieve them flow upward from staff-team members, but final approval for change lies with management, who are traditionally charged with solving broad, system-related problems. Management acts to regulate, reinforce, and maintain the company's values, beliefs and behaviours, where TPS behaviours include asking for help, which is not seen as a weakness; where staff members come to understand their own strengths and weaknesses; where accepting that problems are inevitable and that faulting and blaming do not help to build respect in the workplace;
and where problems are made visible rather than concealing them due to fear. In effect, TPS brings staff to critique proposals, processes, and problems rather than people. Also, good management is seen as going to the real scene to identify the real thing and to establish real facts. Furthermore, TPS utilises a dense management structure with many hierarchies and a narrow span of control: according to systems theory, the more hierarchies a system contains, the better it can react to environmental conditions: fewer hierarchical levels create a larger power distance index (Marksberry, 2012).

### 2.3.2 Confounded management, physician power play, standoffs and gaming

Andersen & Røvik, (2015) claim that the involvement of physicians and of managers in process improvement together is useful as it maintains a sense of urgency, sets direction, reinforces expectations, and secures resources. Additionally, physicians, through their clinical leadership are essential role models for their colleagues: if the culture is supportive and doctors participate, employees believe they can make use of their skills and creativity and that they can take initiatives to reduce risk and to learn through process improvements.

However, Lindsay et al., (2020) find evidence of medical staff using their professional identity to subvert a Lean programme. They add that medical professionals can fail to engage or to provide clinical leadership in supporting the trajectory of Lean. Established hierarchies and the power lying with medical professionals can challenge Lean deployment and more generally, quality improvement in healthcare.

Van Kooy & Pexton, (2018) explain that doctors tend to gravitate to their own peer groups, and in doing so, tend to intensify isolation from other functions within the hospital. Hospitals thus experience a “litigious and punitive climate”, where care providers hesitate to report medical errors and where peer protection and internal hierarchies tend to prevail.

Lazarus & Neely, (2003) show how many British NHS hospital physicians have become suspicious of managerial initiatives: doctors don’t like feeling that they are treated like mechanical parts in a system they don’t control; they don’t like being monitored; they don’t like being dictated to, and they feel that management initiatives dehumanise. However,
Jay Arthur, (2011) quotes Sarah Patterson of VMHS claiming that one requirement of the healthcare leader’s role is to ‘compel systems and standard work’, and that loners and large egos had better blend in:

Many people in healthcare are in leadership positions because they are able to do amazing things to save the day—people who can manage in a crisis. But we don’t want a crisis. We want systems and Standard Work to prevent a crisis. Success depends not on the actions of a charismatic, heroic individual, but on the system.

However, The Lancet, (2019) explains how increasing use of managerial KPIs has placed new stresses on physicians, and Beaussier et al., (2016) write that KPI indicators are even liable to be ‘gamed’ by professional regulatees. Dixon-Woods, (2019) adds that the NHS has attempted to produce improvement through reorganisations and various types of improvement initiatives; but these tend to promote substitution, displacement, gaming, and to be seen as blame-allocation machines: such initiatives have been found to create unintended consequences. Lindsay et al., (2020) find, for example, that this complicates the life of any nonclinical NHS manager trying to manage a profession that will not accept his or her management.

Chassin, (1998) found that getting physicians, who are looked up to as leaders, to cross the divide and to take on managerial responsibilities, or even just to work cross-functionally, implies accepting a new identity as they focus on becoming something other than just physicians. Massey & Williams, (2005) found that physicians do not in general wish to involve themselves in questions of management, because they find them likely to lead to layoffs so complicating physicians’ lives. Also, process management is not a part of their medical agenda.

2.3.3 Insufficient enforcement

Beaussier et al., (2016) explain that the CQC adopts formal risk assessments to select the appropriate enforcement power. This can vary from simple advice to criminal prosecution, which in practice is very difficult to apply due to questions of addressing failures which had been previously reported, but never been acted on, and questions of
discrimination. Furthermore, financial penalties are self-defeating, and closure is unrealistic. On the other hand, one measure which does appear effective is imposing new management and forcing mergers with more successful trusts. These writers add that regulatory goals must be clear; that regulators must be able to reliably assess probabilities and consequences of adverse outcomes; that they must have a range of enforcement tools, and that there must be political tolerance for adverse outcomes. The Berwick, (2013) report supports this, also recommending that NHS supervisory and regulatory systems be simple and clear to avoid uncertain delegation of responsibility.

2.3.4 Change paralysis and inaction

Two key reasons for frustrated process change, especially in poorly performing trusts, are inaction due to confounded management and inaction due to staff fear.

The reasons for management inaction are extensive and concern in their majority the inability of management to obtain change against physician power play, standoffs, and gaming. But there are other reasons too: the prevalence of broken processes; of partial data and poor analysis; of purported complexity; bureaucracy; volatile management and poor ongoing learning.

Nonetheless, inaction appears to be a key barrier to progress in healthcare. The Francis, (2013) report claims that the Mid Staffordshire NHS trust problems were known as early as 2007, but that these had not been acted on.

Inaction may be linked to organisational culture: Weick & Sutcliffe, (2003) write that, if culture in a hospital is defined as "what we expect around here", then cultural entrapment expresses the process by which people get locked into lines of action or of inaction.

For almost fourteen years to 1995 at the Bristol Royal Infirmary paediatric cardiac surgery showed very poor performance with growing evidence of poor quality of care resulting from a cultural mindset about risk, danger, and safety. "Muddling through", misplaced optimism and talk of “learning curves” prevailed in the service, bringing clinicians to develop meaningful and explainable justifications for their substandard behaviour (Weick
A “tribal culture” existed; poor results were justified based on case severity with no attention given to producing better results. The prevailing explanation was not "we are doing something wrong and need to improve", but rather "these are bad patients, and we are doing our best". These authors observe that tenacious justifications make it even harder to learn.

Weick & Sutcliffe, (2003) add that the clinicians at BRI transformed a history of excess deaths into a history of excess complexity. Decision makers came to support an explanation that made it difficult for the underperforming unit to improve at all. The board of enquiry described the culture at the hospital as a "club culture" where "your career depends on whether you fit into the inner circle, and not on your performance". With such a culture of fear, of justification, and of paternalism, professionals know better than to question. People believed things to be anomalous rather than unacceptably poor: a plausible explanation finally hardened into a dogma which ruled out learning and improvement.

Plausible explanations are pervasive in justifying incidents: as Diane Vaughan, (1996) explains in her review of the Challenger disaster:

When an unexpected event occurs, we need to explain it, not only to others, but to ourselves. So, we imbue it with meaning in order to make sense of it. We correct history, reconstructing the past so that it will be consistent with the present, reaffirming our sense of self and place in the world. We reconstruct history every day, not to fool others but to fool ourselves, because it is integral to the process of going on. People attempt to rescue order from disorder.

Holweg et al., (2018) add to this that unmanaged processes deteriorate anyway over time unless attention is paid to maintaining procedures: gradually, non-standard activities and workarounds creep in and, as a result, variation increases and performance decreases. There is a strong tendency to revert to the old ways, so change is not sustainable unless supported with energy: as entropy in processes tends to increase, without senior management support and buy-in, continuous improvement initiatives fail.

Reason et al. (2001) call a cluster of organisational pathologies ‘vulnerable system syndrome’ (VSS). These include blaming frontline individuals, denying the existence of
systemic error-provoking weaknesses, and the blinkered pursuit of productive and financial indicators. Hospital managers who live by numbers may, for example, show a myopic focus on gaming specific indicators while being unaware of the side effects on the rest of the system. Reason et al. (2001) add that the tendency to blame individuals has harmful effects on organisational safety, because such blame provokes feelings of unfairness and, as such, is claimed as being counter-productive. Also, Sujan & Furniss, (2015) find that staff associate incident reporting with the idea of taking personal responsibility for errors, for guarding oneself against patient complaints and repercussions, and for meeting legal obligations to report. And Berger et al., (2015) find that, because NHS Never events are ‘trumpeted’ as preventable, this has led to a historical culture of blame and so to lack of reporting.

Common problems of change management relate to management’s ability to support and to embrace the new change. This is not surprising since a fundamental role of management is control everything so that things turn out right. When change is introduced, management has a role of stabilising existing systems which often counteracts change itself. Change is further complicated by individuals or groups who want to hold on to the past. If the desired state cannot be seen as confronting the concerns of the past and present, there will be little desire to move forward, and most experts agree that a lack of change should not be ignored. (Marksberry, 2012).

And the Opening the Door to Change (CQC 12/2018) report also describes concern among clinicians over a blame culture and fear of disciplinary action as barriers to incident reporting, and Massey & Williams, (2005) add that change engenders fear, so that change may be thwarted if project teams become institutionalised and existing practices too firmly embedded.

2.3.5 The problem of NHS Workarounds

Edmondson, (2004) writes that consequential failures have multiple causes and are often deeply embedded in organisations, where they occur because they are ignored and
taken for granted for years and are rarely simple to correct. Such failures encompass mistakes and problems which are obstacles which thwart expected process outputs. Features of work design and culture in many hospitals leave room for workarounds and quick fixes as the major response to such failures and this rather than root cause analysis and systemic problem solving.

Furthermore, the causes and solutions to such organisational learning failures ultimately lie according to this author in the quality of leadership. In a hospital, staff tacitly assess the interpersonal climate, and their assessments ultimately affect their behaviour. They may impact for example the ability to discuss and to analyse mistakes and problems, leading to shared beliefs about the social consequences of speaking up, about ‘the way things are around here’. Such variation in behaviour is driven by local leadership which in both obvious and subtle ways shapes the climate for learning.

Amy Edmondson, (2004) claims that most problems are caught and corrected before patients are harmed, but that they are rarely learned from. Problems are defined here as disruptions in a caregiver’s ability to execute a prescribed task because either something he or she needs is unavailable, in the time, at the location, in the condition or quantity desired, such that the task cannot be executed as planned, or something interferes with the designated task. Examples of such problems are missing supplies, information, or medications. Such problems provide valuable information on ways in which the system as a whole is not working, and staff are unfortunately well aware of the problems they encounter which are disruptive and frustrating, preventing them from smoothly continuing to complete their tasks, and Edmondson argues that such problems constitute a largely untapped learning opportunity in most hospitals.

Also, nurses are capable problem solvers; they are comfortable with discretionary decision making by virtue of the work they do. They continually evaluate and re-prioritise their tasks. There is thus an expectation that they would be good at root-cause problem solving and organisational learning, but this was found to be untrue. Edmondson discovered one failure per nurse per hour leading to a constant navigation through obstacles simply to
get their job done. This ‘stunning’ frequency of work-process problems in hospitals leaves neither the time nor the energy for nurses to track down, to analyse, and to resolve the many problems they face, which for the most part are system problems.

The vast majority of these failures resulted in quick fixes and workarounds as first-order problem solving, rather than system-based learning by second-order problem solving. First-order problem solving is manipulating output to make a change without changing the system; second-order problem solving challenges what exists to transform/improve the system to reduce the frequency of occurrence of, or to eliminate, the problem. With first-order problem solving, nurses act to remove the immediate obstacle to patient care but do nothing to reduce the chances of problem recurrence, and Edmondson points out that workarounds and other quick fixes frequently create problems elsewhere.

Edmondson, (2004) estimates that workarounds and quick fixes were applied in 93% of the failures observed. On average, 15% of the time of 26 nurses was spent in coping with system failures when already they struggle to keep up with their daily responsibilities. This constant struggle took a toll on the nurses leading to frustration and burnout. Second order problem solving, which leads to action to address underlying causes, was found to imply an effort which the nurses had neither the time nor the resources to face despite their dedication and capacity; indeed, nurses and other healthcare professionals are frequently on their own to resolve problems. Unfortunately, however, it is second-order problem solving which takes action to address underlying causes and to prevent recurrence. If staff second-order action is successful, and the problem is resolved, nurses would not have to face similar obstacles in the future, and it is in this way that sustainable change is achieved.

Meier & Liker, (2007) add that, if people are not shown the proper method but are expected to deliver results, they will find workarounds to get the work done somehow. Procedure adjustments, which are thought to contribute to organisational resilience in healthcare, are seen as little more by Hollnagel, (2014) than single loop learning (Argyris &
Schon, 1978), as primitive linear reactions to incidents. Double loop learning from such incidents, which simulates the cybernetic cycle, is not commonly found in NHS practice.

Reason et al., (2001) propose double loop organisational learning to break free from vulnerable system syndrome pathologies (VSS). They describe such learning as seeing beyond immediate unsafe action to question core assumptions of human fallibility and to identify and to amend the organisational conditions that provoke it. Where single loop learning presents process output error in relation to desired results as determining linear correction of the system, these writers show that the Safety II and double loop learning require first testing the effect of assumptions on desired results. In doing so, Reason et al. (2001) also describe the 'Swiss cheese model' of accident prevention which depicts successive cheese slices as defensive barriers allowing risk situations to pass only if the holes are aligned. This philosophy appears as a moniker for Shingo's, (1986) pokayoke thinking.

The CQC document, Opening the Door to Change (CQC 12/2018) identifies a lack of confidence in the NHS that standardisation improves practice and, because standard procedures are not always followed, workarounds appear to be tolerated. However, it does not appear appropriate for staff to ignore standard processes in favour of their own methods. In effect, senior clinicians are cynical of the benefits of standard procedures, and they tend to delegate to junior members rather than engaging with procedure themselves. Permitting workarounds which, by definition, disregard standard procedure could well be subjected to open and honest dialogue at the NHS where many search for a common goal to improve safety and working life together.

For example, the use of the 4-hour goal launched by the NHS to improve patient flow through A&E was stopped in 2021. The original effort to meet the goal appeared for the first five years to show success among hospitals to overcome long waiting times: regardless,

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7 Single-loop and double-loop learning can be understood by the operation of a thermostat. Single loop learning leads to achieving an objective temperature by turning the heating on or off. Double loop learning questions how to approach the objective: for this example of a thermostat, a temperature controller might first compute the rate of temperature change, then the quantity of heat already supplied, and then vary the rate of heat input proportionally over time to attain effective control.
NHS England has stopped using this measure. The literature widely claims that attaining the time limit was invariably met by hospital staff with coping methods and not with effective efficiency improvement; it was met with what NHS CEO, Sir Simon Stevens, described at the time during a 2019 parliamentary committee meeting as ‘workaround’ strategies (Fig. 9).

Braithwaite et al., (2017) write that healthcare systems can be regarded as systems of systems or as complex adaptive systems whose properties bring clinicians to resolve and to foster safe practices through daily trade-offs (workarounds) which they consider part of their daily work; this may bring clinicians to believe workarounds as necessary and useful to care delivery in a timely fashion when systems are not integrated and procedures not standardised, although Jay Arthur, (2011) claims that 80% of patients have uncomplicated issues which can be handled easily with standard work.

2.3.6 Little or poor quality incident reporting

Sujan et al., (2017) raise questions about the effectiveness of incident-reporting systems. Evidence in the literature indicates that learning effectively from past experiences in order to improve future safety performance has been found difficult in healthcare: barriers to incident reporting include fear of blame; poor usability of incident reporting systems; perceptions among physicians that incident reporting is a nursing process; lack of feedback to staff who have reported incidents; and lack of visible improvements to the local work environment as a result of reported incidents. Rafter et al., (2015) add that there is variability in the definition of adverse events, and that hospital incident reporting collects only a very small fraction of them: there is a need for a safety culture which can define and learn from such events; however, Erik Hollnagel, (2014) writes that learning from incidents does not automatically open onto performance adjustments or onto dynamic trade-offs to the delivery of safe care.

The Francis, (2013) report stresses the need for accurate and standardised data for the systematic measurement of adverse events and that the lack of systematic adverse event measurement and reporting contributes to the absence of clear evidence concerning
reduction in adverse events: this makes progress difficult to quantify. There is a need to shift from a blame culture, which incentivises staff to cover up, to an ethos of safety management in the context of a ‘just’ culture to avoid future adverse events. Here, a just culture reflects a balance between no blame and accountability.

Hibbert et al., (2016) add that reporting systems have become a barrier to progress on patient safety because the system simply classifies and reduces incident reports to convenient numbers that provide no insight while consuming most of the organisation’s resources dedicated to patient safety to do so.

Renshaw et al., (2008) write that the practice of incident reporting as established at the NHS leaves opportunity for improvement through analysis of data to identify opportunities for change which could pre-empt complaints.

Edmondson, (2004) supports this view, pointing out how the overwhelming number of broken processes in hospitals makes staff work very difficult: -

The stunning frequency of work process problems in hospitals made the inability of nurses to track each of these many problems down to its root causes unsurprising.

Furthermore, the data suggest that sudden rises in incident reports are just as likely to be a result of political or personal agendas as an actual increase in incidents (Renshaw et al., 2008). There is also a multifaceted aspect to clinical incidents: Renshaw et al., (2008) present an example: -

If a patient falls while unsupervised, because the nurse allocated to care for him/her is trying to locate some test results which have not arrived, because they were put in an envelope addressed to the wrong ward, because the patient has recently moved wards, because another patient who was infected needed to go into the side room this patient was in… And so, it goes on both backwards and forwards. Each action or omission in healthcare having potentially far-reaching repercussions (Renshaw et al., 2008).

Their research shows that any particular confluence of events is rarely due to a single failure but to interactions. They add that the system at the NHS does not provide a baseline for
chief executives to be able to assert whether the number of incidents and their severity is improving or not

Additionally, if benefits of incident reporting are hard to identify, the resources that incident reporting require are nonetheless significant. That the NHS is a safer place as a result of incident reporting is questionable. That money could be well spent in a different way, focusing for example more on quality improvement than on risk management, and on the design of processes by ‘underpinning’ them after investigating the more serious incidents (Renshaw et al., 2008).

M. Sujan, (2015) finds that frontline staff do not understand how incident reporting works in practice: they report that they do not receive meaningful feedback and believe that reporting is an activity that might have undesirable repercussions; furthermore, there is a lack of computers, poor usability of reporting systems, and lack of training or time to fill in incident reports

2.3.7 Little enthusiasm for a best practices database

Eshareturi & Serrant, (2017) write that an inter-trust database to facilitate learning from the experience of other trusts met with little unanimity: trusts usually have their own internal databases and are required to report through the National reporting and learning system and through the strategic executive information system. However, there was enthusiasm for conferences and regional forums to exchange softer information providing they were attended not by the risk manager but by the director for quality or the regional head of risk and governance.

2.3.8 Partial data and poor analysis

Carroll & Fahlbruch, (2010) write that analysis of incidents does not automatically represent useful learning, and Sujan, (2015) observes that staff perceive no improvement
resulting from incident reporting because resulting actions are a purely bureaucratic response to national requirements.

2.4 Organisational learning about risk in healthcare

2.4.1 Toyota Production System

Bamford et al., (2013) write that implementing TPS Lean is the key to proactive organisational learning around processes and that this institutes essential philosophies such as waste elimination, risk avoidance, continuous improvement, employee involvement and autonomy. Holden, (2011) adds that TPS Lean pushes staff beyond merely doing their work to learning ways to improve it and to empowering them to suggest and to implement change through better staff control of procedure: also, TPS is even found to lead to greater calm in the workplace, and after Lean implementation, staff experience lower workloads and are less prone to aggression, more courteous, more satisfied with their jobs, and less likely to leave. However, Holden adds that Lean brings fear as a perceived risk of layoffs.

Spear & Bowen, (1999) claim that it is indeed the behaviours and practices of the Toyota workforce, which underscore the working parts of the Toyota Production System and which bring about process excellence. Meier & Liker, (2007) add that, as job mastery grows under TPS respect for procedure, initiative and work simplification are encouraged under the control of a supervisor, and that staff are expected to think about how to improve the job. These authors observe that many organisations struggle with problems: then with firefighting, then with finding short-lived relief, and then going on to more problems: this cycle begins with ineffective training and persistent workarounds, which lead to variable results and ultimately, with the chaos, to too little time for training at all.

2.4.2 Cybernetics and standard procedure

Morgan, (1982) describes cybernetics as process control which defies the forces of ‘entropy’, of disorder and decay. Such control patterns resist the ever-present tendency of
processes to run down: chaos finally arises from lack of control, but order is re-established through cybernetic control. Cybernetic control thus resists departure from the preferred state (Heylighen & Joslyn, 2003). These authors add that cybernetics is a science which describes how complex systems function on the basis of information, of models and of control actions, steering them towards selected goals and maintaining them by counteracting disturbances and thus counteracting entropy.

Beaussier et al., (2016) write that risk-based ideas and instruments can be addressed to reorganise essential feedback control functions that, from a conventional cybernetics perspective, define a regulatory regime. In setting such regulatory goals, risk-based principles and instruments can be used to define qualified, rather than absolute, regulatory standards.

Holweg et al., (2018) state that, from a cybernetics context, without controlling exceptions and quality problems, the process would come to a stop, bringing firefighting and workarounds, when standard processes should have been improved by continuous process management. Where standard processes are no longer controlled, process improvement becomes impossible: a standardised process is the necessary platform for understanding and devising meaningful improvement, and this entails that processes must invariably be run on the basis of standard operating procedures (SOP).

Heylighen & Joslyn, (2003) explain that, in cybernetic learning, different models compete to become the control structure and, depending on their success in predicting and controlling disturbances, control actions are differentially rewarded or reinforced. Jacobsson & Akselsson, (2012) add that this learning process is cyclical, where the initial cycle focuses on individual incidents, and where subsequent learning cycles yield better understanding by explaining further incidents.

Dixon-Woods, (2019) states that clinical audit based on a cybernetic model of setting standards, of evaluating practice against them and of changing practice where needed to ensure better performance, has met with success in hospitals, and Heylighen & Joslyn,
(2003) explain that cybernetics presents a behavioural model which serves to classify types of staff behaviour in controlling healthcare processes.

TPS requires respecting standard operating procedures to optimise processes, and Meier & Liker, (2007) point out that if a work method were random, undefined and undisciplined, it would be very difficult to effectively teach it to others to produce consistent results. When a trainer has to say, "this is the way I do it", the results are inconsistency, lack of understanding and endless frustration afterwards in attempting to get staff to do things correctly (Meier & Liker, 2007).

Holweg et al., (2018) explain that a standard is not about some industrial engineer rating a job; rather, it is about staff themselves documenting exactly what it is that they do in the time allotted to them so that they, and others, can optimise work determining what adds value and what does not.

Liker describes TPS as an ‘enabling bureaucracy’ and not as a coercive one: he describes it as a social structure of empowered employees applying rules and procedures as enabling tools with a hierarchy fully supporting organisational learning. He describes the worker as an analyst and a problem solver, because one purpose of standardised work is to create consistent results without undesirable variation. Standard work forms a well understood, documented basis for considering change to a workstation, and TPS provides viable and enabling standards to continually improve upon repeatable processes.

Spear & Bowen, (1999) explain that under TPS, the workforce faithfully respects, applies, and updates procedure. Staff learn by doing, and, according to these authors, standard work thus reduces variation and chaos in processes to yield superior results. Liker, (2004) adds that TPS Lean requires the upkeep and respect of procedure as the defining property of good process control and learning, and according to Meier & Liker, (2007), standardised work thus creates consistent results and controls undesirable variation.

In this way, staff in outstanding hospitals learn to perform operations flawlessly by following standard procedures which nip common problems in the bud, allowing staff to focus on solving uncommon problems. But not all observers would agree with this:
“Having worked in an organisation that the CQC put into special measures and having worked in one perceived to be outstanding, I am not convinced that clinical outcomes were any different. The biggest difference to me is the extent of executive cohesion—if they all sing from the same hymn sheet, things seem rosier to the inspectors. One of the biggest problems is how can you measure safety and quality? Mortality analysis is contentious, incident reporting is problematic, readmission data isn’t used enough, infection data is poorly captured, FFT isn’t used enough, length of stay data is undermined by patients fit for discharge waiting to go home. I strongly believe there is no such thing as an outstanding hospital—there may be outstanding specialities in inadequate hospitals in same way as the could be failing specialities in outstanding hospitals” (Mark Renshaw, Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust -personal communication 10/2022).

*Opening the Door to Change (CQC 12/2018)* explains that staff have difficulty anyway ascertaining which processes lend themselves to standardisation and recommends that NHS Improvement should develop a framework for identifying clinical processes which could benefit from standardisation.

Also, Berger et al., (2015) write that communication is optimised when each member of a surgical team is present and focused on the task at hand, and one way of encouraging this is to decrease auxiliary tasks and unnecessary variation: also, standardisation of certain processes or of equipment in the operating theatre reduces uncertainty and streamlines support activities to allow more focus on immediate procedure-related care.

Wears & Hunte, (2016) recommend flexible procedures which can support adaptation and performance variability by providing different options and decision criteria to practitioners instead of prescribing a single best practice, and Liker agrees that standards have to be specific enough to allow for some flexibility but must be designed to allow people doing the work to improve them, particularly because all work may not be repeatable and predictable. If the work method is random, undefined, and undisciplined, it would be impossible to effectively teach it to others, as teaching ability requires deep knowledge to distinguish critical aspects of the work: if chaos is the foundation, teaching will be chaotic.

If people are not shown the proper method and they are expected to get the job done, they will find a way to do it somehow (*workarounds*) and become defensive if they are told their method is wrong when they were never shown the correct way…...it can
never be optional to work correctly….if you teach in a non-standard way, you will end up with non-standard results. (Meier & Liker, 2007). (Italics mine)

But not all researchers recommend standardisation. Hollnagel, (2015) writes that successful performance adjustments can be supported in practice by making work as done (WAD) visible: in this way reporting does not rely on a trigger event such as an incident. And Carroll & Edmonson, (2002) challenge structures for integrating the process of organisational learning: they believe that decentralised and informal approaches are better suited to create the kind of learning that is relevant to the NHS local environment.

Woodward, (2019) points out that work as done (WAD) includes operations which are neither conventional nor a part of procedure; work as done thus consists of adaptations and adjustments (workarounds) made by healthcare practitioners ideally to keep people safe. The frontline of healthcare is seen to adapt and to adjust actions and decisions according to the perceived conditions and situations it faces. Conventionally, we assume that people work as they are supposed to and may not even explore how they actually work; however, those who regulate, inspect and design work do not always understand what work as done is, and they develop their recommendations on a basis of work as imagined (WAI). There is thus a difference between what people are assumed or expected to do in healthcare and what they actually do (workarounds).

Woodward (2019) adds that, where a system suffers from complexity, the right combination of experience, expertise, clinical judgement, and know-how is available principally on the frontline, where the process designer must be in order to prescribe work. This is the only way to constantly update procedure which fits reality and keeps it effective and current. Otherwise, staff, who do not report workarounds and even hide actual practices believing they are keeping their patients safe, conduct workarounds, which can ultimately bring the organisation of work to its knees with more and more complexity, waste, and risk.

Finally, another tool of TPS is production levelling (heijunka-production levelling): this can lead for example to units choosing to operate a system bringing together their resources such as patient beds in central wards in a hospital to improve availability. Production
levelling decreases system complexity and meets fluctuation thanks to the resources freed up by flexible operations (Marksberry, 2012).

### 2.4.3 Patient-centred care and the patient journey

Following the Mid Staffordshire Trust crisis, the Francis, (2013) report stated that focus on meeting targets and on financial reporting to multiple bodies occurred to the detriment of patient care and of staff well-being: there was a need for a patient-centred culture. Similarly, the Berwick, (2013) report advised that all leaders should place quality of care and patient safety at the top of their priorities.

More recently, the *Opening the Door to Change (CQC 12/2018)* report claims that the current NHS system concerning patient safety is confused and complex, with no clear understanding of how it is organised nor of who is responsible for what, making it difficult for trusts to prioritise what needs to be done and when. Aharonson-Daniel et al., (1996) show, for example, how clinician behaviour itself can foster irregularity and variation in waiting times, and Towill, (2006) shows that in a patient flow which crosses professional silos, patients run the risk of ‘falling between the cracks’ which separate these silos, because no identifiable individual exists with specific responsibility for controlling and improving the patient journey; in effect, no one ‘owns’ the longitudinal process. It therefore appears that leadership must distinctively engage with the longitudinal patient journey through the hospital to make clear their concern with patient-facing processes if staff, particularly in inadequately assessed hospitals, are to prevent risk and to learn.

Jay Arthur, (2011) adds that VMPS is a journey from physician-centred to patient-centred healthcare and that, in applying TPS-style respect for procedure, any one of Virginia Mason’s 5,000 employees is authorised to stop a healthcare process whenever patient safety is at risk.

### 2.4.4 Complexity

The CQC (2018) *Opening the Door to Change* report states that clinical staff challenge change by claiming the ‘complexity’ of clinical processes. Beaussier et al., (2016) add that
complexity and multiple goals make it difficult for the NHS to ensure consistent quality across the wide range of services they provide. Furthermore, Andersen & Røvik, (2015) write that healthcare is characterised by complex processes, unique problems, loosely knit care teams, incomplete evidence for healthcare decisions, varying layers of responsibility, unpredictable workloads in A&E, uncertainty about outcomes and, above all, by processes which touch human beings ‘and not motor cars’.

Bion & Heffner, (2004) add that medicine has become increasingly compartmentalised, with blurred borders of responsibility and multiple handoffs between ever more isolated care providers and teams. And Hollnagel, (2014) claims that variation and complexity in healthcare processes make it impossible to fully specify all operating conditions. Consequently, clinicians create success daily through on-the-job adjustments and trade-offs based on experience and expertise depending on the characteristics of the situation.

Dekker et al., (2011) clarify that single factor explanations which condense accounts of failure into individual human action or inaction fail to untangle complexity. Linear thinking following a chain of causal reasoning from a premise to a single outcome does not acknowledge the complex, systemic nature of incidents: these require a different approach. The reductionist, mechanistic paradigm is simple and appears to make sense; it is attractive due to the symmetry between cause and effect; it offers a point of view that effects are predictable and thereby avoidable. However, such reduction cannot tell how things and processes interact when exposed to different influences: complexity arises from interactions between components of the system and on the nature of their relationships and not on linearity. Complexity is a feature of the system and not of individual inputs, and the behaviour of the system cannot be reduced to the individual behaviours of its constituent components. Consequently, in determining the behaviour of interactions, reductionist methods fail. Complexity lies in these interactions: they might implicate problems of diversity, of communication, expectations, hierarchy, fatigue, applying procedure, training, perceptions, of attitudes and of behaviour. It is the interactive complexity of the system that occasions the conditions that produce an incident. Under such complexity, reconstructing
events is subject to a narrative which is necessarily after the event, selective, and exclusionary. Accepting this fact can lead to a richer understanding; however, with complexity there is no procedure for deciding which is the correct narrative: selection of causes is invariably a construction by revisionist narrators. Complexity and systems thinking denies the existence of a single linear reality. Accident or incident investigations need to gather multiple narratives from different perspectives in a complex system which presents overlapping and partially contradictory accounts of outcomes: on the one hand, this thwarts any idea that there are easy answers to complex systems events and acknowledges the impact of interactions on the other (Dekker et al., 2011).

In agreement with the above, Suzette Woodward (2019) explains how complexity science requires the study of properties and of the characteristics of entire systems. It focuses on the dynamics, on the independent and interdependent relationships that make up the system, and on the emergent behaviours of the system. As complex systems do not always respond to linear change, incremental rather than holistic transformative approaches function more carefully. She portrays healthcare as a complex, adaptive system subject to non-linear dynamics, which moves the analyst away from the naivety of conventional, linear thinking and causality. Unpredictability and paradox are always present in complexity, which requires a dynamic, emergent, and creative view of systems. The focus is thus on interactions within the system rather than on the properties of isolated incidents in themselves: complexity does not allow attributing simple, linear cause-and-effect properties. As a result, prediction can be uncertain, and staff working in the frontline of complex systems must learn to work in an adaptive fashion.

In the face of such purported complexity, Berger et al., (2015) point out that systems engineers believe that error stems nonetheless from identifiable origins and that the key to improve performance in complex environments is to redesign the systems themselves. Furthermore, there is little point in reprimanding or retraining individuals when they operate broken processes (Edmondson, 2004).
Also, as explained above, Jay Arthur, (2011) writes that VMHS improvement teams found that 80% of patients had uncomplicated issues which could be handled easily with Standard Work; but that the cultural impact of systems and of standard work brought change which certain doctors had difficulty in accepting.

The *Opening the Door to Change (CQC 12/2018)* report adds a concern that standardisation should not override clinicians’ ability to use professional judgement and to act flexibly when circumstances require this. Lindsay et al., (2020) thus find that engaging medical professionals over the long term requires that a Lean programme should be built around them and not over them, presumably implying their involvement in change despite their habit of gaming.

Finally, Ashby’s, (1968) Law of requisite variety claims that only variety can destroy variety. Variety leads to complexity, which depends on the number and types of permutations and combinations of variables that can exist within a system. A control system without requisite variety is likely to fail whenever it encounters an unexpected scenario: it is likely to become unviable so blocking process control. Thus, one way to handle variety is by decreasing the complexity of the system itself. When complexity of the system decreases, the organisation can assume a proactive stance because there are fewer disturbances and fewer possible outcomes to consider. Variety reduction is preferred, because work on variety can generate additional undesirable variety. The other way to handle variety to increase the complexity of the control system with the cost and further complexity this may imply (Marksberry, 2012).

### 2.4.5 Difficulty in defining risk and quality

Simsekler et al., (2015) inventoried approximately a hundred risk-identification methods used in safety-critical industries such as aviation and chemical industries, but only a few of them were found in healthcare. Three main methods were selected to compare reporting and risk identification: they were incident reporting through the risk management
information system, the risk register system, and safety walkabouts as an internal assessment process. Each one of them was found to produce very different results. Such methodological challenges in assessing risk can make risk-based regulation difficult to implement. The Opening the Door to Change (CQC 12/2018) report states that more clarity is needed concerning accountability for deciding acceptable risk levels and for investing in safety measures.

Beaussier et al., (2016) identified the NHS problem of defining quality: ideas of quality have rarely attracted consensus among policy and medical communities, and there is even little agreement on the acceptability of potential adverse outcomes. Dixon-Woods, (2019) agrees that standards are essential for quality and safety but that they do meet certain technical problems relating to the uncertain nature of clinical evidence and conflict over what constitutes right standards of practice.

Beaussier et al., (2016) in an evaluation of the CQC also showed that it could not detect risks to care in hospitals. This was based on the idea that quality is ambiguous and contested. Regulation is faced with the difficulty of determining the boundary between acceptable and unacceptable outcomes, and this is particularly sensitive with respect to Never events. They write that healthcare is so complicated that even expert inspectors struggle to detect risks to quality during their brief inspection visits, but also that health chiefs actively resist detection to avoid local difficulties for the trust.

2.4.6 NHS accountability for safety

Kenney & Berwick, (2010) write that hospitals are now widely considered to be dangerous places, and the Opening the Door to Change (CQC 12/2018) report remarks how differently healthcare thinks about safety compared with industry, where safety protocols are followed without question: in industry, frontline staff get involved in adapting guidance in a culture where everyone is involved in creating and maintaining standard operating procedures. Safety is seen as a key part of everyone’s job, where all can be involved in designing standard processes.
Healthcare, which in statistical terms is higher risk than any of the industries the CQC consulted, in contrast takes the view that safety is the norm and that things only go wrong exceptionally. NHS staff are not expected to make errors: staff know that what they do carries risk, but the culture in which they work is one that considers itself as essentially safe. Safety education is not a priority for leaders in the same way as operational targets are.

The Francis, (2013) report demands accountability for safety from all who provide care to patients and especially improved leadership with greater accountability for senior board level leaders. The Keogh, (2013) report adds that the NHS must make demonstrable progress towards reducing avoidable deaths rather than debating mortality statistics.

The *Opening the Door to Change (CQC 12/2018)* report describes Never events (p262) as serious incidents which are wholly preventable because guidance or safety recommendations that provide strong systemic protective barriers are available at national level and should, as stated above, always have ‘already been implemented’ by healthcare providers. However, work to prevent Never events often only takes place after their occurrence as trust staff believe Never events could not happen to them in the first place. The CQC found no board discussion concerning Never events; no information had been asked for and no follow-up discussion suggested during their research. The CQC concludes that trust boards do not consistently prioritise discussions about Never events and safety alerts: trusts believe that current processes are good enough, although “staff do not always understand what good looks like”.

Safety should be made a top priority with roles and responsibilities defined at every level from senior leadership to the front line. This report goes on to describe confusion in the NHS, where staff do not share a common understanding in any event of what is meant by patient safety: in fact, risk appears to be accepted because incidents are seen as being part of the job.

The *Opening the Door to Change (CQC 12/2018)* report identifies key cited causes of safety alerts as non-adherence to approved procedures, human error, complex pathways and time pressures, lack of leadership, lack of staff, and distractions during procedures. With
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

high workloads, implementing patient safety alerts can be seen as just one more thing to do and can lead to staff taking a mechanistic and siloed approach to implementation.

Other challenges described in the document include lack of engagement and limited internal expertise. It recommends that NHS Improvement should take account of the difference in the strength of kinds of barriers to error, distinguishing between those that should be prevented by human interactions and behaviours, such as using checklists, and those that could be designed out entirely, such as removing clutter or fitting physical barriers.

The Opening the Door to Change (CQC 12/2018) report further recommends that patient safety training should be more explicitly incorporated within professional healthcare programmes, particularly at undergraduate level, adding that safety education is not a priority for leaders, whereas embracing a safety culture is entirely dependent on leadership and governance in the trust and on how it prioritises safety.

Braithwaite et al., (2017), in discussing Safety II thinking, define this as an ability to make dynamic trade-offs to adjust performance to meet changing demands and to deal with disturbances and surprises; these authors state that the ability to learn from past experience involves studying work as done (WAD) rather than work as imagined (WAI), and that Safety II thinking creates ownership and engagement among frontline staff.

Woodward (2019) explains that Hollnagel's concept of Safety I is that of reducing harm through the study of failure, and that Safety II is a concept where staff are able to beat variation to obtain acceptable outcomes. Where Safety I concentrates on performance outliers, Safety II looks at the profile of the performance distribution where the interactions lie: in this way it can be used to study how health systems function and not just how they fail; in this way Safety II examines process robustness and resilience.

2.4.7 Professional training

Argyris & Schon, (1978) focus on the way human learning and behaviour involves the construction, testing, and reconstruction of knowledge: on double loop learning leading to
adjustment of established norms for effective performance; and on deuterological learning, which is learning how to learn.

Lukic et al., (2013) believe that, while supervision is necessary for trainees, it is not routine for those who have completed training, and physicians may spend most of their working lives unsupervised: as a result, they can feel isolated, uncomfortable with outside scrutiny and out of the habit of thinking about what they do and how they do it.

2.4.8 Organisational learning

The Berwick Review into Patient Safety, (2013) strongly recommends promoting organisational learning. On this topic, Jones, (1995) notes that, as there is no collective, disembodied mind that does organisational learning, then all such learning must take place through individuals, and that individual knowledge may be a subset of organisational knowledge as part of a knowledge flow which is socially created. Argyris & Schon (1978) note also that organisational learning implies the sharing of assumptions and cognitive maps between organisational members. However, Sujan et al., (2017) claim that organisational learning from incidents in healthcare has concentrated rather more on collecting and categorising data, when successful organisational learning from experience should be inherently a social and participative process.

Lukic et al., (2013) add that clinical supervision is the way in which professionals should provide education and that ownership of an organisational learning process should be delegated to a local level with responsibility for leading improvement being assigned to healthcare professionals and to frontline members of staff rather than to departmental managers or to risk managers. Indeed, TPS teaches that the key role of every supervisor is to be a teacher and a coach to develop staff, all the way up to the CEO.

Renshaw et al., (2020) describe a 10-year programme to reduce patient falls at the University Hospitals Sussex NHS trust. The research found that staff perceived falls to be inevitable and that this became a self-fulfilling prophecy. An initial approach was thus to bring ward managers to identify 150 preventive actions, but despite initial success, the
impact on reducing falls remained limited. Subsequently, the team found that the role of interactions suggested by complexity theory brought them to focus more closely on after-the-event discussion. They instituted after-action review (AAR) as a debrief following each reported fall. Non-confrontational reflection and feedback during these sessions appeared to encourage openness and trust. Four key questions discussed each time were: what was expected to happen? What actually happened? Why there was a difference? What lessons were learned? The deficit between reality and expectation gave not just an opportunity to discuss, but also an opportunity to learn.

Furthermore, under the control of a senior nurse, discussion also covered the context of the ward; its layout, patients, staffing and leadership. Numerous causes were surfaced such as not anticipating the risk of a fall or having to make pragmatic choices transferring urgent priorities to other patients not subject to falls while not aiding a fall prone patient. Exploration of consequences during the meetings brought creative challenges to constraints and habits and a greater focus on prevention. This double loop learning went beyond the notion of best practice as something fixed but as something that is continuously evolving: if a practice gave an unexpected outcome, it appeared normal to re-evaluate the practice itself. The research team found that people learn through mimicry of those more experienced than themselves and that, in this way, knowledge is transferred from the expert to the novice. Also, learning arising from conversation was enriched by the social interaction itself. The approach resolved some of the difficulties of reporting staff feeling guilty, ashamed, angry, and blamed; they found it easier to talk about such feelings during AARs without blaming themselves or upsetting others.

AAR debriefing thus developed shared understanding. Learning resulted from shared reflection about specific incidents and how it was more sensible to institute a new procedure than to follow previous habits of practice. The ability of ward teams to keep this conversational theme alive was looked upon as the mainstay for sustainability of AAR. Additionally, management language became more focused on understanding and prevention of falls and an idea of collective knowledge concerning ward safety appeared to grow.
So rather than seeing best practice as something located in an expert who empowers others or a policy or guideline, staff now see this as an ideal, a value, which is constantly tested in practice, which may require further investigation and need revising when this fails to deliver what is expected or they are surprised in some way (Renshaw et al., 2020).

Rather than solely training staff about techniques of falls prevention, senior nurses went on to support ward teams and managers to facilitate debriefing. In conversations about expectations, insights appeared concerning safe practices around falls, and a wish to develop new and better practices surfaced. Due to the nonlinearity of interactions the hospital soon recognised that these changes were having large effects.

### 2.5 Conclusion to the Literature Review

The Berwick, (2013) report strongly recommends training of staff in quality and safety sciences because medical professionals, particularly in CQC inadequately assessed hospitals, are not always trained to improve process quality using structured methods. As a result, it is difficult for such NHS hospitals to obtain risk improvement because there is little learning from safety incidents and, at all events, a pervasive inability to identify the root causes of process error (Beaussier et al., 2016) with the consequence that trusts find it difficult to distinguish what needs to be done at all (Lindsay et al., 2020).

Furthermore, this lack of process understanding among NHS staff thwarts change (Sujan et al., 2017) unless the NHS ramps up its analytical processes to yield targeted usable data from reported incidents. There can be no solution to problems of risk without competent analysis of good data (Anderson & Kodate, 2015), and above all, without action to improve and ongoing control, both of which which underlie learning. TPS (Meier & Liker,

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8 In one trust, safety training over the past 20 years has consisted of (private information 2022): -  
• Investigating clinical incidents: half-day course led by serious incident investigators: no longer running.  
• Half-day course on Human Factors led by an A&E consultant.  
• Half-day course on After Action Reviews: no longer running.  
But the frequency of incidents in this trust has diminished during this time thanks to: -  
• Dedicated pumps have replaced interchangeable pumps.  
• Recognition of clinical deterioration has accelerated.  
• Number of - falls has decreased.
cybernetics and the sciences of process improvement provide the tools to do this, but, as Dixon-Woods, (2019) says, “the NHS admires problems without solving them”. In fact, NHS inaction perpetuates risk and paralyses learning (Reason et al., 2001)9.

Cybernetic control of processes appears a widely referenced, valuable road to risk reduction and to learning because the cybernetic cycle continuously controls and optimises process output (Holweg et al., 2018; Morgan, 1982), however, without process thinking, staff are incapable of understanding cybernetic approaches and, if workarounds continue to be tolerated at the NHS, this results from inadequate process training (Holnagel, 2014; Reason et al., 2001) on the one hand, and from lack of standardisation on the other, because TPS teaches that procedures must be standardised to be taught (Liker, 2004). For a process to run correctly and to function under control, it must operate in the same, standardised way every time: staff learning application of procedure as standard work to control processes brings them to focus on the work at hand and to correctly perform every time10.

“I think it’s a seductive idea to standardise processes, and the use of checklists in A&E has been pushed hard by the consultant that runs the human factors training. However, not entirely convinced that you can have SOPs that can manage the variability patients present us with. Also, a challenge with how you get this information in the hands of healthcare professionals when they need it. We have thousands of policies, guidelines, protocols etc. but most of them only come out when there is an investigation” (Mark Renshaw, Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust personal communication 10/2022).

There appears to be little knowledge of process improvement methods among professional staff, notably in the weaker hospitals, and refusal to teach such methods does not come across as good governance. Crucially, cabalistic behaviour (Lazarus & Neely, 2003; Lindsay et al., 2020a; Van Kooy & Pexton, 2018; Weick & Sutcliffe, 2003) of NHS clinicians in opposing lifelong learning, and hospital efficiency and effectiveness-

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9 Incident reporting has generated vast amounts of data, locally 1000+ incidents per month and lots of problems—it’s a catchall for everything and rarely focussed. Add to this, to date the main focus of incident reporting involves hospitals, incidents that happen across the primary-secondary care interface are rarely captured. Also, a lot of incidents, especially medication errors may go unnoticed (private letter 2022).

10 Is this not the true definition of organisational learning?
improvement initiatives, is destructive. Even Trust CEOs themselves are reported to resist CQC-inspectors’ problem detection to avoid ‘difficulties’.

Indeed, the CQC reveals that NHS staff consider that what they do is “essentially safe”, but this is far from the observation that “hospitals are now widely considered to be dangerous places” (Kenney & Berwick, 2010). Although the Francis report, (2013) demands accountability for safety to extend throughout the organisation, even to CEO and board level, neither the NHS nor the CQC are prepared to assert where accountability lies for incidents. Action trust management took at the Mid Staffordshire NHS trust to investigate and to resolve concerns “was inadequate and lacked an appropriate sense of urgency” states Francis (2013)

There is even no common understanding about what is meant by patient safety: risk is seen as just being “part of the job” (Opening the Door to Change CQC (2018)). In contrast, safety is a pervasive objective in industry, where it is everybody's business, and where safety training is lifelong and applicable to all; again, in industry, working people do not go to work to get hurt.

 Furthermore, clinical staff do not report incidents because they fear blame (Massey & Williams, 2005). Similarly, enforcement of CQC powers appears blocked by incertitude and by “fear of the consequences of adverse outcomes”: one might ask whether such adverse outcomes are intended to include patient deaths too. The CQC is not even confident in appraising risk because the “idea of quality is ambiguous and contested” (Beaussier et al., 2016)

And the NHS tries to shift from a “blame” culture to a “just” culture to encourage reporting, but is it really advisable to muzzle accountability in this way? Furthermore, the

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1 There was a whole stack of cultural issues to address, not least speaking up and also how to respond when concerns are raised. Also have multiple hierarchies and hierarchies within hierarchies-consultant is higher up the food chain than a F2, but arguably a senior nurse trumps the F2 Dr. Also, staff avoid difficult conversations and have never received training on how to manage these (Mark Renshaw, Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust private letter 2022).

12 Mark Renshaw adds that “it is often an emotional decision to report or not report an incident, it will be driven by all sorts of issues-not least whether I like or respect you. The blame is an interesting one as in 20+ years I can only recall one nurse been taken down a disciplinary road as a direct result of an investigation into an incident. We probably could make a case that in the search for system errors we moved too far away from individual accountability” (Mark Renshaw Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust personal communication 10/2022).
complexity argument, so often opposed by clinicians to stymie change, should probably be seen from the perspective of 80% of patients having uncomplicated issues *which can be handled easily with standard work* (Arthur, 2011).

Furthermore, the concerns expressed that standardisation may override clinicians’ ability to use professional judgement should be validated against the inclination of doctors to ‘game’ change ambitions (Lindsay et al., 2020; Waring & Bishop, 2010): it is odd to find that Lean tools, which are recognised as reducing stress, and thus risk, continue to meet (Bamford et al., 2013) with misguided and stolid defiance.

The key identified driver of risk and failure of learning appears as nonadherence to procedures at the patient-facing level (Liker, 2004). This is why, according to the principles of TPS respect for procedure, uninterrupted coaching, and clinical supervision of staff (Holden, 2011; Lukic et al., 2013) operating processes at ‘shop-floor level’ need to be persistently provided by staff supervisors themselves (Woodward, 2019).

The specifics of hospital culture showing the sensitivities involved in improving procedure by learning from incidents appear very clearly in Renshaw et al., (2020), where the power of non-confrontational conversation and double loop learning bring staff at the Sussex Universities Trust to focus on risk prevention under a form of cybernetic feedback around complex interactions in the processes which can lead to falls. The positive ten-year experience of this team in learning as an organisation offers a valuable roadmap to effectively attaining continuous learning (p166) in a hospital setting.

However, without the understanding and commitment of leadership (Anderson & Kodate, 2015; Waring & Bishop, 2010), and without the willingness to provide the resources to obtain improvement, change cannot, and will not, occur. Unstable and patchy attitudes to change and frequent turnaround (Massey & Williams, 2005) of trust chief executives within the NHS do not provide the necessary conviction, drive or sustainability to succeed\(^\text{13}\). It may

\(^{13}\) *Leadership is a problem, but I would also reflect that finance for the majority of CEOs that I worked with trumps safety. I also think there is an anxiety to go near safety when operational issues are more their comfort zone* (Mark Renshaw Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust personal communication 10/2022).
be of interest to find to what extent CQC influence lies behind this. Unfortunately, through the noise and chaos (Heylighen & Joslyn, 2003) in NHS healthcare, engaged, assertive leadership vision and involvement appears at times to be the ghost in the room.
CHAPTER 3 THEORETICAL FRAMEWORK

This chapter presents an outline of topics which structure the theoretical outcome of this research.

3.1 Research pathways

More than one research pathway is followed. Following a review of the literature and content analysis resulting from grounded coding of secondary data, using the Gioia method leads to framing theory.

- Initial thematic analysis uses Nvivo grounded coding of secondary, published CQC assessment data; the Nvivo semantic algorithm is used to identify synonyms (p225).
- Grounded coding is completed by linking Nvivo with Gioia analysis to construct theory.
- Key physician input is derived from two semi-structured pilot interviews (p254) which enrich the discussion; one pilot interview is entirely transcribed to illustrate the stress under which physicians are working, stress which entails increased risk of error: it complements the literature which refers frequently to burnout14.
- And the literature review itself provides a broad hospital-systems backdrop against which to confront findings on hospital risk and learning which arise in the discussion Chapter 6.

3.2 Philosophical stance

Based on the Content Analysis (Dieronitou, 2014) described above, the research is Interpretivist rather than positivistic. Because its ontological and epistemological assumptions are subjective to the researcher, its ontological position can also be described as relativist. This choice is made for pragmatic reasons because, from 2019, the Covid crisis blocked any possibility of performing primary research in hospitals, and because the publicly available, authoritative content of CQC assessments enabled qualitative analysis using

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14 The fully transcribed interview led to the researcher publishing a journal letter as a ‘viewpoint’ (p248) in November 2019 in The journal of the American Medical Association (JAMA).
grounded coding of secondary data, analysis could be strengthened by Pareto counts of concept frequencies.

Grounded coding is based on researcher perception and is thus clearly interpretative, using both Nvivo and Gioia techniques. To the extent that CQC data describes sociotechnical systems, interpretivism, often applied to research into the human sciences, was found to be appropriate. An ontology of interpretation does not entail an idea of strict reality: it is not consistent with positivism, which requires scientific, linear, observation leading to strictly deductive reasoning (Dieronitou, 2014).

The advantage of Content Analysis has been to apply coding to data which enables qualitative pattern association. Gioia holds that Content Analysis follows proximity to lead in this way to theory. Gioia even claims it can go as far as interpreting latent content and deep meaning by unravelling causal relationships and correlations.

In this way this thesis adopts a joint role for TPS methodology and cybernetic control theory to model staff behaviour around hospital systems. This choice of TPS respect for procedure with cybernetic theory is therefore based on inference and on a conviction of validity: as such, it is abductive in that it uses backward reasoning to explain observations; it posits a seemingly acceptable, possibly true, prediction rooted in qualitative observation.

Such reasoning requires some demonstration of validity, and to attempt to supply this, five models are presented which examine CQC-identified, NHS-hospital staff behaviours in process-control from a cybernetic angle. In order of increasing effectiveness, these identified NHS staff behaviours are presented as:

1. inaction; p154
2. workarounds; p154
3. process-capability behaviour; p159
4. risk-prevention behaviour; p163
5. continuous learning behaviour. p166
The models are theorised using a boxes-and-arrows illustrations which provide risk and learning reasoning underlying the behaviour modes\textsuperscript{15}.

3.2.1 Structuralism and Deconstruction

Pentland, (1999) observes that theory arises in research from an explanation of what causes observed outcomes; theory is the answer to “why?”. An explanation is a form of theory, an accepted hypothesis about a causal sequence of events. Without explanation, there is no theory. Theory as narrative connects cause and effect in a process, and Pentland claims that sense-making depends on ability to think in narrative terms. Weick, (1995) adds that most organisational realities are based on narrative, and that narrative is the building block of process theory. However, narrative contains indicators which do not allow access to the underlying structure of phenomena; we cannot move from narrative to deep structure without building theory.

Observations which comfort our own worldviews provide legitimacy for our own actions and opinions, and the role of deconstruction is to moderate such voices by revealing their use of power in constructing narrative; deconstruction pays close attention to, and searches to dislodge, narrative devices which enable or constrain justification of worldviews.

So, it is not enough to attempt to create theory by describing patterns of events without explaining the underlying process which generates these patterns. Such explanation draws on a generating structure and, where we need to identify underlying structure to explain, we can only access narrative limited to surface observation. The problem then becomes how to validly move from the surface level of narrative to deeper structure when we attempt to generate theory: only by validly identifying generative structures does theory explain process.

We may, for example, describe a process with event sequences but structure is obscure, and the concept of any narrative leading to any specific theory at all has been

\textsuperscript{15} TPS respect for procedure with the cybernetic negative feedback cycle appear together to model how process control influences risk and learning
debunked by the claim of post-structuralist Jacques Derrida, in *Of Grammatology* (1967), that there is “nothing beyond the text”\(^\text{16}\): he holds that deep structure is a myth, so disputing any deduced theory. Like Derrida, Foucault insists that such patterns must be disturbed and rejected because they are the outcome of individual construction. Both assert the need to reflect on all possible epistemological stances to avoid such bias.

The technique of deconstruction, also referred to as Critical Discourse Analysis, brings into question power relations by analysing binary oppositions in the text which polarise and search to justify a dominant pole. Deconstruction is thus inductive and interpretative in a way which strongly rejects unquestioned values and beliefs as unbalanced.

One of the key power hierarchies treated in this thesis is that between doctors and management, where the literature surfaces the political role of senior physicians in gaming change initiatives to resist change. To avoid ‘demonising’ this gaming, Interview 2 in the Appendix describes the extreme and growing difficulty even senior doctors have in meeting their professional obligations and illustrates paths to burn out. This presents a significant argument justifying senior physicians in resisting change, and these parallel readings are thus deconstructive.

Also, certain sections of the thesis describe the difficulty of achieving staff feedback through reporting mechanisms in hospitals describing pressures on staff bringing them to fear blame, but such arguments are deconstructed through opposing arguments celebrating nursing professionalism, talent, and dedication. Other sections in the text criticise the workaround mentality, but chaos in hospital processes and lack of training appear to explain such behaviour, and this too is deconstructive.

Possibly one area, however, which may require deconstruction is the patient journey: concentration of the literature on relationships between processes and hospital staff often appears to outweigh analysis of the relationships between these same processes and patients themselves. It appears clear that, in the power hierarchy where physicians seem to

\(^\text{16}\) « Il n’y a pas d’hors texte. »
come first, the patient journey appears to possibly come somewhere down the list, and research possibly needs to provide a deconstructive voice for this too.

Although it is not post-structural to do so, this thesis does however suggest a theoretical perspective because the subject matter is of a concrete and behavioural nature. Solutions are often partial and one sided, but where practical action is required, choices have to be made if structuralist thought suggests a theoretical path forward, however the scepticism encouraged by deconstruction, which is more than just a fashion, frequently blows away the theory.

3.3 Exclusions

Restricting analysis only to ‘outlier’ outstanding and inadequate CQC assessments shows performance and behaviour at the extremes of trust-quality performance. Input from the great majority of trusts which are evaluated as average\(^1\) would displace focus from the critical extremes onto highlighting mean behaviour, which provides no information on the contrast between excellent and poor quality in healthcare-process risk prevention or organisational learning: it would only weaken such contrast between the extremes of the assessment scale. As the ‘middle ground’ does not meet the requirement of researching the difference between outstanding and inadequate quality in healthcare, and as average performance does not inform using contrast, accordingly mean and modal categories are excluded from the analysis leaving the analytical field to the outliers.

The concept of risk in process improvement is a probabilistic idea which can be analysed and addressed using tried and tested tools such as FMEA (Failure-Mode Effects Analysis p271) PHA (Prospective Hazard Analysis), SWIFT (Structured What-If Technique), and others, which lead to identification of preventive measures; however, such analyses of preventive measures are not discussed in this thesis. Also, this thesis does not analyse purely cognitive drivers underlying staff behaviours.

\(^1\) i.e. assessed as good or requires improvement
The text does not discuss questions of sustainability nor of ‘Green’ Lean Six Sigma, topics which do not appear in the CQC assessments of hospital risk and learning.

Also, service activities in hospitals are not researched because the consulted published CQC assessments concerning risk and learning evaluate processes in essentially clinical activities. Hospital administrative and ‘residential’ activities are thus not researched either (p193).

3.4 Ethics clearance

Ethics requirements in the event of hospital on-site research entail both NHS and University of Sussex clearance. Initial efforts to obtain this were stopped in 2020 for the following reasons:

- Covid19 restrictions due to hospital-staff workload ultimately rendered the idea of taking up NHS staff time out of the question;
- One approach to a hospital in West Sussex would have required paying the time of NHS team staff on a projected Participatory Action Research (PAR) project for which there was no funding;
- One approach made to the East Sussex Partnership trust prompted no interest from the senior medical officer;
- Advisors led the researcher to believe that ethics clearance would not be necessary in the absence of any identifiable hospital patients or members of NHS staff, and the physicians in the two pilot interviews are not identified (p254);
- The publicly published nature of CQC data was such that access to NHS establishments would be no longer necessary in the context of this research, and thus did not entail the need for ethics clearance.

3.5 Copyright and permissions

Despite the anonymous nature of the pilot interview 2 transcript, the interviewee has nonetheless offered to sign a release by e-mail to allow its use. This has not been thought to be necessary, but the researcher can present this release if required, knowing that the interviewee will at all events must remain anonymous.
Permission was very kindly granted by Mark Renshaw, Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust, to quote his comments in the thesis, which I identify as ‘private correspondence’.

Permission to present the figure copyrighted by Sylvester (p111) has been requested, however no reply has been forthcoming; in the meanwhile, the copyright © has been recorded below the figure (Fig. 8).

3.6 Integrating a theory and a model

The research sets out to find theoretical dimensions which explain the relationships of risk and learning in hospital processes. In effect, frequencies of grounded CQC assessments point chiefly to an inadequacy of respect of preventive procedures in NHS hospitals (Fig. 3). CQC comments on process improvement widely implicate behaviours and systems, and process theory (Holweg et al., 2018) helps to understand both in controlling process.

Two axes of sociotechnical process theory structure this analysis:

1. One, a **system** axis using feedback of a process-output error signal and acting on risk of dysfunction: this is modelled by *cybernetic negative-feedback* to control process to prevent risk and to favour learning (Abdulwahed, 2013; Zimmerman, 2008; Carver & Scheier, 2002).

2. The other, a **behavioural** axis, engaging staff controlling processes to respect and to improve procedure as a never-ending cycle to prevent risk and to learn\(^\text{18}\): this process-related method is fully embodied in the theory and discipline of the *Toyota Production System (TPS)* which depends on continually applied and updated procedure to control process (Liker, 2004; Meier & Liker, 2007).

The implication of using TPS respect for procedure and cybernetic control theory together is to prepare complementary understanding of hospital-process continuous improvement. Data analysis confirms that improvement firstly requires respecting, applying, and updating preventive procedure.

\(^{18}\) In healthcare, the methodology is already applied in exemplary fashion by Virginia Mason Hospital of Seattle.
The literature found on cybernetic learning theory centres on Zimmerman’s work on self-regulated learning (Zimmerman, 2008); and the literature on TPS often focusses on VMPS.

Also, the idea in this thesis of the upkeep of process-related procedure applied to real-time prevention of risk or to learning does not correspond with NHS understanding of the word procedure. The NHS looks upon procedure as more or less centrally administered guidance or protocols, or as clinical intervention, and not as a staff control factor of processes: there is a semantic gap with those not familiar with TPS terminology; furthermore, even Sarah Patterson’s VMPS refers not to processes and procedures, but to ‘systems’.

Cybernetic theory and TPS respect for procedure are described in more detail below.

### 3.7 Cybernetic theory of learning and of process-risk prevention

Cybernetics models the mechanism of monitoring, of respecting and of applying Standard Operating Procedure to recognise, to diagnose, and to act on process error as negative feedback to prevent risk and to learn.

![Figure 1: Schematic learning cycle as a cybernetic-process feedback loop](image)

The learning cycle as a cybernetic-process feedback model is presented in Fig. 1. Cybernetic models are developed in this thesis on the basis of the standard cybernetic
feedback loop (Abdulwahed, 2013; Carver & Scheier, 2002; Heylighen & Joslyn, 2003; Morgan, 1982). In an error-reducing feedback loop a monitored output is compared with an output specification to generate an error signal assessing non-conformity; then, a control function adjusts the input (and the Standard Operating Procedure if necessary) to move the process output closer to the specification, thereby countering deviations from conformity, so reducing process risk, and thus learning. Real, and specified output states are compared, and, in the case of a mismatch, staff takes action to close the output gap (the error) against the specification and thus learns, because the outcome of correcting procedure is also to learn how to reduce the risk of error reoccurring in the future. Output is then cyclically retested and, if the goal is met, no further action is taken; if it is not met, further action is taken until it is, while all the time updating procedure. This is a cycle.

The word ‘process’ is used throughout this thesis in the wide sense as work of all kinds in the hospital, from making beds to brain surgery. Process is not confined to the use of equipment and is demonstrably applicable, for example, to intellectual activity such as learning, (Abdulwahed, (2013); Zimmerman, (2008); Carver & Scheier, (2002)).

In this thesis, a system is seen as an end-to-end activity which allows a unit to operate, and a process is a focused activity within the system.

The theory of cybernetic process control, which is applicable to numerous natural processes, gives insight into the roles of process control and of procedural discipline in learning (Abdulwahed, (2013); Zimmerman, (2008); Carver & Scheier, (2002)).

Hernes, (2007) writes of understanding organisation as process theory. This author states that organisation occurs in a world where elements are twisted in ways that add up to an ‘untidy mass’. Thus, practitioners attempt to understand processes as a flow of possibilities and of interactions occurring in time: they then try to ensure sustainability by using such cybernetic models to establish order. Attaining this requires identifying and

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19 The theoretical negative feedback, cybernetic motivational learning model (Abdulwahed, 2013; Zimmerman, 2008; Carver & Scheier, 2002) which has been developed takes a personal learning-goals and cognitive perception of attaining them as the basis for the comparator rather than process output; however, the cybernetic principle remains the same.
naming processes and identifying procedures. Process change then occurs over time and space as continuous modification, bringing organisations to be perceived by Hernes as ‘ongoing accomplishments’. Organising implies meaningful and predictable order imposed upon a ‘tangled’ world, otherwise termed negentropy. Change ensures sustainability by reinventing processes and creating new realities in a world which is inherently unstable over time.

This author evaluates the dynamics of different models of organisation and concludes that their complexity is such that our ability to understand them is very small. Such models tend to evolve as few possibilities among many: in the same way, cybernetics tends to centre processes onto an optimal sequence: as a result, among the many possibilities, plausible organisations tend to emerge.

Process thinking seeks to shed light on the developmental nature of processes in organisations as becoming rather than static. And, in the same way that routines are seen as standard solutions in process thinking, procedures appear as standard solutions in cybernetic thought: in both cases they are seen as collected sets of actions leading to a recommended way of working.

Hernes, (2007) also sees organisation as a process of formation rather than as a fixed entity, and again the cyclical nature of cybernetic control which leads continuous improvement parallels this.

Analysing the NHS, with its more than 800 acute hospitals, extensive central services and over 1 million employees, using process theory in its context of relational phenomena rather than of a static correlation between entities poses a serious challenge to process thinking which requires starting from a view of the world as process.

Another insight of process theory is that agents, when acting upon the world, are changed by the world in return. This again emulates the cyclical relation in cybernetics of applying procedure, of evaluating output, of applying negative feedback to adjust process output to centre on output specifications and updating/changing procedure: the result is that procedure evolves as process reacts to agents.
Another outcome of process theory is that structure and process interact to effect change, but the basis which they form cannot determine what will happen next; similarly, cybernetic process control is necessarily reactive and not predictive, and the system of first making sense and then acting to control is mathematically negative in cybernetics.

Weick, (1995) defines the term *organising*, as opposed to *organisation*, as an oscillation between the verb and the noun, paralleling cybernetics, which engages cyclical adjustment of multiple possible outcomes to result in order.

Thus, cybernetics samples process error to recognise and to feed error information back to adjust input and process parameters as a negative function of output error (p67). A *monitor* compares system output at sampling times against the standard, and a *controller* adjusts process input to compensate. Otherwise termed closed-loop negative feedback control theory, cybernetics is this mechanism behind a cycle of correcting instructions which loop back to the input to offset error to return output to conformity.

Over time, this engages a longer-term *learning* cycle by cumulatively improving procedure with feedback. Thus, the cybernetic cycle shows how risk is managed and how, as a result, learning occurs. For example, when hospital staff operate a process, they expect a correct outcome; if this is not the case, they evaluate and apply corrective action and recheck whether improvement has occurred. Over the long term, they collect information on risk associated with the process and improve it by incorporating preventive measures. In doing so, they learn how to prevent risk. As action on the process is recorded to ensure correct action in the future, procedure is continually updated to prevent reoccurring dysfunction: over time, recording and following corrective action forms the learning cycle; it is how staff learn.

But what can go wrong at this interface? For example, CQC data surfaces *non-respect of preventive procedure* as a major dysfunction of *inadequate* hospitals (see Pareto in Fig. 3). This is a breakdown caused by staff not applying and not updating procedure. Such disrespect of procedure is common in NHS *inadequate* hospitals by not doing on time; doing poorly; doing slowly; not reporting; not correcting; disregarding; not communicating;
forgetting; misjudging; dismissing, and so on. Otherwise said, such staff cannot learn while
dysfunction persists and while risk does too, there can be no process-improvement learning.

3.8 TPS respect for procedure and sociotechnical systems

The concepts of process performance and of organisational learning are modelled in
this thesis also on the Toyota Production System which applies a discipline of respect and of
continuous updating of, Standard Operating Procedures (SOP p271).

The TPS key philosophy to achieving and to maintaining work with less error is based
on staff operating processes every time the best way according to procedure, thanks to staff
respecting and updating it; they do it the right way and only the right way every time down to
the smallest operation. Also, repeating procedure ‘locks in’ learning.

Furthermore, cybernetic action on error brings the process to converge onto the
specification.

The modern theory of the Toyota Production System (Marksberry, 2012) presents a
description of General Systems Theory in use in TPS. He defines this as an interdisciplinary
science which explains trade-offs within a system to achieve the best overall capability. And
Lean is not the same as TPS. Lean is a continuous improvement journey, whereas TPS is a
mandatory management system which achieves continuous improvement through the
members of an organisation.

Staff consigns improvement in writing to SOPs for the benefit of all staff. In TPS, the
operator updates procedure him- or herself under the surveillance of first-line supervision.
This reinforces the idea of ownership at the workplace because procedure is updated by
those who run the process themselves (Gigch, 1978; Womack, 1992; Womack & Jones,
2003).

Toyota’s strong dependence on procedure-based systems, and the use of highly
defined roles distinguishes this organisation. Procedures act as a way for TPS to maintain its
performance when conditions vary. Written instructions, protocols and standards provide the
record of the best way to accomplish work. Without this record, ideas cannot be expressed,
stored or retrieved when they are needed. The TPS approach to saved records can best be explained using the concept of standardisation: under TPS, new employees are taught to fulfil roles fully obeying standardised work methods that have proven to be successful. In this way, staff bring systems to be repeatable and predictable. When new employees are not trained, they often resort to their old ways of doing things, so as work methods improve, staff roles are updated (Marksberry, 2012).

In this respect, this integrated collection of processes in TPS can be seen as a sociotechnical system. Holweg et al., (2018) describe sociotechnical systems theory as an inherent combination of key human and machine resources. It integrates the behavioural characteristics of hospital staff with hospital equipment and technology to ensure a successful patient journey. Not only must each of these two factors be considered in isolation, but also together to manage interactions. It is the combination of human and machine that co-determines process performance, and where possible, process design should seek to eliminate complexity which can lead to human/machine interactions which pose risk.

The corollary of this is that process improvements are fundamentally change projects and should be treated as such, and that those working within a process generally are best placed to define meaningful improvements. The behaviour and reactions of staff need to be considered in project work so as to assure that their support continues throughout the time of project implementation. An example of such a sociotechnical study concerning Electronic Prescriptions Services in the NHS is described in Petrakaki et al., (2014) (p189).
CHAPTER 4 METHODOLOGY AND ANALYSIS

4.1 Data collection

CQC assessments of English NHS trusts and hospitals include extensive reporting available to the public as secondary data over the internet. They are qualitative observations recorded by the commissioners during assessments typically held annually or biannually.

Assessments were gathered under the commissioners’ original syntax as secondary research data in the Appendix (p193) from 38 outstanding and inadequate NHS hospitals throughout England and coded using Nvivo: the codebook appears on p216. The research data is made up of publicly available CQC statements from 3,000 pages of assessments published between 2018 and 2020 concerning these 38 inadequate or outstanding hospitals in trusts chosen at random. This sample exceeds 30, a commonly chosen minimum sample size to provide adequate power for analysis of categorical data20.

The database was accessed on 5/2/2020 in the CQC Directory of all English NHS hospitals, and complete assessment reports were downloaded. Every report was read in detail for hospital-process related comments, and all risk- and learning-related assessments were assembled in four bulk files and coded by the researcher under headings of assessments of risk in inadequate hospitals (p193); of learning in inadequate hospitals (p206); of risk in outstanding hospitals (p200); and of learning in outstanding hospitals (p211), and stored in the Appendix.

The thesis analyses outlier Care-Quality Commission assessments of outstanding and of inadequate hospitals which appraise behaviour at these extremes, and which are publicly available data21. If a hospital is stamped with the mark of inadequacy from an assessment made by the English CQC, the independent regulator of all health and social care services in

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20 Supporting thinking on sample sizes for thematic analyses: a quantitative tool (Fugard & Potts 2015)
21 Since 2009, the CQC has periodically assessed hospital conduct in areas of quality, patient safety, clinical effectiveness, patient experience and of leadership effectiveness to maintain a performance record of all NHS hospitals in England. Input from the majority of hospitals evaluated as average would displace focus onto mean or modal behaviour, rather than distinguishing excellent from poor quality in healthcare processes; so, the data chosen in this thesis derives only from outstanding and inadequately assessed hospitals to identify contrast in behaviours.
England, its operational performance is judged as very poor compared with other English hospitals.

In the 5/2/2020 CQC Directory of all English NHS hospitals, 156 (21%) were assessed Outstanding; 484 (66%) as Good; 224 (31%) as Requires Improvement; and 23 (3%) as Inadequate\textsuperscript{22} (Fig. 2).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{distribution_of_cqc_assessments.png}
\caption{Distribution of CQC assessments among English NHS hospitals}
\end{figure}

No other published studies have been found comparatively analysing such CQC data in this way and in this respect the analysis is thought to be original, although it is very probable that the CQC and/or the NHS internally perform comparative studies of this kind.

4.2 Research into CQC secondary data

The expertise of the CQC commissioners in evaluating hospitals since 2009 appears fully validated, so the dependability of their assessments as secondary data is assumed to allow reliable analysis. To produce the assessments, the CQC performs regular

\textsuperscript{22} Throughout this thesis, when the words outstanding and inadequate are italicised, this is to indicate the CQC assessment rather than a simple adjective.
comprehensive inspections of all NHS hospitals to ensure that services are providing healthcare that is safe, caring, effective, responsive to people’s needs and well-led.

The syntax of the chosen secondary data is presented in bulk in the Appendix. It is directly transcribed word for word from the original CQC published assessments. The data is entirely qualitative; however it enables Pareto analysis of frequencies of mentions of the coded assessments.

The evaluation procedures of this 2019/2020 hospital-performance data by the commissioners appear authoritative, structured, and formalised (Care-Quality Commission Regulations p268). As described above, it is taken from 38 hospitals in 9 NHS inadequate or outstanding trusts throughout England. In the sample, 20 hospitals are located in 4 trusts assessed as inadequate and 18 hospitals in 5 outstanding trusts. Hospitals in the sample employed a total of 54,220 staff in 2020 with an average of 1,427 persons per hospital. Regional locations are North West, South East, South West and West Midlands. The CQC database used is dated 5/2/2020 and, as stated above, the bulk assessment data is fully recorded in the Appendix (p193), each individual trust assessment report numbering in total around 300 pages of information.

Nvivo grounded coding provides the input for a Pareto of process-related risk and learning behaviour to identify major themes, and Gioia analysis leads finally to theoretical constructs.

4.3 Grounded Nvivo coding and application of Gioia methodology

4.3.1 Nvivo methodology

The analysis of CQC assessment data is presented in this Methodology chapter to simplify the narrative flow of the coding. Subsequently, the outcome is discussed in Chapter 6 to contrast it with conclusions from the Literature Review.

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23 The researcher chose 38 hospitals where 30 appears as a common minimum sample size providing adequate power for analysis of categorical data: to have 80% power to detect two instances of a theme with 10% prevalence, 29 participants are required. Supporting thinking on sample sizes for thematic analyses: a quantitative tool (Fugard & Potts 2015)
To research the question, ‘How can NHS hospitals manage processes to reduce risk and to improve learning?’, this thesis initially employs Nvivo-grounded coding of CQC assessments in a first-cut evaluation. The first step in the methodology applied Nvivo grounded coding to all CQC assessments under risk and learning themes to derive a preliminary Pareto of risk and learning related mentions. To do this, Nvivo second-order nodes were created, and a Nvivo thematic codebook and synonyms resulted from the initial grounded coding of the 308 CQC mentions in the assessments.

### 4.3.2 Gioia methodology

Nvivo first-order themes were then directly transcribed into templates as Gioia first-order concepts. Gioia methodology (Gioia et al., 2013) provides templates which are designed to lead from grounded coding to finally theoretical constructs derived from the grounded data: the completed data-structure forms all appear in the Appendix.

Gioia et al., (2013) state that grounded coding requires data to be supplied by knowledgeable informants; in this case, the data are assessments concerning risk and learning in hospitals, which are published by the authoritative Care-Quality Commission. The researcher thus reports informant voices using the original CQC terms, codes, and categories to subsequently derive theoretical constructs: the bulk data throughout Chapter 5 and in the Appendix remains in the original CQC syntax; there are no prior theoretical constructs at this stage, and sense-making is entirely induced from informant centric terms and codes (Gioia et al., 2013). First order themes transcribed from the data are thus assumed to be statements of fact underwritten by the CQC.

Nvivo first order themes were manually transcribed as Gioia first-order concepts into 32 Gioia data-structure forms (Fig. 15) to then apply the full Gioia methodology.

Both Nvivo-computer and Gioia-manual methodologies apply cascading levels of abstraction to data. They are developed together in this thesis to profit from the power of

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24 First-order themes leading to second-order nodes are at a higher level of abstraction. Coding is the process of grouping informant claims under categories: the researcher uses labels and phrasal descriptions to structure the array of informant terms and assembles them to give sense.
both, although they employ different terms to refer to the same levels of abstraction (Table 1). Where Nvivo refers to two levels, themes, and nodes\textsuperscript{25}, Gioia analysis refers to three levels: first-order concepts, second-order themes, and third-order aggregate dimensions.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
NVIVO & GIOIA \\
\hline
1 & THEMES \hspace{1cm} 1st ORDER CONCEPTS \\
\hline
2 & NODES \hspace{1cm} 2nd ORDER THEMES \\
\hline
3 & 3rd ORDER AGGREGATE DIMENSIONS \\
\hline
\end{tabular}
\end{table}

Table 1 Correspondence between Nvivo and Gioia levels of abstraction

It was unnecessary to further analyse Nvivo second order nodes as Nvivo themes were transcribed directly into the templates as Gioia first-order concepts. All second-order themes were then derived using Gioia templates to ‘distil’ further towards third order ‘aggregate dimensions’ leading to theory.

First-order concepts are informant centric; second-order themes are researcher centric; and third-order aggregate dimensions are theory centric. The categories are presented together to derive the mechanism of induction and sense giving and compared in Table 1.

The Gioia third order leads into theoretical constructs as third-order aggregate dimensions by reversing problem statements into leading statements designed to guide the formation of theory.

Gioia et al., (2013) emphasises that the methodology brings the researcher to code by relying on his or her own ability to discern patterns in data. He or she surfaces concepts and relationships revealed by the data, and formulates theoretically relevant constructs as a knowledgeable agent to answer, ‘what is going on here?’. In this way, the method is interpretative.

\textsuperscript{25} Nvivo does present the possibility of using child nodes to increase the number of levels of abstraction.
An example of application of the Gioia method is extensively commented by Ravasi in, ‘Responding to organisational identity threats’ (Ravasi & Schultz, 2006). The ‘data-structure form’ shapes the method, beginning with the informant view and finally extending into nascent theory. The data structure form is static, in that it is grounded in informant experience, however, process, which is the theoretical phenomenon of interest, is based on relational dynamics, and has to be presented ultimately as a process structure of boxes and arrows (for example as Figure 10 The Process-Capability cycle pError! Bookmark not defined.).

Gioia requires comparison with the Literature Review to come late in the thesis after a suspension of judgement, and of belief in received wisdom (Gioia et al., 2013). The literature is only then searched for ideas which ‘problematise’ to bring further light. For this reason, literature review input is not contrasted with findings until Chapter 6. In this way, contrasting research findings with the literature occurs after Gioia aggregate dimensions point the way to tentative interpretation in setting the stage for theoretical constructs (Gioia et al., 2013).

4.4 First-cut Pareto analysis using Nvivo

A first-cut count of Nvivo coded assessments leads to a Pareto of their relative frequencies by number of mentions to outline key topics of importance to the commissioners.

Table 2, entitled ‘Mention frequencies in all Nvivo nodes’ shows the frequencies of topics mentioned in the assessment data, both good and some bad, but invariably found as dysfunction in the 20 inadequate hospitals and as proficiency in the 18 outstanding hospitals. The data is presented in descending frequencies of total mentions.
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

Table 2 Mention Frequencies in all Nvivo nodes

<table>
<thead>
<tr>
<th>NVivo Nodes</th>
<th>Inadequate Trusts</th>
<th>NVivo Nodes</th>
<th>Outstanding Trusts</th>
<th>Total</th>
<th>Total%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Preventive procedures not respected</td>
<td>58 Preventive procedures respected</td>
<td>47</td>
<td>105</td>
<td>34.4%</td>
<td></td>
</tr>
<tr>
<td>2: Incidents poorly identified and or reported</td>
<td>23 Incidents identified and or reported</td>
<td>28</td>
<td>49</td>
<td>15.9%</td>
<td></td>
</tr>
<tr>
<td>3: Infection risk poorly controlled</td>
<td>15 Infection risk controlled</td>
<td>3</td>
<td>18</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td>4: Record keeping poor</td>
<td>15 Record keeping acceptable</td>
<td>4</td>
<td>17</td>
<td>5.5%</td>
<td></td>
</tr>
<tr>
<td>5: Mental health guidelines not respected</td>
<td>8 Mental health guidelines respected</td>
<td>6</td>
<td>13</td>
<td>4.2%</td>
<td></td>
</tr>
<tr>
<td>6: Action not taken to correct and improve</td>
<td>6 Action taken to correct and improve</td>
<td>6</td>
<td>12</td>
<td>3.9%</td>
<td></td>
</tr>
<tr>
<td>7: Medicines management poor</td>
<td>9 Medicines management good</td>
<td>2</td>
<td>11</td>
<td>3.6%</td>
<td></td>
</tr>
<tr>
<td>8: Equipment problems</td>
<td>8 Equipment managed</td>
<td>1</td>
<td>9</td>
<td>2.9%</td>
<td></td>
</tr>
<tr>
<td>9: Surgical processes poor</td>
<td>7 Surgical processes good</td>
<td>1</td>
<td>8</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>10: Processes or systems poor</td>
<td>8 Processes or systems good</td>
<td>0</td>
<td>8</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>11: Patient-risk assessment not completed nor acted on</td>
<td>6 Patient-risk assessment acted on</td>
<td>1</td>
<td>7</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td>12: Guidance not respected</td>
<td>7 Guidance respected</td>
<td>0</td>
<td>7</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td>13: VTE avoidance and canula mgmt poor</td>
<td>1 VTE avoidance and canula mgmt good</td>
<td>3</td>
<td>4</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>14: Waste management poor</td>
<td>2 Waste management good</td>
<td>2</td>
<td>4</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>15: Patient care problems</td>
<td>4 Minor patient care problems</td>
<td>0</td>
<td>4</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>16: Patient safety problems</td>
<td>3 Minor Patient safety problems</td>
<td>0</td>
<td>3</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>17: Best practices disrespect</td>
<td>3 Best practices respected</td>
<td>0</td>
<td>3</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>18: Recording by staff poor</td>
<td>2 Recording by staff good</td>
<td>0</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>19: Risk recording poor</td>
<td>2 Risk recording good</td>
<td>0</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>20: Risk registers not updated or acted upon</td>
<td>2 Risk registers updated and acted upon</td>
<td>0</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>21: Equipment maintenance poor</td>
<td>1 Equipment maintenance good</td>
<td>1</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>22: Falls occurring</td>
<td>0 Falls under control</td>
<td>2</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>23: Clutter in the wards a problem</td>
<td>2 Little clutter in the wards</td>
<td>0</td>
<td>2</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>24: Sepsis monitoring poor</td>
<td>0 Sepsis monitoring good</td>
<td>1</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>25: Equipment not safely used</td>
<td>1 Equipment safely used</td>
<td>0</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>26: Equipment placement poor</td>
<td>1 Equipment placement good</td>
<td>0</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>27: Data security poor</td>
<td>1 Data security good</td>
<td>0</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>28: Chemical storage poor</td>
<td>0 Chemical storage good</td>
<td>1</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>29: Protective equipment poorly used</td>
<td>1 Protective equipment well used</td>
<td>0</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Mention Frequencies in all Nvivo nodes

The Pareto in (Fig. 3) derived from this is entitled ‘Mention frequencies in all Nvivo coded assessments’, where the horizontal axis expresses the topic of interest which is the subject of the mention, and the vertical axis records the total frequencies of mentions by topic in all of the 38 assessed hospitals.

The most cited topic of interest is respect of procedure at more than twice the frequency of the next category, identification and reporting of incidents. The major preoccupations surfaced by the CQC commissioners throughout this sample appear clear: in the interest of risk prevention and of learning,

- procedures must be respected,
- and incidents must be identified and reported.
4.5 Gioia analysis of second-order themes

Next, Nvivo themes are transcribed into the Gioia data-structure forms as first order concepts and the Gioia process is applied to identify second order themes and aggregate dimensions which are expected to lead to theory formulation. All the Gioia data-structure forms are recorded and appear from p236.

Sense-making using Gioia analysis is induced from informant centric terms and codes (Gioia et al., 2013). Gioia et al., state that grounded coding requires data to be supplied by knowledgeable informants; in this case, published assessments concerning risk and learning in hospitals, which are evaluated by commissioners and published by the authoritative Care-Quality Commission.

Gioia methodology emphasises that the researcher then performs coding by relying on his or her own ability to discern patterns in data: he or she surfaces concepts and
relationships revealed by the data and formulates theoretically relevant constructs as a knowledgeable agent to answer, ‘what is going on here?’ The researcher here uses his own ability to code by interpreting patterns of risk and learning in this data.

Also, applying the Gioia methodology to themes copied from Nvivo into the Gioia data-structure sheets as first order concepts allows rethinking them when forming Gioia second order themes.

Gioia analysis then extends the level of abstraction of coding from risk- and learning-related second-order themes into third-order aggregate dimensions which open onto a theoretical formulation ‘of how’: of how to prevent risk and of how to better learn in inadequate hospitals. And to do this, as explained, the third order is worded, not as dysfunction but inverted as proficiency to lead into the construction of theory.

The Gioia aggregate dimensions appear then in Table 3 collected by mention frequencies under five major categories marked in colour as:

1. to follow, respect, apply and improve procedure (yellow)
2. to monitor, recognise and diagnose process error, to feed error information back, and to act on it to correct and to prevent dysfunction (green).

The above two major categories are followed by three more at lower frequencies in Table 3 for leadership to focus on:

1. to ensure sufficient resources (blue)
2. to develop staff skills (red)
3. to ensure process quality (orange)

---

26 There result very minor differences between the Nvivo nodes, and the Gioia second order themes subsequently chosen by the researcher.
<table>
<thead>
<tr>
<th>FREQUENCIES OF GIOIA AGGREGATE DIMENSIONS LEADING TO THEORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROCEDURE</td>
</tr>
<tr>
<td>Respect and follow procedure</td>
</tr>
<tr>
<td>Improve respect and follow procedure</td>
</tr>
<tr>
<td>Act to improve procedure and/or inputs</td>
</tr>
<tr>
<td>Monitor improve respect procedure</td>
</tr>
<tr>
<td>Protect and apply procedure</td>
</tr>
<tr>
<td>Ensure equipment availability</td>
</tr>
<tr>
<td>Provide clean and safe facilities</td>
</tr>
<tr>
<td>Ensure safe surgical procedure and facilities</td>
</tr>
<tr>
<td>Respect and apply procedure</td>
</tr>
<tr>
<td>Respect and follow procedure</td>
</tr>
<tr>
<td>Governance oversees applying procedure</td>
</tr>
<tr>
<td><strong>QUALITY</strong></td>
</tr>
<tr>
<td>Recognise and feed back error</td>
</tr>
<tr>
<td>Monitor diagnose and feed back</td>
</tr>
<tr>
<td>Communicate clinical information well</td>
</tr>
<tr>
<td>Monitor and act on patient safety</td>
</tr>
<tr>
<td>Act on feedback</td>
</tr>
<tr>
<td>Safety management of equipment and devices</td>
</tr>
<tr>
<td>Manage medicines</td>
</tr>
<tr>
<td>Manage administration of medicines</td>
</tr>
<tr>
<td>Act on feedback</td>
</tr>
<tr>
<td>Act to prevent risk</td>
</tr>
<tr>
<td>Feed back error and act on it</td>
</tr>
<tr>
<td>Learning as a continuous process of feedback and risk prevention</td>
</tr>
<tr>
<td>Recognise and feedback success and error</td>
</tr>
<tr>
<td>Feed back error and act on it</td>
</tr>
<tr>
<td>Recognise error and learn by acting on feedback</td>
</tr>
<tr>
<td>Report error and get feedback on corrective action</td>
</tr>
<tr>
<td><strong>PROCESS</strong></td>
</tr>
<tr>
<td>Focus governance on resources</td>
</tr>
<tr>
<td>Focus governance on resources</td>
</tr>
<tr>
<td>Focus governance on resources</td>
</tr>
<tr>
<td>Focus governance on resources</td>
</tr>
<tr>
<td>Focus governance on skills development</td>
</tr>
<tr>
<td>Focus governance on skills development</td>
</tr>
<tr>
<td>Focus governance on depth of skills development</td>
</tr>
<tr>
<td>Focus governance on depth of skills development</td>
</tr>
<tr>
<td>Train those who govern</td>
</tr>
<tr>
<td>Ensure confidentiality</td>
</tr>
<tr>
<td>Focus governance on supervision of quality</td>
</tr>
<tr>
<td>Focus governance on process quality</td>
</tr>
<tr>
<td>Share and apply learning</td>
</tr>
<tr>
<td>Governance to ensure clinical safety audit</td>
</tr>
<tr>
<td>Governance to convey a vision of process quality</td>
</tr>
<tr>
<td>Governance to encourage staff/management teamwork</td>
</tr>
<tr>
<td><strong>STAFF</strong></td>
</tr>
<tr>
<td>Maintain essential records</td>
</tr>
<tr>
<td>Control infection</td>
</tr>
<tr>
<td>Protect staff from abuse</td>
</tr>
<tr>
<td>Availability management of blue-light services</td>
</tr>
<tr>
<td>Inform and implicate staff</td>
</tr>
<tr>
<td>Contribute to the community</td>
</tr>
</tbody>
</table>

*Table 3 Categories of all Gioia theoretical constructs*
Table 3 also shows the complementarity of learning themes with risk-prevention themes as proficiency formulated categories to bring together assessments of both inadequate and outstanding hospitals.

At all events, this step shows that, with risk as a property of process, and learning as a cyclic property of process control, risk prevention enforces learning and learning prevents risk. This circular correlation between these two factors significantly narrows any analytical distinction between risk prevention and learning in this thesis.

4.6 Elaborating the theoretical models

Critical risk and learning topics appear under these same five major categories as shown below in histograms (Fig. 4 and Fig. 5) derived from Table 3 comparing inadequate and outstanding hospitals, Fig. 4 for risk and Fig. 5 for learning, even if, as stated above the circular correlation between risk and learning narrows analytical distinctions in this thesis between risk prevention and learning.

![Figure 4 Key major categories for risk: all hospitals](image-url)
The first two dimensions, which carry the most weight appear as the major recommendations on the left column of Table 4, where, by applying the Nvivo crosstabs function, they are aligned with the corresponding second-order thematic list of key dysfunctional behaviours used in the frequency count. They are the cybernetic steps to:

1. respect and apply procedure
2. control process by recognising and feeding back error, acting on error, and acting to improve procedure.

and they conform to the Paretos\textsuperscript{27} exposed in Fig. 4 and Fig. 5 above.

This suggests ensuring process control through the procedural rigour of TPS and the negative feedback mechanics of cybernetic theory.

Also, three other significant dimensions appear in Table 3 as strongly involving leadership and governance:

3. ensure adequate resources
4. foster skills development

\textsuperscript{27} Using grounded coding, the researcher apportions assessments a priori between risk and learning topics to build two Pareto, one of risk-, and one of learning-related behaviours in inadequate hospitals by frequency of mentions of undesirable behaviours in Gioia second-order themes. The orders of concepts and themes in each methodology are explained in the next section.
5. strengthen quality

In respect of procedure and process, the recommendations presented on the left of Table 4 tackle the dysfunctional behaviours on the right, which neither avoid risk nor favour learning in hospitals.

These key dimensions are directly transcribed from the Gioia data-structure forms (p236) which derive theory as aggregate dimensions from second-order behavioural themes. The forms enable the grounded coding to be essentially deductive following a line from the CQC assessments, assumed to be authoritative, to the derived theoretical precepts.

<table>
<thead>
<tr>
<th>Gioia inadequate 3rd order aggregate dimensions</th>
<th>Gioia inadequate 2nd order behavioural themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respect and apply procedure</strong></td>
<td>Preventive procedures not respected</td>
</tr>
<tr>
<td></td>
<td>Availability, integrity and confidentiality of data records not ensured</td>
</tr>
<tr>
<td></td>
<td>Equipment not readily available to meet patient needs</td>
</tr>
<tr>
<td></td>
<td>Facilities risks</td>
</tr>
<tr>
<td></td>
<td>Guidance not followed</td>
</tr>
<tr>
<td></td>
<td>Medicine related risks not managed</td>
</tr>
<tr>
<td></td>
<td>Mental-health guidelines not respected</td>
</tr>
<tr>
<td></td>
<td>Patient assessment not always completed or acted upon</td>
</tr>
<tr>
<td></td>
<td>Patient outcomes not collected</td>
</tr>
<tr>
<td></td>
<td>Poor cleaning and clutter</td>
</tr>
<tr>
<td></td>
<td>Risk of infection and sepsis poorly controlled</td>
</tr>
<tr>
<td></td>
<td>Safe surgery debriefing not compliant</td>
</tr>
<tr>
<td></td>
<td>Workarounds</td>
</tr>
<tr>
<td><strong>Recognise and feedback error</strong></td>
<td>Incidents poorly identified or reported</td>
</tr>
<tr>
<td></td>
<td>Data not collected or adapted</td>
</tr>
<tr>
<td></td>
<td>Staff not using systems to escalate risks</td>
</tr>
<tr>
<td><strong>Feedback error and act on it</strong></td>
<td>Patient outcomes not driving improvement</td>
</tr>
<tr>
<td></td>
<td>Preventive action not taken</td>
</tr>
<tr>
<td></td>
<td>Incidents not well reported or acted on</td>
</tr>
<tr>
<td></td>
<td>Reviews and follow-up poor</td>
</tr>
<tr>
<td><strong>Act to improve procedure and/or inputs</strong></td>
<td>Action not taken to correct and improve</td>
</tr>
<tr>
<td></td>
<td>Follow-up action not taken; improvement not occurring</td>
</tr>
<tr>
<td></td>
<td>Monitoring without improvement</td>
</tr>
<tr>
<td></td>
<td>Poor Clinical processes and systems</td>
</tr>
<tr>
<td></td>
<td>Poor waste and chemicals management</td>
</tr>
<tr>
<td></td>
<td>Staff not learning to prevent or to improve</td>
</tr>
<tr>
<td></td>
<td>Surgical processes poor</td>
</tr>
</tbody>
</table>

**Table 4 Grouped inadequate behavioural themes by aggregate dimensions**

In effect, the method is firstly to follow, respect, apply and improve procedure as recommended by the **Toyota Production System (TPS)**, which insists upon updating it in order to prevent risk and to learn\(^{28}\); and secondly, to monitor, recognise, and diagnose.

\(^{28}\) Such theory and practice are presented in authoritative texts (Liker, 2004; Shingo, 1986) and applied in exemplary fashion by Virginia Mason Hospital of Seattle as VMPS.
process variation, to **feed back an error signal and to act on it** to correct and to prevent dysfunction applying negative feedback modelled on **Cybernetic theory** (Abdulwahed, 2013; Zimmerman, 2008; Carver & Scheier, 2002; Morgan, 1982; Heylighen & Joslyn, 2003; Dixon-Woods, 2019).

Finally, in Tables 5 and 6 and 7 below, research suggests validation of these theoretical constructs by presenting examples of common hospital problems and error states found in the literature and in CQC assessments, along with the theory resulting from Gioia analysis to resolve them. They do this by linking hospital process problems with three error states: capability management, risk prevention, and organisational learning.
CHAPTER 5 RESEARCH FINDINGS

This chapter presents the outcome of grounded coding of secondary data in the words of the CQC commissioners: these assessments are collected in bulk in the Appendix (p193). Assessments are grouped under four headings of risk in inadequate hospitals (p89); learning in inadequate hospitals (p100); risk in outstanding hospitals (p109) and learning in outstanding hospitals (p124). It presents a narrative, categorical view of the CQC data based on the coding.

It is important to note that these are research findings based on CQC data and are not related to any element of the Literature Review. Elements of the Literature Review are not introduced for debate at this stage because this Chapter 5 only presents findings based on the coded data. Debate with the literature occurs in the Discussion Chapter 6. Where CQC comments recorded in this chapter refer to elements surfaced in the literature review, only a bibliographical reference is made.

Section headings result from the Nvivo coding of CQC assessments, where findings are grouped under the coded headings of the Nvivo codebook29 (p216). Explanatory comments below appear as a blue side view, and CQC data quotes are distinguished in italics.

The first section below analyses assessment of risk in inadequate hospitals (p89). It explains various dysfunctions at the interface between hospital processes and people. Many problems are highlighted under titles which include: preventive procedures not respected; incidents poorly identified or reported; action not taken to correct and to improve processes; poor recognition of incidents and staff not learning; Never events not followed by learning; follow-up action not taken and consequently, improvement not occurring; monitoring without improvement; poor control of infection and sepsis risk; disrespect of mental health guidelines; medicine-related risks not managed; equipment not ready or available to meet

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29 All of the recorded assessments are contained within this chapter, each one distinguished by the reference, (CQC assessments).
patient needs; poor confidentiality and availability of data records; data not being collected; surgical problems; poor patient care and patient safety; poor clinical processes and systems; guidance not followed; poor waste management; staffing risk; poor cleaning and clutter; facilities risks.

The second section goes on to analyse assessments of learning in inadequate hospitals (p100). After an initial presentation of the learning cycle, poor learning behaviours are surfaced under titles of patient outcomes not driving improvement; preventive action not taken; lessons not shared and incidents re-occurring; incidents not reported or acted on; governance frameworks not adapted to learning; staff ignorance of complaints or of changes made; poor surgical debriefing; inadequacy of staff qualifications and numbers; the pervasive and dysfunctional practice of workarounds; poor practice of reviews and follow-up; staff not meeting to discuss and to learn; poor support-staff supervision; poor learning mechanisms; staff not escalating risks; no planning of quality improvement; poor feedback by management to staff; poor training; missing skills; patient outcomes not collected.

In order to create a contrast able to highlight the differences in between good and such poor behaviour, the next two sections analyse assessments in outstanding hospitals. The third section concerns risk (p109). Exemplary behaviours are found in respect and upkeep of procedure and in error prevention. Good behaviour includes fighting silo barriers. Furthermore, outstanding hospitals have physicians who are indeed willing to support change; staff maintain records well; such records provide information on the respect of policy and guidance; records formalise the essential role of monitoring safety; risk recording is of high quality and crucially, it is acted on; medicine management is a critical task which is well executed; infection risk is well controlled; tools exist and are used to control risk in the clinic; the improvement process is supported by feedback and action; equipment is cleaned maintained and always available; preventive action is taken to protect patients from harm; assault and abuse within the clinic is managed; clinic facilities are well designed and maintained; cleaning is well organised and well executed; mental health guidelines are respected; information is well managed; shift handovers between multi-disciplined teams are
well performed; surgical processes are exemplary; waste and chemicals are carefully managed; NHS guidance and best practices are fully respected; risk and safety briefings and huddles are systematically kept.

The fourth section treats learning in outstanding hospitals (p124). These assessments recognise the strength of organisational learning under titles where outstanding hospitals organise learning events; physicians at such hospitals are supported as lifetime learners within a learned society; the prevalence of cross functional team work provides extensive learning throughout the hospital; effective staff meetings are held to discuss risk; leadership is present within the clinic to encourage learning in patient-facing skills; staff skills are evaluated and continually improved; the culture within the clinic encourages learning without defensiveness.

Grounded coding using Nvivo and Gioia methodology aggregates the CQC assessment data presented in this chapter into nascent theory.

5.1 CQC assessments of risk in inadequate hospitals

For the purposes of this thesis, a definition of risk in process is proposed by this researcher based on various available definitions as:

A perceived threat of damage or uncertainty involving hazard, injury, loss, or of any unfavourable event involving patients, staff, equipment, hospital resources and facilities resulting from a behavioural, technological, or other dysfunction in a process: it is evaluated by probability of occurrence and magnitude of impact of negative or undesirable consequences and may be avoided through preventive action.

Risk entails harm and is quantified as the probability of error due, for example, to non-respect of guidelines, to poor maintenance or cleanliness of equipment and facilities, to lack of recording or of incident recognition or of record keeping also, all of which are widespread among inadequate hospitals.
Heightened risk exists in *inadequate* hospitals for many reasons. The first appears to be the failure to respect procedure and guidance. Other failures are: controlling the risk of infection, properly managing medicines and data, properly maintaining, and cleaning equipment, managing waste, and respecting mental health guidelines. Such hospitals fail to report incidents correctly or even to take action to correct and to improve. Their clinical processes and systems are not always effective, and even their surgical procedures may be called into question. Wards and theatres are not always properly cleaned, and clutter is even found in front of fire exits. As a result, such staff cannot learn to recognise incidents and they fail to understand the need for preventive measures.

**Nvivo grounded coding of CQC assessments in the data illustrates these typical risk categories in *inadequate* hospitals:** until these hospitals progress beyond such weaknesses, ‘the way things are done around here’ appears as the major barrier to learning before any ethos of improvement can begin to be created.

Thematic categories of risk are discussed below under common titles, with examples provided by the assessments of CQC *inadequate* hospitals, for example:

> *The trust did not have effective systems for identifying risks or planning to eliminate or reduce them and coping with both the expected and unexpected.* (CQC assessments)

**Preventive procedures not respected**

> *There was no review procedure of clinical guidelines, which were not up to date;* (CQC assessments)

> *Better service-performance measures were needed, which had to be reported and monitored;* (CQC assessments)

> *No confirmation was possible of an audit trail because a seal broken on a trolley and a tag label were not numbered;* (CQC assessments)

> *(In times of Covid), one trust was advised to ensure that all staff comply with guidelines for the safe use of personal protective equipment, particularly with regards to the use of gloves and aprons.* (CQC assessments)
Incidents poorly identified or reported

Conversely, in matters of risk at outstanding Trusts as shown in a following section, the CQC confirms that incidents are investigated, and lessons learned and shared. Never Events are exposed to root-cause analysis and conclusions are reported back to staff during ‘harm’ meetings, which are typically held weekly. Staff perform regular risk assessments and consign outcomes to risk registers. All in patient areas practise safety huddles taking care to share key learning from incidents and complaints, and feedback is systematically given to those who have reported incidents. Quality improvement is seen as everyone’s business: new processes are developed with systems for learning, both from error and from excellence.

The systems and processes for identifying, reviewing and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation. (CQC assessments)

In many cases incidents including serious incidents were not reviewed or investigated in a timely manner, and there was no effective senior level oversight. (CQC assessments)

Staff had not been provided with the correct list of incidents that should be categorised as a Never event and had not acted on them accordingly. (CQC assessments)

The service did not always manage patient safety incidents well.
Managers did not always investigate incidents appropriately. When things went wrong, staff did not always apologise and give patients honest information and suitable support. (CQC assessments)

Action not taken to correct and to improve

Staff collected safety information but did not always use this to improve the service. (CQC assessments)

Despite significant concerns being recognised in the past on the trust risk register, substantive actions to reduce risks had not been undertaken. (CQC assessments)

Without action to improve, dysfunction goes on and patients are exposed: incidents are the outcome.

Cleanliness to fight infection risk is a major preoccupation: premises and equipment must be kept visibly clean and infection-prevention procedures strictly controlled. If such measures are not taken, patients are exposed to risk and incidents occur.

Staff did not always complete or update risk assessments for each patient in medical care and did not always identify clear actions to remove or minimise risks. (CQC assessments)

The CQC was not assured that one of the services was always meeting the requirements to provide safe care in all areas. (CQC assessments)
The systems and processes for identifying, reviewing and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation. The trust did not have effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. (CQC assessments)

Inspectors saw several records with a sepsis pathway in a child’s records, however, the documentation was incomplete, and it was unclear what action had been taken and the outcome. (CQC assessments)

Poor recognition of incidents and staff not learning to prevent or to improve

There were inconsistencies in staff being able to recognise and report incidents. (CQC assessments)

- Staff were not using findings to improve; (CQC assessments)
- Staff did not always use the findings of their monitoring of the effectiveness of care and treatment to make improvements to outcomes for patients. (CQC assessments)

Never Events not followed by learning

- In our previous inspection, we identified that the trust was not able to demonstrate sufficient or rapid learning as a result of Never Events. (CQC assessments)
- Staff told how they had not received appropriate feedback from Never Events to improve services by learning from when things go well and when they go wrong. (CQC assessments)

One trust Quality Account understanding the need for learning admits that:

Trust Quality Strategy (2016-2020) states the need to improve learning from serious incidents, reporting nine Never Events in 2017/18: one retained piece of swab following a dental procedure; one misplaced nasogastric tube; two wrong lens implants (ophthalmology); one mis-selection of high strength midazolam; one wrong side dental nerve block; two wrong tooth removals; one retained nylon tape following a cardiac surgery procedure. (Trust Quality Account)

Never events are an important facet of hospital risk avoidance: they are described in the Appendix (p262).
Follow-up action not taken; improvement not occurring

The information systems were not integrated. Staff did not always report safety incidents and did not always learn lessons from them (CQC assessments).

Monitoring without improvement

Services monitored the effectiveness of care and treatment but did not consistently use the findings to improve patient outcomes. (CQC assessments)
The service used monitoring results; but it was not clear how this was used to improve safety. (CQC assessments)

Risk of infection and sepsis poorly controlled

No control measures existed to prevent the spread of infection; (CQC assessments)
Staff had no system in place to know whether facilities had been cleaned. (CQC assessments)
No procedure was found for the storage and cleaning of surgical equipment; (CQC assessments)

Mental-health guidelines not respected

The trust did not ensure that proper rooms were allocated for use with psychiatric patients to meet requirements to keep patients safe; (CQC assessments)
Staff did not always follow the principles of the mental capacity act and best interest decisions were not always undertaken or documented. (CQC assessments)
The care provided was not always in line with best practice and some aspects were based on the judgment of staff. Staff did not always follow the principles of the Mental Capacity Act. (CQC assessments)
Trust staff did not always follow national guidance to gain patients’ consent. They did not always know how to support patients who lacked capacity to make their own decisions or were experiencing mental ill health. They did not always use agreed personalised measures that limit patients’ liberty. (CQC assessments)
The unit did not have a compliant mental health room, in line with guidance in the Royal College of Emergency Medicine toolkit, Mental Health in Emergency Departments 2013. (CQC assessments)
Most staff had not received training in the Mental Capacity Act 2005 (MCA) and Deprivation of Liberty Safeguards: staff needed training to understand deprivation-of-liberty safeguards and regulations and to ensure consent to care and treatment guidelines. (CQC assessments)
Clinical support staff (CSWs) providing 1:1 observation to patients experiencing acute mental health problems did not have mental health competencies to give them the confidence to carry out this role. (CQC assessments)
Medicine related risks not managed

No procedures existed for recording, storing or destroying medicines; (CQC assessments)
No procedure was found for administering medicines in the right quantity at the right times; (CQC assessments)
Processes to monitor the safe storage of medicines were not always followed. (CQC assessments)
Medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol was not undertaken (CQC assessments)
Systems and processes used to prescribe, administer, record and store medicines were not always robust. (CQC assessments)
The trust must ensure the risks associated with storing of out of date-controlled drugs are removed. (CQC assessments)
The trust must ensure appropriate checks are in place for all medicines, including emollients and creams, so they are within their expiration date. (CQC assessments)
Room and fridge temperatures were not routinely monitored. (CQC assessments)
In one surgical service, theatre-controlled drug checks were observed as not completed daily (CQC assessments)

In a maternity unit, the CQC made the following general comments: it advised that the trust ensure that it complies with the requirements of the regulations relating to the "proper and safe management of medicines": in particular that staff follow the trust medication policy and procedures in the safe administration, storage and disposal of medicines; that the storage room temperature for medicines in the midwife-led unit is within range at all times; and that staff are competent in the denaturing process for controlled drugs. In the central delivery suite, there were medicines kept on open shelves within the clinical room which nonclinical staff could access; in the foetal medicine unit, keys for the medicine fridge were not kept with the midwives but in an unlocked drawer in the treatment room, which non-clinical staff could access. Several consumables kept in the midwife-led unit (MLU) were out of date, with expiry dates ranging from 2016 to 2019. 20 bottles of hand gels and several other items were past their use-by date, including hand moisturiser, hand soap, water for injections and powder-free gloves on the shelves in the clinical room and a box of similar items in the sluice. Staff had not ensured the safe use of consumables. The trust has undertaken to review all electronic prescribing systems in the trust with regard to insulin prescribing to identify any safety gaps and to discuss these with system providers so that patients who had insulin omitted on admission were identified electronically from Medway medicines notes, where pharmacy staff record medicines reconciliation.

Equipment not readily available to meet patient needs.

Resuscitation equipment was not visually checked daily and comprehensively checked weekly respecting trust and manufacturer guidelines; (CQC assessments)
There was no procedure for the storage of patient-moving and handling equipment; (CQC assessments)

Disciplined application of manufacturer guidelines in maintenance procedures of clinical equipment was not ensured; (CQC assessments)

The trust did not ensure appropriate checks in place for disposable equipment to be within their expiration date. (CQC assessments)

Records showed that resuscitation equipment had been visually checked daily and that a weekly comprehensive check had been performed, but the seal on a trolley was broken and replaced to check the contents: the tag label was not numbered, so no audit trail could be confirmed. (CQC assessments)

The resuscitation bag and oxygen were being stored in two separate places and it was not clear whether there could be a delay in getting both to the patient in the event of an emergency. (CQC assessments)

Availability, integrity and confidentiality of data records not ensured

Arrangements for ensuring the availability, integrity and confidentiality of identifiable data, records and data management systems were not always in line with data-security standards. (CQC assessments)

Prescriptions and observation charts were found not stored confidentially but left unattended at midwives’ desk in the ward area. They had to be stored safely and confidentially maintained. (CQC assessments)
Data not collected or adapted

Patient outcomes were not routinely collected and monitored. (CQC assessments)
The service did not always collect reliable data and analyse it. Staff could not always
find the data they needed in easily accessible formats to understand performance,
and to make decisions and improvements; (CQC assessments).
Staff were unable to use information to improve care, treatment, and patient
outcomes (CQC assessments).
Information was not always collected, analysed, managed, and used well to support
activity (CQC assessments).
The commissioners cite cases of, ‘no formal clinical audit plan’ and ‘the trust should
ensure the minor injuries unit has a systematic programme of clinical audit and local
audit and processes in place to review what action should be taken (CQC assessments).

Mortality and morbidity remained an area of concern during the previous inspection
and had not improved; the trust should ensure mortality and morbidity reviews have
adequate detail and evidence of actions or learning as a result. (CQC assessments)
Theatre staff told CQC inspectors that the audit process was not embedded: the
submitted theatre-safety action plan had no completed actions identified, and indeed
trauma and orthopaedics patients had a higher expected risk of readmission for
elective admissions when compared to the England average (CQC assessments).
The theatre risk register showed a risk for more than two years that remained
unresolved (CQC assessments)

Surgical problems

Other remarks were that patients requiring
emergency surgery were sometimes delayed
unnecessarily. Systems and processes for
ensuring patients were risk assessed prior to
surgery and were not operating effectively. There
was no assurance when changes to theatre lists
were made that patients were being allocated to
the most suitable theatre or team. Safety briefings
were not always undertaken prior to the start of a
case/theatre list. Systems and processes did not
ensure compliance with the World Health
Organisation (WHO) Five Steps to Safer Surgery
checklist. WHO surgical safety checklists were not
always fully completed or audited

Incidents went unrecognised and
thus unreported (CQC assessments)
There were no clean-zone access
procedures to operating theatres
or dedicated changing areas;
(CQC assessments)
Risk assessment of patients prior
to surgery did not provide a clear
auditable trail of the decisions, of
theatre confirmation, of staffing or
of required equipment. (CQC
assessments)
The air change rate of 18 changes per hour was less than stipulated for a theatre environment at 25 changes per hour. (CQC assessments)

There was no surgeon’s control panel or full specification theatre light, with back up in case of a power cut. (CQC assessments)

An operating room was 21 square metres, but to meet theatre standards, it should be a minimum of 50 square metres. (CQC assessments)

**Poor patient care and patient safety**

In the wards, arrangements for the round did not always include multidisciplinary input and hospital-at-night teams could not always ensure a safe service: units needed to ensure multidisciplinary team (MDT) working joined up across critical care to ensure there was coordinated MDT patient review and management. (CQC assessments)

A need existed to improve patients’ care experience, especially in protecting their dignity and comfort; (CQC assessments)

Care provided was not always in line with best practice and some aspects were based on the judgment of staff. (CQC assessments)

Records showed that patients with additional nutrition and hydration needs were not always assessed or commenced on special feeding and hydration techniques when necessary. (CQC assessments)

One trust Quality Account stated: ‘We have stopped the practice of patients being placed in areas inappropriate for delivering safe, high quality and dignified care’.

The CQC found dietary risks to renal patients and that antibiotics were not always administered within an hour of identifying patients with suspected sepsis. (CQC assessments)

CQC inspectors required that end-of-life plans must be completed, and risk data measured and registered. (CQC assessments)

Best practice was not always being followed as not all staff attended the safety briefing. A procedure was found for administering medicines in the right quantity at the right times; (CQC assessments)

Processes to monitor the safe storage of medicines were not always followed. (CQC assessments)

Medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol was not undertaken (CQC assessments)

Systems and processes used to prescribe, administer, record and store medicines were not always robust. (CQC assessments)

The trust must ensure the risks associated with storing of out of date-controlled drugs are removed. (CQC assessments)

The trust must ensure appropriate checks are in place for all medicines, including emollients and creams, so they are within their expiration date. (CQC assessments)

Room and fridge temperatures were not routinely monitored. (CQC assessments)
In one surgical service, theatre-controlled drug checks were observed as not completed daily (CQC assessments)
The effectiveness of the service was not always monitored. (CQC assessments)

Poor Clinical processes and systems

There was no procedure to assess, monitor and review safety and quality performance; (CQC assessments)
No early warning system existed to identify patient deterioration; (CQC assessments)
No systems were found identifying end-of-life, palliative pathway patients; (CQC assessments)

There were concerns about the systems and processes for ensuring patients were risk assessed prior to surgery. (CQC assessments)

There were no systems and processes to ensure lone working community midwives were able to respond to emergency situations. (CQC assessments)
There was a risk that staff could not summon emergency help to a main maternity theatre as there was no emergency call bell, or process to ensure staff were not alone with a patient at any time. (CQC assessments)
The ‘NHS Safety Thermometer’ is not always applied: it covers prevention in the hospital of pressure ulcers, falls, urinary tract infections (in patients with a catheter) and venous thromboembolisms (VTE), One Trust needed to improve the management of intravenous cannulas to meet the national standard which requires at least 95 per cent of appropriate inpatients to have a VTE (Venous Thromboembolism) risk assessment. It was unclear whether one service was following standard operating procedure around VTE, as assessments were left blank on six out of the eight sets of notes.

CQC inspectors also noted that clinical guidelines were not regularly reviewed and were not up to date. (CQC assessments)

Guidance not followed

The service did not always provide care and treatment based on national guidance and evidence-based practice. Managers did not always check to make sure staff followed guidance. (CQC assessments)
Whilst the service had a process in place for the introduction of new guidance, managers did not check to ensure this process was followed. As a result, several key pieces of guidance were out of date or had not had a timely review. (CQC assessments)

Poor waste management

Staff reported anaesthetists who discarded controlled drug waste without a witness present: all controlled drugs must be checked daily, and evidence documented. (CQC assessments)
Not all chemicals were stored safely. (CQC assessments)

Staffing risk in maternity

The second obstetric operating theatre (used at times when the main obstetric operating theatre was in use, and occasionally for emergencies) did not meet minimum standards required of an operating theatre. It had not been fully risk assessed so as to put the necessary controls in place to protect mothers and babies from the risk of harm. (CQC assessments)

There were no formal arrangements to ensure there were suitable numbers of staff available to provide cover for a second obstetric operating theatre. (CQC assessments)

There were no systems and processes to ensure lone working community midwives were able to respond to emergency situations. (CQC assessments)

Poor cleaning and clutter

Some ward and theatre areas were visibly clean although cluttered with patient equipment and visitor chairs in front of fire exits. (CQC assessments)

Facilities risks

Fixtures and fittings were not well maintained; (CQC assessments)

There was need of a risk assessment in relation to glass wall; (CQC assessments)

In one case, inspectors found bathroom, toilet and handwashing facilities in a state of disrepair; there was a risk of cross-contamination in the wards due to cracks in the panels of some baths and showers which had not been repaired. There were few bathroom and toilet facilities for women. The TQA described the problem as follows, ‘People who use services and others were not protected against the risks associated with unsafe or unsuitable premises because of inadequate maintenance’.

The temporary environment of one unit was unfit for purpose in that it was cramped, with five services working alongside each other within a small area posing a fire risk and infection-control problems. (CQC assessments)

Access was by either stair and lifts and signage did not clearly identify the right route. This meant patients may take the stairs and be delayed or at risk: monitoring of the stairs was not consistently maintained to ensure patients were not delayed there. (CQC assessments)

Recommendations were made to improve signage and access by stairs and lifts to clearly identify the right route. (CQC assessments)
5.2 CQC assessments of learning in *inadequate* hospitals

What is hospital learning?

For the purposes of this analysis, a definition of learning is:

The process by which hospital staff gain, record, and apply knowledge over time to improve procedures, and hence processes: learning entails studying events and errors to continually improve performance by focusing on procedural discipline, formal training and repetition; learning is thus a cyclic process.

Learning can be defined as a transformative process of acquiring new understanding, knowledge, behaviours, skills, and values which reinforce correct responses, weaken incorrect responses, and increase the probability of improved performance.

Fig. 6 below shows a part in red of a theoretical process-feedback loop, which captures an error signal measured at the output of the process; this is assessed to adjust process input and parameters to correct output. The process is subsequently brought to produce output in conformity with the desired specifications by applying cybernetic negative feedback: over the short term, such a mechanism is purely corrective.

![Figure 6 The error cycle](image-url)
However, over the medium term, the feedback loop may imply permanent change in input as process redesign, bringing written Standard Operating Procedure to evolve, for example, as specifications change: if this is the case, the feedback provides a medium-term error signal which underpins a process change. This is not just corrective action but can be looked upon as *process learning* or as *continuous improvement*. This cyclic activity bringing the process to improve or to evolve by adapting to ongoing change is what can be understood by the term *learning* in the context of this thesis. The theory is applicable to many types of work, where decisions and actions taken by staff which improve what they do or how processes function better and better are the fruit of process learning as changes are capably applied and locked in.

Within the hospital, such a learning cycle would bring staff to apply established procedure and to recognise non-conformity such as unexpected morbidity in a patient undergoing treatment; the physician would be informed of such feedback and would bring him or her to decide, or not, to modify the procedure in view of the non-conformity. If over the medium term the physician finds grounds to do so, he or she may formalise and lock in the change as a better way. Both clinical staff and the physician use such feedback mechanisms to continually learn to do better.

The key is to *modify/update* the Standard Operating Procedure during each cycle of confirmed improvement to register the change for all future cycles. Not doing so would lead to loss of an improvement opportunity for future adverse events, to a lack of evidence to further confirm the new procedure and to a loss of a better, formalised platform of knowledge against which to launch ongoing improvement. The use of such platforms of knowledge ‘*ratcheting*’ towards better and better procedure by a series of improved and irreversible steps is the essence of continuous learning.

If morbidity unexpectedly deteriorates, this too provides learning: feedback obtained by staff on the deteriorating condition of a patient is equally rich in data. This type of error feedback is valuable because it informs the physician of a worsening condition; learning
comes from both success and failure. He or she may still be led to modify/update the Standard Operating Procedure because it is not functioning to improve the patient’s health. In both cases, if the initial feedback of information on the error state does not occur, or if there is a culture of inaction in the hospital, then the consequences of morbidity will continue down a path of intensifying illness.

In all cases, to achieve improvement, staff, the physician and the organisation should all function in a way to favour learning, both by obtaining feedback, and by acting on the feedback; one without the other is futile. This implies nurses being trained to recognise incidents and patient ‘error states’ symptomatic of morbidity and, both to take appropriate action, and/or to defer to physicians who are available and have the skill to apply corrective action. Training is of basic importance.

The error feedback mechanism also implies in this case a procedure to assess, to avoid and to prevent risk, which is in itself a learning cycle: in this sense, risk as an error state is the potential for undesirable outcomes and uncertainty of occurrence; the learning cycle thus implies acting to avoid and to prevent. As a result, risk and learning are intimately correlated because they interact inversely with each other.

Significant assessments arising from the grounded coding of learning-related factors in inadequate hospitals are detailed below. Learning in inadequate hospitals fails for many reasons, including not driving improvement after evaluating patient outcomes, which are not always collected, not taking preventive action, and not reporting on or sharing lessons to avoid incidents reoccurring by not acting to improve. Staff do not meet to discuss and to learn, thus reviews and follow-up is poor, and learning does not occur. Even governance and staff supervision are criticised. Staff are ignorant of complaints or of changes made. Surgery debriefing is not carried out correctly, and at times, staff qualifications and numbers are insufficient. And one of the most destructive habits is the widespread use of workarounds (p154). As staff do not use systems to escalate risks, learning mechanisms are poor, and they miss learning skills, where quality improvement planning and staff training does not exist.
Patient outcomes not driving improvement

The trust should ensure patient outcomes are collected, monitored, analysed, and used to drive service improvements. (CQC assessments)

Preventive action not taken

Managers investigated incidents and made recommendations, however, effective action to prevent future incidents was not always taken. (CQC assessments)

Lessons not shared and incidents reoccurring

Although managers investigated incidents, lessons learned were not always shared with the whole team and the wider service and there were risks that incidents could reoccur. (CQC assessments)

Incidents not well reported or acted on

The information systems were not integrated. Staff did not always report safety incidents and did not always learn lessons from them. (CQC assessments)
Generally, staff recognised incidents but did not always report them. (CQC assessments)
In general, all incidents had to be reviewed and closed in a timely manner. (CQC assessments)
Staff did not always recognise and report incidents appropriately; managers investigated incidents and made recommendations, however, effective action to prevent future incidents was not always taken. (CQC assessments)

Governance framework not adapted to learning

The governance network was not mature enough to be fully effective in identifying and mitigating risks or in providing assurance that actions were consistently resulting in improvements to the safety and quality of patient care. (CQC assessments)

In view of the learning-cycle problems, the trust must ensure that there is a governance substructure in place for ensuring that staff are competent to identify, and educated to report, patient-harm incidents in a way which associates with and enforces the application of preventive procedures. Learning within a hospital implies all of this. The problem of not reporting and so of not preventing has ramifications of not knowing or respecting guidance and best practices.

Staff ignorance of complaints or of changes made

Certain staff were unable to describe any complaint their service had received or whether the service had any changes in practice following a complaint. (CQC assessments)
Safe surgery debriefing not compliant

The completion of safety briefings and debriefings, although an improving picture, were still not compliant. This still needed embedding across the theatre suites, particularly the completion of debriefings. Furthermore, not all the theatre team were in attendance at the briefings. For example, theatre assistants may be collecting patients, or the briefing started before trainees arrived. Some staff also left before the debriefing. (CQC assessments)

Staff qualifications and numbers insufficient

There were insufficient midwives with the relevant training, skills, experience, or competency to care for high dependency women, and there was a lack of guidance for staff. (CQC assessments)

There were no formal arrangements to ensure there were suitable numbers of staff available to provide cover for a second obstetric operating theatre. (CQC assessments)

There were not always enough staff with the skills, knowledge, and experience to meet patients’ needs. There were no formal or long-term systems and processes to ensure there were enough registered nurses (Child Branch) deployed to always meet the needs of children and young people in the emergency department. (CQC assessments)

The service did not have enough staff to keep patients safe from avoidable harm and to provide the right care and treatment. (CQC assessments)

Some areas did not have enough nursing staff with the right qualifications, skills, training, and experience to keep people safe from avoidable harm and abuse and to provide the right care and treatment. (CQC assessments)

Sufficient permanent staff were required but unavailable to keep people safe from avoidable harm and abuse, and not all staff had received safeguarding training on how to recognise and report abuse. (CQC assessments)

Both medical and nurse staffing was not adequate to keep patients safe: one hospital was understaffed with regular reliance on agency and locum staff. This meant that not all staff were equipped with the right qualifications, training, and experience to keep people safe from avoidable harm and abuse, particularly overnight, when staffing numbers were reduced. Also, the lone working policy was not adhered to to ensure staff safety. In particular, out of hours, doctors had to have the capability and confidence to review end-of-life patients. (CQC assessments)
Workarounds

Rather than acting to improve, many staff at the NHS espouse a workaround culture; one of coping without ‘fixing’ the problem; in doing this they never learn.

The competence to improve processes and to avoid workarounds is a skill which exemplary organisations practise constantly. Such organisations leave no place for ‘workarounds’; they improve process performance; they lock in best practices as ‘Standard Work’, as formalised procedures. In this way, quality improves incrementally over time, the organisation learns to do better, and risk of error progressively decreases if there are no external disturbances to the process.

Without organised process improvement by trained staff, just decreeing better performance imposes unattainable goals on clinicians, serving only to increase work-related stress: then they use workarounds. One example is the collapsing respect of the 4-hour limit rule through NHS A&E, which is now being discontinued as exhausted and failing A&E staff attempt to cope with meeting an ever more unattainable goal (Fig. 7).
For example, nurses, who are taught to act for the good of the patient at all costs do at times use artifice to meet goals rather than searching to apply process improvement, for which they are not trained. The problem is that such unofficial coping strategies become ‘heroic’ and that, as such process problems thus go unrecorded and continue, they become ultimately detrimental to patients and costly to the organisation.

**Reviews and follow-up poor**

*During this inspection we found that reviews lacked detail and there was little evidence of actions or learning as a result. (CQC assessments)*

**Learning in surgery poor**

*During this inspection we were not assured sufficient learning had taken place around serious incidents we were aware of in theatre, because not all staff were aware of the learning that had taken place, or of any changes resulting from the serious incidents. (CQC assessments)*

**Staff not meeting to discuss and learn**

*Staff did not have regular opportunities to meet, discuss and learn from the performance of the service. (CQC assessments)*
Staff supervision poor

Not all staff received supervision to provide support and monitor the effectiveness of the service’ and ‘Not all staff received supervision to provide support and monitor the effectiveness of the service. (CQC assessments)

CQC assessments continue to be presented without comment when they appear self-explanatory. Section titles introduce the theme.

Poor learning mechanisms

The service had not always improved its commitment to developing services by learning from when things go well and when they go wrong.’ (CQC assessments)

The errors leading to the incapacity of inadequate hospitals to learn are widespread: monitoring occurs, but without improvement; Never events and incidents go unrecognised and are not reported; problems are not escalated; staff numbers and qualifications seem always insufficient; workplace stress allows no time for training and so contributes to risk; staff is not always listened to, well trained or supervised; nurses feel forced to use workarounds.. V

Staff not using systems to escalate risks

Leaders and teams did not use systems to manage performance effectively. They did not always identify and escalate relevant risks and issues and identify actions to reduce their impact. (CQC assessments)

No quality-improvement planning

There was no Quality Improvement Plan that focuses on really addressing the ‘root causes’ identified by staff of the issues that the CQC highlighted. (Trust Quality Account)
Feedback to staff poor

There was a risk that staff would not have the information readily available to enable them to minimise risks; also ‘Not all staff had received an appraisal.’ (CQC assessments)

Poor training

CQC comments concerning training are frequent and often concern incomplete respect of mandatory training. The following are all taken from CQC assessments of inadequate trusts.

Staff told us not all the theatre team attended all briefings as one member of the team would often be collecting the patient. (CQC assessments)
Although the service provided mandatory training in key skills, systems in place did not ensure all staff accessed mandatory training. The trust did not meet its own target for compliance for nursing staff. We found that medical staff had not undertaken mandatory training, and did not always follow recommendations for medicines management, for example medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol. (CQC assessments)
The trust did not ensure everyone completed mandatory training. (CQC assessments)
The trust should review the processes for assessing and recording staff competencies, including the use of medical devices. (CQC assessments)
The trust should ensure that eligible staff receive sepsis training. (CQC assessments)
While staff understood the need to protect patients from abuse, not all staff had completed training at the required level to ensure they had the appropriate level of knowledge to do so. (CQC assessments)
The service did not have robust processes in place to ensure staff were competent for their roles. (CQC assessments)
Staff needed to complete mandatory safeguarding training in line with the trust target.’ ‘The service provided mandatory training in key skills to all staff but not everyone had completed it. (CQC assessments)
Not all staff were up to date with annual refresher training. (CQC assessments)
The service did not have robust processes in place to ensure staff were competent for their roles. The service provided mandatory training in key skills to all staff but did not ensure all staff completed it. (CQC assessments)

Missing skills

For some essential skills, including resuscitation training, fire and infection control, compliance fell short of the trust target. (CQC assessments)
Patient outcomes not collected

Patient outcomes were not routinely collected and monitored. (CQC assessments)

5.3 CQC assessments of risk in outstanding hospitals

Significant assessments arising from the grounded coding of risk-related factors in outstanding hospitals are detailed below using grounded thematic analysis of CQC data from outstanding hospitals, which portray a norm for how risk and learning should be managed. This is essential information for engaging the road to outstanding performance. Leadership in the inadequate hospital needs to know what an outstanding hospital ‘looks like’; to know what is important and what is not. Also, this thesis concerns risk and learning, but there are so many other facets of hospital performance providing opportunity for research into other contrasts, not least being, resources management, skills building and development, and process quality.

Outstanding hospitals take measures to respect and to apply procedure and NHS guidance: in doing so, they exclude many of the occasions of error, so reducing risk throughout the hospital. Also, the wider team spirit encouraged by leadership eliminates gaming across silo barriers between physicians and management. Records are well kept and show, not only how the hospital respects policy, but also how safety is monitored: risk and safety briefings are held throughout the hospital. Risk is acted on; medicines are correctly managed; risk of infection and of NHS safety-thermometer morbidity are kept under control. There is feedback to staff, and equipment and premises are clean and ready. Chemicals and waste are properly managed. Patients are protected from harm, and mental health guidelines are fully applied. Staff shift handovers are well performed with complete information transfer. Patients in surgery are protected by preventive procedures.

Procedure and error prevention

Effective procedures which really are applied are the hallmark of outstanding trusts. Procedures apply to every kind of process, to governance; structures of accountability;
patient safety; clinical effectiveness; performance-management and reporting; record keeping; change management and to many other processes. Improvement of such procedures falls within the domain of Process Improvement Science\textsuperscript{30}.

As discussed above, the respect of procedure is critical to discovering error and to fostering learning; disregard of procedure leads to unacceptable states which can risk, for example, occurrence of Never Events.

**Fighting silo barriers**

Outstanding VMPS hospitals champion a hospital longitudinal view of flow experienced by the patient as he or she progresses step by step through isolated hospital processes: in this case, the patient view of care is very different from the hospital-management ‘vertical, functional’ silo view of hospital processes (Fig. 8). This patient view is not the ‘vertical’ view of hospital management ‘peering down’ into functional, process silos to observe pressures, such as departmental direct cost and staffing. The VMPS longitudinal view encourages ‘smooth flow’ by transforming the ‘patient journey’ from physician-centred to ‘patient-centred’ care. For example, waiting rooms are not patient focused, they are health-provider focused and, according to this author, the Lean hospital ought to bring everything to the patient rather than ‘wheeling’ him or her around to wait in queues in cold corridors outside treatment-room doors.

\textsuperscript{30} Process-improvement teams use science to develop clear and robust service-performance measures and to establish the procedures for reporting on and monitoring them. Six Sigma impacts capability in all processes, such as correctly disinfecting surgical, patient-moving and handling equipment, surgical precision, controlling infection in hospital kitchens, planned maintenance, and many others; it is about doing things well. Lean attempts to reduce process lead time through analysis of end-to-end processes and the elimination of wasted time; it is about doing things quickly. This is by way of a simple explanation: both tool sets are considerably wider than this with some overlap.
The immediate benefit of this is to provide an end-to-end view of process where dysfunction can no longer hide at interfaces between silos. This is a first step to achieving the ideal of TPS flow.

Assessments arising from the grounded coding of risk-related factors in outstanding hospitals and relevant comments are continued below.

Some physicians are indeed willing to support change

Arthur & Inc. find that healthcare professionals in general do indeed wish to implement improvement, but that they want to have a hand in its design.

Good record keeping

Staff in outstanding hospitals correctly maintain records and use them to provide effective patient care.

Patients had individual risk assessments which were comprehensive, reviewed regularly and shared between any teams working with the same patient. (CQC assessments)
Staff completed risk assessments for each patient swiftly. (CQC assessments)
Care plans reflected the assessed needs, were personalised, holistic and recovery oriented. (CQC assessments)
Patients’ care and treatment records were clear, up to date, stored securely and easily available to all staff providing care. Patient notes were comprehensive, and all staff could access them easily. (CQC assessments)

Staff kept detailed records of patients’ care and treatment; records were clear, up to date, stored securely and easily available to all staff providing care. (CQC assessments)

And such staff use records as a tool to manage their units.

Recorded risks were generally aligned with what staff stated were the key risks. (CQC assessments)

Staff assessed risks to patients, acted on them and kept good care records. (CQC assessments)

They also use records as a vector of communication.

Staff collected safety information and shared it with staff, patients, and visitors. (CQC assessments)

Records harbour and transmit essential safety information.

The service continually monitored safety performance. (CQC assessments)

Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. (CQC assessments)

Staff identified and quickly acted upon patients at risk of deterioration. (CQC assessments)

Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. (CQC assessments)

Records provide information on the respect of policy and guidance

Registering risk provides a platform for understanding and managing patient safety in the hospital.

Managers were aware of the key risks in their services, and these were reflected in local risk registers. Risk registers were used effectively to escalate risks and ensure they were addressed. (CQC assessments)

Staff collected safety information and used it to improve the service. (CQC assessments)

The service used safety monitoring results well. (CQC assessments)

Managers used this to improve the service. (CQC assessments)

Services had effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. Risk registers were used in
each department, at divisional and trust level to review and monitor risk. (CQC assessments)

Recorded risks were generally aligned with what staff stated were the key risks. (CQC assessments)

Records formalise an essential role in safety monitoring

The service continually monitored safety performance. (CQC assessments)

However, the availability of such records imposes the need to carefully ensure their confidentiality.

Staff lock their computers and do not leave records open and unattended on screen; records are kept confidentially away from public areas. (CQC assessments)

Risk recording is of high quality and, crucially, acted on

The quality of outstanding record keeping and reviewing records is reflected in the assessments.

Staff kept detailed records of patients' care and treatment. Records were clear, up to date, stored securely and easily available to all staff providing care. Patient notes were comprehensive, and all staff could access them easily. (CQC assessments)

Patients had individual risk assessments which were comprehensive, reviewed regularly and shared between any teams working with the same patient. (CQC assessments)

Safety information was collected and used. (CQC assessments)

Staff collected safety information and used it to improve the service. (CQC assessments)

The service used safety monitoring results well. (CQC assessments)

Commendatory statements are made where records really are acted on to remove risk.

Risk assessment done and acted on. (CQC assessments)

Staff assessed risks to patients, acted on them and kept good care records. (CQC assessments)

Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. (CQC assessments)

Staff identified and quickly acted upon patients at risk of deterioration. (CQC assessments)

They removed or minimised risks and updated the assessments. (CQC assessments)

Services had effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. (CQC assessments)
The role of management at divisional and at trust level is brought to the forefront in all aspects of record keeping in the *outstanding* hospital.

Managers were aware of the key risks in their services, and these were reflected in local risk registers. Risk registers were used effectively to escalate risks and ensure they were addressed. Risk registers were used in each department, at divisional and trust level to review and monitor risk. (CQC assessments)

However, records serve also to inform patients themselves and their visitors.

Staff collected safety information and shared it with staff, patients, and visitors. (CQC assessments)

And ultimately, records constitute essential feedback which can be served using technology.

Staff understood how to report incidents using the electronic reporting system and were encouraged to do so. (CQC assessments)

The critical task of good medicine management

Storage, security, recording, prescribing, administering at the right time in accordance with procedures subject to national guidance are critical features of *outstanding* medicine management.

They monitor that all medicines, including controlled drugs, are stored correctly and that disposals records are accurate. (CQC assessments)

Another service mostly prescribed, gave, recorded, and stored medicines well, patients getting the right medication at the right dose at the right time. (CQC assessments)

The service prescribed, gave, recorded, and stored medicines well, patients getting the right medication at the right dose at the right time. (CQC assessments)
Staff generally followed systems and processes when safely prescribing, administering, recording, and storing medicines. (CQC assessments)

The service used systems and processes to safely prescribe, administer, record and store medicines. (CQC assessments)

Medicines were appropriately prescribed and administered to people in line with the relevant legislation and current national guidance such as the transition between inpatient hospital settings and community or care home settings for adults with social care needs. (CQC assessments)

Hospitals can also access technology to control the complex problem of prescription and administration.

An Electronic Prescribing and Medicines Administration System (EPMA) exists across the Medical Care Group wards and Emergency Department: this means that appropriate medication is given, reducing unnecessary life-threatening exposure to adverse drug related accidents, and delayed and missed doses. For clinicians, this means decision support at the point of prescription, improved legibility, a reduction in transcription errors and improved and effective communication. (CQC assessments)
Infection risk well controlled

Working in Italian hospitals, these writers find that infection prevention measures taken during the Covid19 pandemic were mainly informal, quick, and stemming from the frontline rather than from organisational structures. They find it necessary that hospitals enhance organisational learning potential, and the writers believe that organisational learning must be formalised by systematically capturing adaptation to conditions. They recognise a procedural structure for this, claiming that "organisational learning can be described as a continuous cycle of action and reflection" confirming the findings of this thesis, which sees learning as a cycle subject to cybernetic principles. They find that improving patient safety has often been reduced to the investigation of incidents and events, and that this is unlikely to bring about organisational change. Healthcare organisations struggle to generate useful learning from experience, they state, and routinely fail too to translate learning into meaningful and sustainable improvements. They are good at collecting, analysing, and disseminating incident data but then fail to link this to meaningful learning and improvements in practice: healthcare organisations need explicitly to think about how their organisations approach organisational thinking.

The authors believe also that the hospital environment has clearly played a role in infection transmissions in that control of the movement of contaminated air is not always effective. (Toccafondi et al., 2021)

The unending task of avoiding the spread of infection and resulting septicaemia is paramount.

The service-controlled infection risk well. (CQC assessments)

Staff keep themselves, equipment, and the premises visibly clean. (CQC assessments)

Staff used equipment and control measures to protect patients, themselves, and others and to prevent the spread of infection. (CQC assessments)

And particularly in times of Covid19.

There are systems in place to monitor adherence to infection prevention. Visitors are encouraged to maintain hand hygiene. (CQC assessments)

The conditions of hygiene are very different between elective operating theatres and emergency theatres in A&E where the cleanliness of emergency patients is not always easy to control.

*Emergency theatres are separate from elective theatres and available with a consultant overseeing the emergency-theatre lists. (CQC assessments)*
Tools to control risk

The aim of GIRFT (Get It Right First Time) a system used by certain outstanding hospitals is to reduce unwarranted variation in clinical practice to improve clinical quality outcomes for patients. These goals include, for example, reducing preventable mortality; reducing sepsis by monitoring time from arrival to identification, time to antibiotic administration and delivery of the NHS sepsis six care bundle which is always available on a dedicated sepsis trolley. Another example of the result of a GIRFT project was orthopaedic improvement by reducing Surgical Site Infection rates for total hip and knee replacement.

Feedback action completing the improvement process

Outstanding performance in hospitals shows that such hospitals understand the need to complete the feedback loop and achieve risk control and learning by acting to implement change.

In response to our warning notice, the trust took immediate action to secure a comprehensive external risk assessment. (CQC assessments)

Staff collected safety information and used it to improve the service. (CQC assessments)

The trust managed safety incidents well and learned lessons from them. (CQC assessments)

The service used monitoring results well to improve safety. (CQC assessments)

Services managed patient safety incidents well: staff recognised incidents and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team and with the wider service. When things went wrong, staff apologised and gave patients honest information and suitable support. (CQC assessments)

The NHS uses also the ‘Safety Thermometer’, which is a point-of-care measurement tool that focuses on the four most commonly occurring harms in healthcare. The ‘NHS Safety Thermometer’ covers prevention in the hospital of pressure ulcers, falls, urinary tract infections (in patients with a catheter) and venous thromboembolisms (VTE). One Trust needed to improve the management of intravenous cannulas to meet the national standard which requires at least 95 per cent of appropriate inpatients to have a VTE (Venous Thromboembolism) risk assessment. It was unclear whether it was following standard operating procedure around VTE, as assessments were left blank on six out of the eight sets of notes.
The necessity for action is paramount in risk prevention.

They had realistic plans to cope with unexpected events. (CQC assessments)

**Good equipment, clean and available**

They kept equipment and the premises visibly clean. (CQC assessments)
The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. (CQC assessments)

Patient moving and handling equipment was available on the ward and in theatres. (CQC assessments)
This had been maintained and serviced appropriately, maintenance records were seen. (CQC assessments)

Monitor that all equipment is checked, and records kept in line with trust policy. (CQC assessments)
Equipment is checked systematically and available for use. (CQC assessments)

**Action taken on risks to patients to correct and/or to prevent harm**

Staff identified and quickly acted upon patients at risk of deterioration. (CQC assessments)
Another operated an effective early warning system to identify deteriorating patients and took appropriate action in response. (CQC assessments)
They identified and escalated relevant risks and issues and identified actions to reduce their impact. (CQC assessments)
Staff assessed risks to patients, acted on them and kept good care records. (CQC assessments)
Staff assessed the physical and mental health of all patients on admission. (CQC assessments)
We saw general improvements in the safety of services provided in all areas, and there was a clear focus on patient safety. (CQC assessments)
Comprehensive risk assessments were carried out for people who used the services and risk management plans were developed in line with national guidance. These were assessed, monitored, and managed appropriately. (CQC assessments)
Monitor that patient risk assessment templates are consistently completed by all staff on all wards and that actions plans to mitigate any risks identified are clearly documented. (CQC assessments)

Staff completed and updated risk assessments for each patient and removed or minimised risks. They carried out risk assessments of pregnant women antenatally, including a perinatal mental health assessment, and referrals were made when required. (CQC assessments)

The whiteboard also facilitated a virtual follow-up list of patients to ensure that pending investigations were chased up and the results were acted upon. (CQC assessments)

Assault and abuse

Staff understood how to protect patients from abuse and managed safety well. (CQC assessments)

Individual wards had completed quality improvement initiatives to reduce the number of patient-on-staff assaults and self-harming behaviour on the inpatient wards. (CQC assessments)

When providing care for patients, staff took precautions and actions to protect themselves and patients. (CQC assessments)

The trust must ensure that patients are kept safe...for example, promoting the sexual safety of people using the service. (CQC assessments)

Facilities well designed and maintained

In designing hospitals facilities, the element of safety is paramount.

The design, maintenance and use of facilities, premises and equipment kept people safe. (CQC assessments)

All areas were clean and had suitable furnishings which were well-maintained. The design, maintenance and use of facilities and premises kept people safe; (CQC assessments)

Violence is not uncommon in a hospital: patients can be vulnerable, distraught, on drugs, and this can make the setting stressful for staff. Violence can be sexual. Outstanding hospitals take pre-emptive measures to train staff to deal with this and to develop safety procedures for both staff and patients. A 2018 survey by the American College of Emergency Physicians found that, out of more than 3,500 A&E doctors, 47% of them had been assaulted. And 97% of the time, the assailant was a patient.
Cleaning well organised and executed

In the fight against infection, cleanliness, both of persons and premises, is the first barrier, and clean facilities should be recognisable as such.

They kept equipment and the premises visibly clean. All areas were clean and had suitable furnishings which were well-maintained. (CQC assessments)

Staff kept themselves, equipment, and the premises clean. (CQC assessments)

The trust should ensure that cleaning schedules displayed are completed to show areas that have been cleaned. (CQC assessments)

Mental health guidelines

Staff generally understood their roles and responsibilities under the Mental Health Act 1983 and the MCA. (CQC assessments)

Staff regularly reviewed the effects of medications on each patient’s physical and mental health. (CQC assessments)

Good information management

Outstanding hospitals keep themselves up to date on technology to use information effectively and efficiently.

The CQC found that the trust collected, analysed, managed, and used information well to support all its activities, using secure electronic systems with security safeguards. Information needed to deliver effective care and treatment was well organised and accessible. (CQC assessments)

In A&E, patient-clinical information is displayed on a TV screen at the A&E coordinator hub and zone. (CQC assessments)

Handovers well performed

Multi-Disciplined Team (MDT) shift handovers require coordination and structured, coherent transfer of patient-care information.

Daily handovers by the medical team were found to be informative, with detailed multidisciplinary discussions of current cases and the actions taken. (CQC assessments)
Surgical processes good

Surgery is a key area of risk where preventive procedure is crucial to patient protection.

The theatre scheduling policy included risk assessment, criteria on allocation of theatre lists, management of emergency situations, authorisation process, last minute changes and alterations to the operating theatre lists’ schedule. The key objectives were to ensure information was as visible as possible and theatre teams took ownership to ensure the right specialty was in the right place. A theatre pro-forma ensured appropriate theatre allocations. We saw an example of the completed session form (theatre pro forma): this included the speciality, primary surgeon, planned procedure, patient acuity, surgical class, and known comorbidities. (CQC assessments)

The existence of an isolated, sterile surgical preparation area with changing and storage facilities is a plus.

In a surgical zone, theatre access was secure, with a reception area where staff were greeted and shown to changing areas. The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. (CQC assessments)

Good waste management

Hospital waste is dangerous and requires strict procedure in its handling and disposal.

Staff managed clinical waste well. (CQC assessments)

NHS guidance (Best practices) respected

The respect of NHS guidance in outstanding hospitals is noticed and praised by CQC commissioners.

Staff assessed and managed risks to patients well and followed best practice in anticipating and de-escalating volatile situations. (CQC assessments)

Emergency trolleys, which include resuscitation equipment, are available on each ward and department. The trolleys are tamper-evident to reduce the risk of equipment being removed and unavailable in case of an emergency. Staff carries out daily and weekly checks of this equipment to ensure it is ready for use in an emergency. CQC controllers checked three trollies across the wards and saw all were in line with policy and that no dates had been missed for the month so far. They saw information
located with or above the trolleys, providing guidance for staff about the emergency procedures and action to take. Additionally, surgeons have been nominated for specific procedures as for example, cemented hip replacement, which have been standardised. (CQC assessments)

Good chemicals management

CQC inspectors check that all chemicals are stored safely.

Risk and safety

The CQC insists on attendance at safety briefings:

Ensure all staff from the theatre list team attend the safety briefing and safety debriefing. (CQC assessments)

Consider the timings of the morning emergency theatre list meeting and the theatre morning huddle to ensure the theatre nurses can attend both in full. (CQC assessments)

In one outstanding hospital, the CQC reports the creation of a medical devices oversight group regarding the safety of equipment.

Two extreme risks were escalated to the corporate risk register. The medical devices’ group was now being provided with the responsibility to ensure medical device governance and to review risks and were now named the medical devices oversight group. The purpose of this group was to provide assurance to the trust regarding safety, suitability, availability, and safe use of all medical devices in use across the trust: the current form did not have a clear auditable trail of the decision made. (CQC assessments)

The CQC comments on the application of a SOP to help midwives to ensure safe ambulance arrival times.

Concerns around delayed transfer of care into an acute setting were raised as part of the warning notice. We were told by the trust that a new standard operating procedure (SOP) was in place, and we saw this was the case. The SOP gave clear guidance for midwives as to how to ensure that an ambulance was not diverted in a life-threatening situation, to another priority incident. (CQC assessments)

In outstanding trusts, staff recognise and report incidents confident that management acts on them.
The service managed patient safety incidents well. Staff recognised and reported incidents and near misses and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team, the wider service and other divisions. (CQC assessments)

The CQC found in one case that managers themselves ensured that actions from patient safety alerts were implemented and monitored using clinical audits.

The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients, and visitors. The service continually monitored safety performance; it participated in all relevant national clinical audits and generally performed well in national clinical outcome audits. Managers used the results to improve services further within a comprehensive audit programme. (CQC assessments)

Similarly:

All staff were fully committed to continually learning and improving services. They had a strong and clear understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The service managed patient safety incidents well. Staff recognised and reported incidents and near misses. Managers investigated incidents and sometimes shared lessons learned with the whole team and the wider service. (CQC assessments)

The CQC can be detailed and implicitly complimentary in summarising application, not just of the NHS Safety Thermometer, but also of other risk-limiting initiatives taken throughout a hospital.

The trust maintains good practice in the prevention of pressure ulcers, falls with harm and Venous thromboembolism (VTE) by educating and training all ward staff in the NHS Safety Thermometer; holding weekly harm review meetings; and overseeing falls improvement action plans including reviewing bedrail policy and falls-risk assessment. The trust established a Copeland Risk-Adjustment Barometer (CRAB) benchmarking group to review trends in mortality and complications at trust level, department level and surgeon level: CRAB creates an accurate picture of surgical consultants’ practice, adjusting for presenting risk, operation complexity and intraoperative complications; it helps to identify best practice and removes the risks of misinterpreting crude mortality statistics. The Critical Care & Surgery Therapy Team developed a therapy communication board that will go behind the patients’ beds on Critical Care to document therapy input with the patient, for example, how they transfer/mobilise, what diet they are having and speech and language.
recommendations. In A&E, increased training and development for nursing staff and implementation of patient-group directives to allow nursing staff to provide simple pain relief prior to patients being seen by medical staff remains ongoing. CQC findings at this trust are that: services use a systematic approach to continually improve the quality of their processes and they safeguard high standards of care by creating an environment in which excellence in clinical care flourishes: they have effective systems for identifying and reporting risks, for planning to eliminate or mitigate them, and coping with both the expected and unexpected; they have procedures to ensure that lessons learned are shared with the team and wider service; they use information well to support all the activities and secure electronic systems with security safeguards. Incidents are investigated and a process for sharing lessons learnt with all staff is well embedded by various methods such as team meetings, clinical simulation, generic emails and noticeboards. (CQC assessments)

5.4 CQC assessments of learning in outstanding hospitals

Assessments arising from the grounded coding of learning-related factors in outstanding hospitals are detailed below.

The outstanding hospital as a learning organisation organises learning events and ensures that its physicians and clinical staff are encouraged to continuously learn through their learned societies. Cross-functional teamwork in the clinic also supports learning through effective staff meetings and leaders ensuring their own visibility. Leadership also ensures adequate numbers of trained staff having the necessary skills. Furthermore, the culture in the trust supports feedback in an environment where staff are not brought to feel defensive.

Organisational Learning

Outstanding hospitals organise ‘learning events’.

We attended the first of the surgical services sharing learning events during our inspection. These events were planned to be held monthly, and a 70% attendance from staff was expected. There were five specialty presentations to review three Never Events, one downgraded never event, and one serious incident from 2017. (CQC assessments)
Learning from previous Never Events, although some time after the incidents, had been delivered as part of a surgical services shared learning event. (CQC assessments)

At senior level, the CQC reports the application of SOPs to leadership in an outstanding hospital.

A standard operating procedure had been developed centrally to address the changes in policy and oversight. This had been shared with divisional senior management teams and cascaded through their governance arrangements. (CQC assessments)

CQC inspectors are quick to recognise feedback.

Staff monitored the effectiveness of care and treatment. They used the findings to make improvements and achieved good outcomes for patients. (CQC assessments)
Staff collected safety information and shared it with staff, patients, and visitors. (CQC assessments)

The CQC also reports staff learning under sensitive circumstances.

The (trust introduced) Swan lanyards for staff to wear to signal they were carrying out a bereavement visit. The end-of-life care team and bereavement service had introduced a bereavement visit lanyard for staff to wear when accompanying relatives on bereavement visits. This was implemented as learning from an incident in which a member of staff accompanying a bereaved parent was approached by a colleague inappropriately because they had not identified the nature of the situation. The new lanyard was discreet and branded with the Swan logo, which indicated to staff that they should not interrupt the visit. (CQC assessments)

There are frequent mentions of technical training initiatives.

Band four nursing assistants had undergone extra training to increase their skill levels. This included training to change patients’ catheters, to provide pressure area care and to order specialist equipment. Band four staff had also been trained to support diabetic patients with blood glucose monitoring and administering insulin. The service had also rolled out projects to increase nursing staff capacity. For example, a review of diabetic patients’ treatment plans was completed by district nurses and the diabetic specialist nurses, and this had resulted in changes to patients’ treatment plans, which saved approximately 57 trained nurse hours per month. (CQC assessments)
A major player in the local community brought a trust to extend its training to benefit the community.

The community health service for adults implemented new models of care, for example, a diabetes model of care had been written by the diabetic team. This enabled the place-based team staff, as well as residential and nursing home staff to obtain the skills and knowledge required to manage diabetic patients within the community. Staff were trained to check blood glucose levels, how to respond to hypos and how to administer insulin. There was a fully embedded culture of continuous learning, improvement, and innovation throughout the community service for children and young people. (Trust Quality Account)

Another example of community learning is recorded in this trust.

All staff we spoke with were committed to continually learning and improving services. We were provided with a wide range of examples of these. For example, health visitors had introduced ‘Outcome Stars’ to help identify and assist parents who may need extra support. Physiotherapists had introduced free training courses to early years providers to support staff in helping children to be fit for learning. Occupational therapists had initiated equipment days which enabled families to try out a range of suitable equipment in a one stop approach. Speech and language therapists had introduced ‘babbling groups, for children born with cleft lip and palate. Further examples included the introduction of ‘Chat Health’ text services for mothers and young people, school nurse parent drop-ins, the use of video interactive guidance to promote positive parenting, and the ‘Bump and Buggy’ programme, for which the service was awarded ‘Innovator of the Year 2019’ at the city council’s Health and Wellbeing awards. Continue to monitor that all staff receive an annual appraisal of their performance. (Trust Quality Account)

Learning occurs in trusts through available, secure data; analytical skills to perform process improvement; and leadership vision and support.

The trust collected reliable data and analysed it. Staff could find the data they needed, in easily accessible formats, to understand performance, make decisions and improvements. The information systems were integrated and secure. All staff were fully committed to continually learning and improving services. They had a well-developed understanding of quality improvement methods and the skills to use them. Leaders proactively encouraged innovation and participation in research and actively celebrated staff successes. (CQC assessments)

The trust was fully committed to improving services by learning from when things go well and when they go wrong. (CQC assessments)
Management can create a role to ensure training compliance.

The introduction of a band 4 ward coordinator role to support ward managers in monitoring staff mandatory training and appraisals. The role had demonstrated an increase in governance compliance, monitoring that all staff are up to date with mandatory training. In outstanding trusts, staff recognise and report incidents confident that management acts on them. The service managed patient safety incidents well. Staff recognised and reported incidents and near misses and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team, the wider service, and other divisions. (CQC assessments)

Managers themselves can ensure that action on patient safety alerts is implemented, monitored, benchmarked, and audited with a focus on safety and process quality.
The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients, and visitors. The service continually monitored safety performance; it participated in all relevant national clinical audits and generally performed well in national clinical outcome audits. Managers used the results to improve services further within a comprehensive audit programme. (CQC assessments)

All staff were fully committed to continually learning and improving services. They had a strong and clear understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The service managed patient safety incidents well. Staff recognised and reported incidents and near misses. Managers investigated incidents and sometimes shared lessons learned with the whole team and the wider service. (CQC assessments)

Staff are proactively supported and encouraged to acquire new skills and share best practice. They compared local results with those of other services to learn from them. (CQC assessments)

The CQC carefully evaluates end-of-life care.

The approach to learning from deaths was exemplary with a clear focus on areas other than clinical needs such as dignity, end of life care and the experiences of those close to patients. There is a strong culture of reporting incidents to learn and improve. (CQC assessments)

When the CQC reports positively on learning in outstanding trusts, this provides an opportunity for management to echo their findings in the trust Quality Account.
The CQC reported that there was a fully embedded and systematic approach to learning from incidents to drive improvements. The trust and its staff understood the importance of learning from incidents and near misses. (Trust Quality Account)

The importance of completing the loop by providing feedback to staff is well understood in outstanding trusts.

Staff demonstrated a clear understanding of the requirement to, and reason for reporting incidents. They heard that feedback was given to those reporting incidents, so they could be assured the issues had been acted upon. (CQC assessments)

Physicians learning as part of a learned society

As clinical leaders, physicians should be lifetime learners, effective and engaged team leaders/members and deeply concerned to measure the quality of the healthcare they are providing. They should become drivers of quality improvement, but to do this, they should be willing to learn some of what other professions have already learned through practice of Process-Improvement Science, such as Six Sigma. (Chassin, 1998), believes too that clinicians should welcome such support and see themselves as key advocates of continuous improvement in care systems.

The author is concerned not to promote ‘cookbook medicine’ but the rational use of guidelines to eliminate the habits which underlie human error.

Learning through cross-functional teamwork

At Stanford Hospital and Clinics, leadership encourages cross-functional teams to include representatives of each major group involved with patient care: a physician champion, clinical specialists, pharmacists, social workers, case managers, respiratory therapists, and so on.

Although specialist physician communities access peer to peer networks for trusted, expert information and discussion, opportunities for doctors to connect digitally in a safe-space environment have been surprisingly limited. One study shows that, while it is known that physicians learn from each other, the magnitude of peer influence is poorly understood in hospital governance and appears to be a largely untapped resource (Donohue et al., 2018).

At a time when healthcare organisations have less and less control over their revenues and where the squeeze of health-insurance schemes is increasing to put pressure on the cost of healthcare services, the aptitude of hospital teams to work cross-functionally to learn the way to greater efficiencies and effectiveness becomes key to their survival.
Effective staff meetings to discuss risk

In acute wards for adults of working age and psychiatric intensive care units a positive risk panel was held weekly, staff could discuss particularly complex, high-risk patients with senior clinicians to agree an effective care plan and to review risk. (CQC assessments)

A positive risk panel was held weekly, staff could discuss particularly complex, high-risk patients with senior clinicians to agree an effective care plan and to review risk. The panel supported staff to implement evidence-based care in line with trust policy. (CQC assessments)

They developed individual care plans which were reviewed regularly through multidisciplinary discussion and updated as needed. (CQC assessments)

The role of leadership

Learning comes from observing both poor process and excellent practice. On the ground, staff engage in safety huddles to identify key learning from incidents and complaints, where senior executives learn from a Quality Scorecard to evaluate progress, conformity to quality, safety, clinical effectiveness, and effectiveness of patient-care procedure.

The presence of leadership in measuring patient-facing performance is essential to communicating to the rest of the trust the need for learning from process observation.

In the matter of learning, "The trust is committed to becoming the safest and kindest trust and as part of that, it is important that each complaint is seen as an opportunity to reflect, learn and make improvements in the areas that matter most to our patients and their careers and families. To assist with this, all staff asked to comment on a complaint, are asked to consider what learning has arisen from the complaint and what actions are needed to implement that learning. Individual staff are asked to reflect on complaints that they have been involved on and learning from complaints is
also discussed at Care Board meetings, and at ward and departmental meetings.

(Trust Quality Account)

**Staff training and skills**

The comments below are not always found in *inadequate* hospital assessments, where the ability of governance to adapt resources to needs does not appear to be met.

*The trust had enough staff to care for patients and keep them safe.* (CQC assessments)

*The hospital had enough staff to care for patients and keep them safe. Staff had training in key skills, understood how to protect patients from abuse, and managed safety well.* (CQC assessments)

*The service had enough nursing staff with the right qualifications, skills, training and experience to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix.* (CQC assessments)

*The service had enough nursing staff of relevant grades to keep patients safe. The service had enough medical staff with the right qualifications, skills, and training to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix and gave locum staff a full induction.* (CQC assessments)

*The service had enough medical and nursing staff with the right qualifications, skills, training, and experience to keep people safe from avoidable harm and to provide the right care and treatment.* (CQC assessments)

*Staff managed risk in a positive way and helped to facilitate timely and safe discharge. The service had enough staff to care for patients and keep them safe. Staff had training in key skills, understood how to protect patients from abuse, and managed safety well.* (CQC assessments)

**Learning and defensiveness**

A Trust Quality Account reports on Never Events in a manner which shows that learning appears to occur:

*During 2018/19 we recorded 5 ‘Never Events’* (Never Events are described as ‘serious, largely preventable safety incidents that should not occur if the available preventive measures are implemented’). These 5 Never Events were categorised as: a wrong site surgery incident in Musculoskeletal theatres; a retained foreign object in Paediatric theatres; a wrong eye laser procedure in Ophthalmology Outpatients; a retained foreign object in Gynaecological Outpatients; a misplaced Naso-Gastric tube
incident (this has since been downgraded from a Never Event following investigation). Fortunately, management indeed took measures described in the QA as follows: ‘There has been significant learning from these events which includes: our Scheduled Care Group is undertaking a major piece of work looking at improving safety culture in theatres. This includes looking at the use of the WHO safer surgery checklist (the five safer steps), redesigning consent processes, supporting staff to raise safety concerns and ‘stop the line’ and reducing the numbers of distractions in theatres. This work is being undertaken under the trust’s Transforming Care Production System banner and is subject to on-going measurement and audit; the retained foreign object in Gynaecology outpatients has led to a review and redesign of the LOCSIIPPS (Local Safety Standards for Invasive Procedures) in use in Gynaecology and actions to ensure junior members of staff are effectively supported and supervised. These actions are subject to on-going audit; the wrong eye laser incident in Ophthalmology has led to the introduction of a WHO Safer Surgery style checklist for these procedures and a revised policy for marking patient’s eyes before procedures are commenced. Once again, these actions are subject to on-going audit.

However, a TQA of another trust presents a rather less convincing learning scenario and is placed in this section following the above to reveal the contrast (Lazarus & Neely, 2003). This account aspires to explain away five deaths.

5 patient deaths during the reporting period are judged to be more likely than not to have been due to problems in the care provided to the patient. These deaths were reported as Serious incidents and a Root cause analysis report undertaken’. The outcome of the analysis is stated as follows:

1. Patients with Learning Disabilities may not report or exhibit signs of pain and deterioration the same as the general population. Knowledge of their normal response and listening to the family and carers is crucial.

2. Although there is a good knowledge of the management of patients with head injury within the ED setting there appears to be a misconceived bias when alcohol consumption is present, and the tolerance of lower GCS is more readily accepted. This can lead to delays in diagnosis and management of severe head injuries.

3. The importance of trust staff continuing prehospital treatment, and the administration of Tinzaparin where a DVT is considered.

4. It is normal practice for trained staff within A&E to take blood and request specific tests to assist with diagnosis, prior to the Doctor’s review. However, there is a variance as to which tests are requested depending on the individual who initiates the request. It is apparent that there is a culture not to document specific investigations requested within the A&E care pathway, despite there being a facility to do this, but rather to write “bloods taken” without any specific details. The requesting of a D-
Dimer level has become normal practice despite it being a test that should only be used for specific indications.

5. The investigation is not yet concluded from the 5th incident.

The language can be read as detached, if not completely defensive; there appears to be little sense of clinical ownership, responsibility, or concern with patient care as the report laconically reports poor diagnostics and incomplete treatments, before ending by describing a worrying disregard for procedure which it describes as ‘cultural’.
CHAPTER 6 DISCUSSION

Research into CQC secondary data in this thesis results in (p83):

- the need to follow, respect, apply and improve procedure as recommended by the **Toyota Production System (TPS)**, which insists upon updating it in order to prevent risk and to learn;\(^3\)
- and secondly, to monitor, recognise, and diagnose process variation, to **feed back an error signal and to act on it** to correct and to prevent dysfunction applying negative feedback modelled on **Cybernetic theory** (Abdulwahed, 2013; Zimmerman, 2008; Carver & Scheier, 2002; Morgan, 1982; Heylighen & Joslyn, 2003; Dixon-Woods, 2019)

In chapter 4, Methodology and Analysis, the proposition is supported that applying and updating procedure to control hospital processes is crucial to reducing hospital risk and to improving organisational learning, and that this leaves no place for workarounds at the NHS. Also, the cybernetic model as applied in TPS theorises organisational learning and risk reduction through control of process capability; learning is thus inferred as the outcome of ensuring capability and risk prevention.

This theme is discussed below by contrasting CQC assessments (Chapter 4) with the Literature (Chapter 2). Before concluding in Chapter 7, this chapter treats the key themes surfaced by the research: the importance of procedure; the role of feedback; process-facing behaviour of staff; leadership focus; and a way forward for poorly performing hospitals.

**6.1 Why respect of procedure is important**

The importance of the role of procedure was implicitly alluded to following the Mid Staffordshire Trust crisis from 2007. As a result of this, the Berwick, (2013) report insists that leaders should place quality of care and patient safety at the top of their priorities. Because

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\(^3\) Such theory and practice are presented in authoritative texts (Liker, 2004; Shingo, 1986) and applied in exemplary fashion by Virginia Mason Hospital of Seattle as VMPS.
medical professionals, particularly in CQC inadequately assessed hospitals, are not always trained to improve process quality using structured methods, the report highlights the role of procedure by recommending the introduction of quality and of patient-safety sciences as part of the curriculum of all health-care professionals, including that of managers and of executives. It also insists that NHS supervisory and regulatory systems be simple and clear to avoid uncertain delegation of responsibility. The Francis, (2013) report stresses the need for accurate and standardised data from systematic feedback on adverse events. Lack of such reporting leads to absence of clear evidence on event reduction, making progress difficult to quantify. Francis, (2013) also insists on accountability for safety from all, including from senior board-level leadership, identifying an excessive focus on meeting ‘business’ targets rather than on managing the patient journey, the hospital, and the staff.

Unfortunately, in the rushed environment of hospitals, both physicians and nurses do disregard procedure in the interest of fast response, and this without subsequently discussing, revising and updating current procedure to accelerate and to improve it as the cybernetic model discussed above dictates (Heyligheen & Joslyn, 2003). Most of the problems in inadequate trusts result from disregard of procedure and from lack of its ongoing maintenance: this is repeatedly highlighted in CQC assessments.

The list below, which is quoted from the CQC-assessment secondary data in the Appendix, is extensive but not exhaustive, however it serves to highlight the extent of, and to typify the nature of, the problem of not following procedure as identified by the CQC in NHS hospitals.

- Antibiotics not administered within the hour to sepsis patients;
- Clutter and chairs blocked fire exists;
- Dietary risks found for renal patients;
- Equipment not readily available to meet patient needs;
- Hospital-at-night teams not equipped to ensure patient safety;
- Isolation-room doors left open;
• Monthly mortality and morbidity meetings not recorded;
• No audit trail with a trolley seal broken and a label not numbered;
• No clean-zone access procedures to operating theatres;
• No control measures to prevent the spread of infection;
• No early warning system to identify patient deterioration;
• No procedure for administering medicines in quantity and in time;
• No procedure for recording, storing or destroying medicines;
• No storage/cleaning procedure for patient-moving/handling equipment;
• No procedure for storage and cleaning of surgical equipment;
• No procedure to assess, monitor, review safety/quality performance;
• No procedure to review deteriorating patients;
• No review procedure of clinical guidelines, which were not up to date;
• No system to identify end-of-life, palliative-pathway patients;
• No system to know whether equipment had been cleaned;
• Poor availability, integrity and confidentiality of identifiable data records;
• Prescriptions and charts not stored and left on a ward desk;
• Resuscitation equipment not checked daily and weekly;
• The trust did not respond to complaints in an appropriate timescale;

But, there are also numerous examples of excellence in the way outstanding hospitals apply procedures, some examples quoted from CQC assessments are:

• Staff keep detailed records of patients' care and treatment; these records are clear, up to date, stored securely and easily available to all staff providing care;
• Time to antibiotic administration is minimised and sepsis monitoring and intervention reports are clearly recorded within patient records;
• Services control infection risk well and keep equipment and premises visibly clean with systems in place to monitor adherence to infection prevention and control;
• Procedures for the management of intravenous cannulas and for venous thromboembolism (VTE) risk assessment exist, are completed and are followed;
• All ward staff are trained in the NHS Safety-Thermometer services to maintain good practice in preventing pressure ulcers, falls with harm, skin damage and VTE.

Among other forms of exemplary behaviour, Meier & Liker, (2007) identify TPS as ‘growing’ leaders who thoroughly understand the work, who live the philosophy, who teach it to others, and go to see for themselves to thoroughly understand what is happening; and there are indeed successful trust CEOs in the NHS who work in this way.

Liker, (2004) resumes how Toyota became a learning organisation through relentless self-directed reflection and continuous process improvement: once waste is exposed, TPS requires continuous improvement to eliminate it. Also, to avoid recurring mistakes, improvement teams reflect on countermeasures, and once best practices are established, they standardise work to lock in improvement: in this way, they prepare the ground for further learning. Finally, kaizen teams update Standard Operating Procedures and consign them to staff workstations: these include, for example, risk avoidance and breakdown-contingency instructions, maintenance schedules, etc.

Unfortunately however, these techniques grouped under the term Lean, have not been entirely accepted throughout NHS hospitals (Bamford et al., 2013) although the Lean based Virginia Mason Production System has gained ground, as have home grown methodologies such as GIRFT.

There are many ways TPS can improve hospital processes, and in all cases, each requires locking improvement in by writing and respecting good procedure, by applying it, and by progressively revising and rewriting it over time as more and better opportunities are discovered. Furthermore, TPS strongly defines good process performance, overcoming the weakness of ‘ambiguous’ ideas concerning the definition of quality within the NHS (Beaussier et al., 2016; M. A. Sujan et al., 2017).
If leadership can bring staff to establish, understand, respect, and maintain procedures in this way, this could propel their trusts into a superior CQC rating. Applying procedure is the basic requirement before trying anything more complex. Procedure and Standard Work are the starting point of risk avoidance and of learning in any organisation. In healthcare, following procedure reduces risk of harm and encourages the habit of reading, understanding, and applying guidelines\(^\text{32}\), a pursuit of learning which is not always heeded in inadequate trusts.

In a controlled process environment, staff capture and accumulate learning and progressively incorporate improvements into their work; these are checked by their hierarchy and left at the workstation as updated permanent instructions for all staff to follow. This is the way of guaranteeing quality through Standard Work, which becomes the standard countermeasure to quality problems. Once a TPS process is proven error-free, process steps are ‘locked in’, detailed in writing, and conformity with those procedures is insisted upon every time; if operations are performed in the same order with the correct technique every time, defects are identified and eliminated; if the order is changed, undetected defects will probably occur. Whenever there is a quality problem, firstly, conformity with Standard Operating Procedures is reviewed to identify what allowed error to occur: then, in TPS, once a problem is resolved, an error-blocking poka yoke is applied to avoid reoccurrence, and the SOP is re-written.

It is impossible to improve any process unless it is standardised: if a process is shifting, then the effect of improvement is indistinguishable from process noise. By standardising the process, improvement builds upon a repeatable basis and is detected as such: progress cannot be built on shifting sands, but only on stability. Systems are designed to serve goals and can exhibit alternative choices in meeting them (Gigch, 1978), and a key feature in goal-seeking systems is their feedback loop to receive and to register signals that

\(^{32}\) “Although there are challenges with guidelines: clinicians write them, and the library hosts them…we currently have 1500 guidelines and pathways in use with 80% past their review date” (Mark Renshaw Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust personal communication 10/2022).
indicate whether behaviour is working towards its goal or not. TPS acts in this way as a
cybernetic feedback loop to control an organisation's systems. Good process makes results
repeatable, consistent, and predictable; however, before any process can be improved at
this level, the process must first be stable: an unstable process is a floating system which is
only ever stable by chance, and to achieve this, it must be known what makes the process
stable. Unstable systems cannot be improved: jumping from one point of instability to
another is moving from unknown to unknown (Marksberry, 2012). In TPS, respecting
Standard Operating Procedure is the key countermeasure to quality problems and to the
onset of risk conditions.

In a controlled and calm process environment, staff capture and accumulate learning
about their process, guaranteeing quality through Standard Work. Once a TPS process is
proven error-free, the process steps are recorded visually and in writing at the work position.
From then, five times ‘why?’ is the standard TPS root-cause analysis, expected to quickly
find countermeasures to solve process problems (Beaussier et al., 2016).

Taylorism produces many of the problems which TPS respect for procedure searches
to resolve; problems of red tape; suffocating hierarchical organisational structures;
suffocating top-down control; books and reams of unread rules and procedures; slow and
cumbersome implementation; poor communications; powerful resistance to change;
irrelevant rules and procedures. Such organisms are static bureaucracies, internally focused,
controlling, unresponsive to change and generally unpleasant to work in (Dixon-Woods,
2019). Parts of the NHS may suffer from this, but fortunately well performing outstanding
trusts often do not.

Organisations need to be flexible, to focus on efficiency and effectiveness through
empowered staff. This type of ‘enabling bureaucracy’ looks upon rules and procedures as
‘enabling instruments’ helping staff to properly manage work in cybernetic fashion
(Heylighen & Joslyn, 2003).

Under TPS, the staff member is a valuable resource who is expected, not just to
become expert in his or her task, but an analyst and a problem solver too. The difficulty is
getting staff at the outset not just to use procedures but to contribute to improving them (Liker, 2004). Finding a balance between rigid procedures and the freedom to innovate lies in how standards are written and who writes them: in general, TPS respect for procedure recognises that staff are focused on doing a good job and that they appreciate tips and best practices providing there is flexibility under supervision to add their own ideas.

Absence of structure and absence or disregard of procedure offer no foundation for improvement: procedure is a dynamic tool, but it is also the bedrock of continuous improvement and of learning.

Management must insist every time on fully conforming with updated procedures and, in formulating TPS rules, Spear & Bowen, (1999) confirm continuously updated Standard Operating Procedures as the unique reference against which to control process. Learning to respect and to update procedure prevents risk as the TPS cybernetic learning cycle ‘ratchets’ continuous learning forward and avoids sliding back into poor work habits with TPS visual controls signalling dysfunction in a way that no problem can be hidden (Liker, 2004) and with visual indicators showing clear information on whether procedures are being applied or not.

6.1.1 The role of TPS respect for procedure in improving hospital processes

Andersen & Røvik, (2015) find that clinical staff in the hospital they researched believe that healthcare is characterised by complex processes, unique problems, loosely knit care teams, incomplete evidence for healthcare decisions, varying layers of responsibility, unpredictable workloads in A&E, uncertainty about outcomes and, above all, by processes which touch human beings, and not motor cars. They hold out little hope of finding TPS-like performance in a hospital and are thus critical of TPS-type process improvement. Furthermore, it can be difficult to get physicians to fully cooperate with managers or even to work cross-functionally with other hospital disciplines (Lindsay et al., 2020).

Conversely, as seen above (p30), Sarah Patterson, Executive Director of the Virginia Mason Institute of Seattle believes that a major feature of the healthcare leader’s role is to
compel good systems and Standard Work in their search for excellence: loners and large egos ‘had better’ blend in. Without such a stance, she believes that hospital risk improvement and organisational learning cannot progress.

At Virginia Mason Hospital of Seattle, improvement teams found that 80% of patients had uncomplicated issues which could be handled easily with Standard Operating Procedures (Arthur, 2011), but that the cultural effect of systems and of Standard Work brought change which certain doctors had difficulty in accepting: as a result, Virginia Mason Hospital management developed a new work understanding with physicians, but some left the hospital rather than accepting it. Arguably, Patterson’s comments concern the U.S. context of healthcare and not the English one however she is addressing a universal need for hospital staff simply to do things well and to work together. At all events, the NHS, with mixed results, has traditionally used a lighter hand than VMHS in getting physicians aligned on resolving organisational and process problems.

Furthermore, Patterson’s comments show the desire to challenge inter-functional silo barriers common between hospital units (Towill, 2006; Van Kooy & Pexton, 2018). The Virginia Mason Production System proposes a Lean-inspired, longitudinal view of hospital flow based on the patient journey as he or she progresses through individual hospital processes: this patient view is very different from hospital management’s chopped, vertical, functional, silo view ‘peering down’ into individual hospital process steps (Figure 8 Two different views of the patient journey). The patient shares little interest in this vertical hospital-management practice of observing localised pressures on departmental direct cost and staffing.

Indeed, VMPS proposes attaining Lean-inspired ‘smooth patient flow’ by transforming the ‘patient journey’ from physician-centred to ‘patient-centred’ care. For example, waiting rooms would be patient focused rather than health-provider focused (Arthur, 2016) and, according to this author, the excellent hospital would bring everything to the patient rather than ‘wheeling’ him or her around to wait in cold corridors outside closed doors.
The immediate benefit of this perspective is to provide a longitudinal, end-to-end view of process where the risk of dysfunction can no longer ‘hide’ at interfaces between hospital-process silos.

There are examples of successful Lean deployment in healthcare and there are cases where the stochastic nature of events can appear to limit the options for process improvement. In the two examples below, the first shows the nature of successful Lean deployment in a repetitive healthcare setting, and the second, the potential for chaos in an acute hospital.

“I booked a flu jab at 10:10 am on a Saturday morning, but I arrived early and was close to the head of the queue outside the clinic. The queue was over a hundred yards long with some 100 persons waiting: during the wait, patients walked up from the end of the queue to say that they had booked for 9 o’clock and were worried that they would not be able to get away on time from the clinic. Once inside, we were invited to walk through to the back of the clinic if over 65 years old, and younger than 65 years old patients were sent upstairs. A door opened onto 5 cubicles on the ground floor, each one staffed with a nurse and a staff member at a computer screen. Within 2 minutes, my booking had been confirmed and the flu jab given. I was invited to leave through the back way. As I walked round from the street back to the entrance, I saw that the whole queue had already disappeared into the clinic. There were 10 fully staffed cubicles between the 2 floors, and as the turnaround time was about 3 minutes per person, all 100 persons would have received their jab within about 30 minutes. This organisation had been clearly thought out using Lean ideas and planned with all healthcare personnel ready and waiting at their posts when the doors opened at 9 am.” (anonymous author-private communication 10/2022)

That is the triumph of Lean applied to a highly repetitive task. However, tasks in healthcare are not always repetitive, and conditions are not always favourable. At the other end of the spectrum, in the second example, is shown the potential in an acute hospital for chaotic conditions. I am indebted to the NHS author, whom I leave anonymous and whom I quote in extenso.

Can Lean surmount the complexity of delivering healthcare?

“I’ve just had a quick look at last year’s data for the xxxxx Hospital site and xxxxx - 120K patient discharges (exc. outpatients) between them they presented with 4300 different primary diagnoses (the counter to my argument is that 50% of the discharges
are covered by 130 diagnoses), if you then stir into the pot those that present with various co-morbidities – diabetes, heart failure, kidney problems, substance dependency etc., factor in different ages / levels of frailty, all manner of inequalities and the ‘production line and SOPs to manage the factory’ starts to become messy. This isn’t helped by not having a great deal of control over the arrival of raw materials in the Emergency Dept (although this is predictable to be fair). Then you have the problem with where to store a large proportion of the goods when you’ve made them better (social care which is outside of our control has the dubious luxury of stopping the line and saying no more discharged patients we are full). This means the production line in the hospital bottlenecks around A&E; this in turn halts the ambulance flow line as they now can’t unload their goods. Other lines of production are also impacted, elective patients can’t get their surgery as the beds are occupied by those patients waiting to leave. This then turns into a vicious spiral the patients who are medically fit for discharge and waiting to leave slowly decondition and then need the bed once more, the elective patient also deteriorates and ends up coming to the Emergency Department which implodes under the volume and expands its department by not only stacking patients in the back of ambulances but also letting them spill out into adjoining corridors.

Consequently (and shared in confidence) the following incident (one of 54 submitted yesterday) was submitted:

Our site is currently on ‘Business Continuity’ and because of that, patients are being boarded (Boarded is the term used for sat in a chair on a ward waiting for a bed to become available) into our Wards since the xx of October without sometimes having Discharges planned to accommodate the incoming patients. This decision is having a very negative impact on patients and staff safety and privacy with patients being given personal care in corridors, open bays and even sluice areas; medical interventions being delayed and/or being done in inappropriate clinical spaces.

The extra capacity patients also block access at some beds to the emergency trolley. All these issues highlighted above, paired with low staffing numbers, lack of senior nurses, high acuity and dependency, Non-Invasive Ventilation capacity exceeded, and poor skill mix is compromising the Unit’s ability to care for the patients in a safe and dignifying way.

Staff feels demoralized, overworked, cornered, exposed and vulnerable at the moment as all of this is being decided and actioned by senior management that to their eyes is not present and therefore unavailable to attend to their staff’s concerns. Also, on Thursday from theatres:

Patient has been cancelled three times. Including being cancelled in recovery. Today, third cancellation. Progressive leg pain. Now on morphine. Theatre, surgeon available. No post op beds.
Earlier in the week on Monday the nurse in charge of a ward submitted the following incident.

**Shortness of staffing - trained Nurses working as Health Care Assistants in accordance with complex patient needs.**

Several patients on the ward with high/complex needs require assistance of 2 persons on their daily basic cares, pain management, clinical unwell under several intravenous medication, bloods test, cannulations.

**Patient in bay 10 + bay 12 + bay 1** very vulnerable - high risk of falls - admission related with fall with head injury and fall during these admissions as well - GCS 14/15 due to ongoing confusion.

**Special patient (patient requires constant nursing where nurse doesn’t leave the bed side)** in bed space 1.2 with severe ongoing confusion + very challenge behaviour - agitated, wandering around, aggressive towards staffing + other patients on the ward - unable to retain information, uncompliant with care + treatment plan. Needing 4x times security to be called and involve, in manner to support our team to keep him on the ward and keep staff and patients safe.

**Patient in bed 1.5 for end-of-life care - family very unhappy with situation ongoing with patient in bed 1.2 and security needed to be involved to manage patient behaviour - needed to be given support to the family and to trying to arrange to move him to a side room as soon patient in SR2B became green and COVID negative during the day.**

** BEEN boarding a patient to our department since early in morning at 08 AM from - patient without a bed space.**

**Patient in Bed 3.3 with severe renal failure - AKI level 3 - anuria + severe renal function impairment + severe hypotension + bradycardia ongoing all day shift - been escalated to the Renal team + ITU team + Outreach, but the decision to take patient was only made at 17pm and ITU only able to accommodate patient in their department at 18h30 - patient needing 1:1 nursing - half hour observation - BP challenge to be monitored (severe hypotension - needing several attempts to be able to get a BP reading + under cardiac monitor + loads of IV fluid challenge bolus - patient not responding all day to them. The decision to take patient under ITU had taken too long - because patient all entire shift not responding to any of treatment given on the ward.**

**Patient in bed 1.4 had a fall in bathroom.**

**Patient in bed 12.3 - absconded.**

**As nurse in charge + allocated to look after patient in bay 3 from bed 1 to bed 6 - I was totally unable to chase any discharges and spent most of time supporting the rest of the team due to the poorly patient I was caring in bed 3.4 and the vulnerable and confused patient in bed 1.2.**

And again, from the A&E Dept this week.
Pt had been in department for over 17 hours and there were not enough beds to move patient from corridor to cubicle for a much-needed blood transfusion with a Hb of 67. Cross match sent @ 14:30 but despite multiple calls to transfusion lab, they were not able to issue blood until 18:00 delaying the transfusion even longer threatening patient safety. When blood was delivered, on patient details transfusion had this patient logged as a male. They were still happy for transfusion to be given despite this as other patient details were correct.

This one is interesting as the section highlighted in bold goes against all blood transfusion SOPs and the blood should not have been transfused into the patient. This raises an interesting dilemma that I think James Reason, (2008) refers to as health care worker as hero, potentially the individual transfusing the blood put their clinical registration on the line to ensure the patient got their blood – they won’t be disciplined but should they for what is fairly serious”. (private communication 10/2022)

And how realistic, then, is it to assume that the learning advocated by TPS is applicable to a hospital environment? Is the repetitive cycle of motor car manufacture too far removed from the purported complexity of hospital systems for the model to be applied? At a stroke Sarah Patterson appears to refuse this objection as Arthur, (2011) challenges the pervasive comment that hospital processes are too complex to successfully apply industrially developed standard work and systems to control them.

An experienced practitioner would see opportunity for process improvement using process analysis by breaking down and prioritising the process problems and applying Lean kaizen type teams to de-stress individual key facets of the workflow bringing the end-to-end patient journey under control: and the improvements would be locked in by revised procedures. However, to do this, there appear to be clear resource issues, which need to be addressed by the CEO.

6.1.2 Getting clinical staff to apply procedure

For the most important directive in this discussion of respecting procedure, outstanding trust leadership generally requires staff to always surface nonconformity to ensure corrective

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33 Arthur, (2011) claims that 80% of patients have uncomplicated issues which can be handled easily with standard work.
management (Berwick, 2013) in hospitals “now widely considered to be dangerous places” (Kenney & Berwick, 2010).

This is difficult to do in a chaotic and possibly dangerous environment where energy is wasted in compensating for, and in working around, pervasive dysfunction, which is a debilitating feature of broken hospital processes.

Feedback in the inadequate hospital should bring signals of dysfunction to management attention at a level which can effectively deal with it but, owing to certain staff behaviours, to missing systems or to ingenuous governance, some errors remain unreported and unresolved, and the chaotic hospital with its discouraged staff struggles on ‘in the dark’ (Hollnagel, 2014; Reason et al., 2001) using workarounds. On the other hand, in the outstanding hospital, staff concern with monitoring safety and with reporting/learning from events and an ethos of sharing information in the interest of the wider team show up in CQC assessments. Outstanding trust staff ‘do something about it!’ Improvement and corrective action are an overriding principle. As improvement is a process in itself, in an environment of functioning systems and of reliable processes, outstanding trusts use procedures to manage it (Timmons et al., 2015). How different this is from the fear and fatigue which, as CQC assessments show, bring staff in
inadequate hospitals to not deal with pervasive problems. Feeling isolated and exhausted, such staff work around, bravely doing something, but doing wrong too. Problems don’t get fixed, procedures are disregarded, patients get harmed, clinicians suffer from burnout, and leadership remains isolated, invisible, and unaware. Error and chaos reign.

And there is resistance to applying procedure in hospitals: Standard Operating Procedures can, for example, appear intimidating when they are too long, too complex, and badly written. One start to resolving this, from the waiting room to hospital checkout, from the clinic to the surgery, is that procedure should be written and continually improved by those who operate it (Liker, 2004). As in TPS, direct supervisors should audit and sign off on changes in procedure; they should encourage simplification as far as possible and the use of photographs and drawings in documents to ease understanding. Procedures should be local, readable, simple, visual, and visible: files of officious, complex language are certainly not.

Additionally, it is commonly thought that hospital processes are far too complicated to be coded as procedure, as “cookbook medicine” (Chassin, 1998), and TPS experience admittedly shows that procedure is indeed most effective with repetitive processes. So, can procedure be adapted for clinicians? The answer to this question is ‘yes’ for all repetitive tasks: even ‘straightforward’ outpatient and elective, as well as equipment-based, procedures such as radiography, do appear in large part repetitive, and thus, susceptible to formal procedure.

On the other hand, the idea of repetitive procedure becomes questionable in the case of complex comorbidities which face physicians from time to time, in surgery, in research and in exploratory medicine, which can lead to unexpected findings, and this is where senior
surgeons can be suspicious of process change. Lawton & Parker, (1999) describe research in their journal article, *Procedures and the professional: the case of the British NHS*. They write that, senior doctors, who tend to ‘do their own thing’, want flexibility to continue to do so. They claim the need to research new procedures and to use lateral thinking in training young doctors. Such flexibility leads them to prefer the word *guidance* to *protocol*, as it has a more flexible, advisory sound to it. But there are cases where physicians do not follow procedure at all and are possibly not justified in doing so; for example, by not making adequate checks on potential risk, and many resent intervention into their clinical autonomy as they at times search to circumvent procedure. They argue, for example, that repetitive tasks are already in their heads and that they cannot work without flexibility.

Lloyd34, writes that:

> Almost all opposition to applying guidelines in the NHS comes from consultants (Lloyd 1995)

For nurses, however, repetitive tasks are routine; there is limited variation, and problems are possibly less complex to analyse. In their case, the word *protocol*, which implies strict adherence, brings them in general to comply, although they are not always content with taking on paperwork when caring for patients (Lawton & Parker, 1999). In general, they perceive little added value to patient care by reading procedure: they are even expected to read widely on, for example, litigation, audit, insurance, complaints, treatment, security, discipline, and patient consent; there is a lot of material to cover, and there is a

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feeling among nurses that the requirement to read certain procedures is linked to de-skilling by taking the onus off the trust to train them.

The development of procedure in the clinic according to TPS is clearly situated at the patient-facing level but as suggested above, the method requires that nurses themselves locally write and maintain them. In cases where the nature of work is common across hospitals, then local procedures developed by delegated improvement teams may appear justified provided the teams be teams of nurses, although the NHS would need to control less by delegating more. In clinical work, Lawton & Parker, (1999) found that teams of obstetricians, midwives and nurses worked together well to develop procedures.

Once procedures exist, the responsibility of leadership remains to ensure they are read, understood, internalised, applied and updated.

6.2 Why providing process feedback is important

There can be no learning in the NHS without feedback of, and competent analysis of good data (Anderson & Kodate, 2015; Lindsay et al., 2020). Furthermore action to improve and ongoing control underlie risk prevention (Meier & Liker, 2007; Spear & Bowen, 1999).

Successful performance of the cybernetic process-control model depends on hospital-staff behaviour. If process output exhibits error, staff should immediately report it to bring about action on inputs and process controls to stop it, just as signs of unexpected declining health of a patient leads a nurse to inform the physician. But, as risk is a probabilistic property, a crucial skill for staff is to recognise it in the first place, then to know how to report and to act on it. But, at what point does progressively declining health become reportable? This requires experience; at what point does worry become actionable? If the culture is to know, to respect and to act on procedure, then the hospital can depend on its staff to learn to identify risk; but this is not so if staff do not regularly learn to detect, recognise, report, and to prevent risk, or at least know how to get help (Hollnagel, 2014; Reason et al., 2001). If staff culture does not encompass knowing and applying procedure and providing feedback
to act on nonconformity in such a way that the hospital as a whole continually learns to do better, then this shows up as a critical leadership problem (Massey & Williams, 2005).

The keystone of organisational learning and of risk prevention is staff respecting and maintaining procedures, underpinned by their skill, by the courage to give careful feedback, and by requiring, on the one hand swift action on non-conformity, and on the other, action to improve processes over the medium term (Meier & Liker, 2007).

6.2.1 The reasons to report

M. Sujan, (2015) believes that it is difficult to make further progress on patient safety simply by reporting incidents to evaluate what or who ‘failed’, which, this author states, physicians perceive as a ‘nursing process’. Sujan adds that learning only from incidents ‘remains limited in its usefulness’ because behavioural systems in healthcare ‘differ from simple linear systems’. Sujan writes that, in addition to studying what goes wrong, healthcare needs to study what goes right. For example, unavailable equipment during a procedure ‘should be reported along with how clinicians coped with the situation’. Much can be learned from failures and from performance adjustments clinicians make daily. The learning process should be directed more towards improvement than towards ‘assigning culpability’ (Massey & Williams, 2005). Furthermore, imposing further ‘bureaucracy’ on clinicians (Dixon-Woods, 2019) is not a solution when claimed ‘improvements introduce constraints, tensions, and contradictions’ into a system, which has hitherto been ‘dynamically managed’ by frontline staff. Reporting bureaucracy has introduced a race between work-as-imagined (WAI) ‘performance-constraining’ intervention and work-as-done (WAD), which Hollnagel, (2015) describes as ‘performance-adjusting workarounds’. Work-as-done is frequently different from the work those who design and manage healthcare systems presume, also because it is not possible to specify all the operating conditions leading to incidents.

Sujan, (2015) makes a plea against incident reporting as a bureaucratic method of attributing blame and he advocates leaving frontline staff alone to sort out problems on their
own because they know better what frontline work is really about than ‘those who manage healthcare systems’

What does TPS have to contribute to this argument? TPS was developed for repetitive processes, and repetitive procedure registering best practice is written and maintained by the staff itself operating the process (WAD), but it does also require supervisory oversight, especially in the case of a crisis. However, TPS respect for procedure is reputed Socratic and non-accusing; solutions are brought by consensus rather than by imposition using tried, tested, and generally accepted team-based methodologies (Meier & Liker, 2007). But nothing stops a hospital from preparing procedures for non-repetitive crises, for example for a fire drill.

When Sujan, (2015), talks of coping and of ‘dynamic management’, he implies workarounds, although applying workarounds is not allowable in repetitive processes because they create knock-on process problems (p154). The question then remains whether this writer is talking or not about rare, non-repetitive crises in the clinic, about problems for which there is no procedure and where work-as-done implicitly requires invention and departure from norms: nothing stops a hospital from attempting to prepare procedures for non-repetitive crises: A&E procedures lead in this area. Reporting how clinicians cope with situations does, as Sujan admits, provide learning from failures and performance adjustments, and for this reason, reporting correctly done, provided by all staff, and correctly handled, avoids risk too.

The incapacity of inadequate hospitals to learn is an essential part of their problem, where monitoring does not occur, or occurs without improvement, events and incidents go unrecognised and unreported; problems are not escalated or disregarded if they are; workplace stress allows no time or energy for training, for listening, or even for proper supervision; workarounds constantly replace procedures which remain often unread and generally unknown. Where is the ethos of risk prevention and of learning in inadequate hospitals? Does the blame culture create defensive behaviour even among physicians? Do staff feel general hopelessness against relentless adversity? Do they rather keep their head
down (Lazarus & Neely, 2003), waiting for management and commissioners to get on with something elsewhere so that they can return untroubled to their old ways? Or are they rather long-suffering, dedicated, and tired professionals trying to do what they can in an under-staffed, poorly serviced, poorly equipped environment, where nothing functions as it should, and where what they need is never available? This is the road to burnout (The Lancet, 2019).

Leadership can, but does not always, require that procedure be respected, and that process be properly controlled on the road to excellence. Because Lean improvement, which does resolve process problems, is a mature, effective, but demanding methodology, where else can the responsibility of repairing broken processes lie but squarely at the door of leadership? Leadership can assume and organise the complex task of bringing behaviour back to concern with good process in order to engage the road to outstanding performance (Anderson & Kodate, 2015; Waring & Bishop, 2010). Only the leader is in a position to communicate such vision, to secure the resources, to protect the time and to bring his or her staff to learn together during their journey on the pathway to an outstanding, low-risk hospital.

6.2.2 Reporting barriers

For the cybernetic learning cycle to function, feedback and reporting of error are thus essential.

Sujan, (2012), writes however, that healthcare reporting cannot achieve its full potential because of serious barriers erected by staff against it, including for example: no time due to absence and to staff shortage; or due to concurrent activities and exceptional jumps in demand; or to no allocated time in schedules; or to incomplete or interrupted training; or to IT problems; to poor communication; to insufficient or disordered workspaces; to recurrent unresolved problems; to absence or unawareness of procedure, or to inappropriate procedure; to unclear allocation of responsibility, or to missing information. The list goes on.
All of this implies staff relegating the requirement to report to the bottom of their work piles: they judge error reporting not just as fastidious, but as unimportant and too much of a burden.

Mahajan, (2010) writes that significant problems remain with local and national incident reporting systems, including fear of punitive action (Massey & Williams, 2005), poor safety culture, lack of understanding among clinicians about what should be reported, lack of knowledge of how reported incidents are analysed, and whether or not such reports ultimately lead to changes which do in fact improve patient safety. Such lack of systematic analysis of reports and lack of feedback to clinicians are recognised as major barriers to staff engagement.

Also, Mahajan, (2010) writes that almost two thirds of respondents in his research believe that lack of feedback is the greatest deterrent to reporting: staff need to see something positive arising from incident reporting for them to continue to participate in the process.

The reason for reporting incidents is the belief that risk can be reduced, and that safety can be improved by learning from incidents, but the success of the system depends on abandoning defensiveness and putting blame and recriminations aside as well as effectively engaging the learning cycle as the cybernetic goal to learn from mistakes and to ensure that processes are improved to prevent risk. However, under-reporting by doctors remains a significant problem, as is a lack of clarity over what should be reported and why reporting leads to improvement. Furthermore, it appears questionable how the NHS uses the data and how it educates NHS staff as a result.

6.3 Categories of hospital-staff behaviour

A hospital patient-facing process can be understood as a series of linked activities which employs resources at staff’s disposal to bring ‘value’ and to produce outputs useful to the patient. In this definition, work is process: a nurse distributing medicines in a ward is operating a process of ongoing patient care: resources such as the nurse’s time, medication,
equipment, etc., are used to return the patient to good health in conformity with this required process output.

As people work, they operate, are involved in, and control process: if something functions incorrectly, they diagnose and correct the error or find the courage to report it. In doing so, they function within the cybernetic loop (Abdulwaheed, 2013; Carver & Scheier, 2002; Heylighen & Joslyn, 2003; Morgan, 1982), and the quality of their behaviour determines in part the successful operation of the process. This implies a right way of doing things. Working the wrong way, or not acting to redress, are dysfunctions leading to risk of harm. Conversely, doing things the right way entails learning, which comes with repetition.

6.3.1 Inaction

A most damaging behaviour in the face of an error signal showing clear process dysfunction is to do nothing.

Inaction occurs for many reasons including lack of knowledge to resolve the problem, lack of time to do so, fear to surface the problem to others, no sense of ‘ownership’ (it’s not my problem), ‘dysfunction fatigue’ in a department where ‘nothing works’, distress, and burnout, etc, and possibly of fear to speak out.

The outcome is continuing disorder, waste, and probable harm to the patient: with inaction, dysfunction is pervasive, risk is not contained, and without action, there is neither improvement nor learning.

Un justfied inaction is not an option; it can be a serious staff dysfunction.

6.3.2 The Workaround

The problem of workarounds is extensive at the NHS, where staff in hospitals adapt to ineffective and inefficient work practices by coping; that is by applying what NHS CEO, Sir
Simon Stevens, referred to during a 2019 parliamentary committee meeting as ‘workaround strategies’\(^{35}\).

Nurses who work in the ‘first line’, experience numerous process problems of missing or of incorrect information; of missing or of broken equipment; of missing or of incorrect supplies; of waiting and of conflicting, simultaneous demands on their time, all of which are stressful. At times, nurses respond to such problems by coping and not by repairing what is broken and by not speaking up; at times, nurses suffer from burnout (Rotenstein et al., 2018).

Nurses are trained to be vigilant; they are encouraged and empowered to take responsibility, to independently solve problems as they arise by meeting the overarching needs of patients; but they are not trained to assess and to remedy process problems (Tucker & Edmondson, 2003). These authors write that not addressing underlying causes makes the same problems likely to occur in the future: they call this behaviour ‘first-order problem-solving’; it is the ‘quick fix’ but, because process problems are not being referred to persons responsible for, and capable of resolving process problems, risk-prevention and organisational learning opportunities are lost.

\(^{35}\) This dysfunction was already recognised in the NHS by Spear, (2005), who wrote in the Harvard Business Review of the ‘workaround culture’ as a response to ambiguity in the NHS system, where staff face the same problems day-in-day-out for years and seem to lack the skills to deal with them.
Ideally, a nurse should not hesitate to speak up about problems even at the risk of being seen as someone who lacks self-sufficiency, because, without such behaviour, the organisation cannot learn. Even open acknowledgement of error is more constructive than giving a false impression of flawless performance (Tucker & Edmondson, 2003).

The nature of nurses’ duties precludes them from spending large amounts of time away from patients, so engaging time to address the cause of a problem is seen as a drain on the care the nurse administers. At all events, nurses are in short supply and do not have time to resolve underlying causes when, at time of Covid19, they are only just able to keep up with their responsibilities; but this does not remove the onus on them to apply procedure or to report if they can’t.

Workarounds create similar problems elsewhere. Workarounds signify rejecting standard procedure during process dysfunction and doing things in a different way to obtain an outcome; otherwise said, by not applying procedure at all, but by ‘changing the process’. The practice, for example, of going to a different ward to find bedding missing from another ward (not part of the process in the written procedure) and not bothering to, or forgetting to, replace it, shows a quick fix to one problem but the creation of the same problem, or of another problem, elsewhere. The staff member who disregards standard procedure for restocking bedding, resolves his or her own problem, but immediately causes the same
problem elsewhere, for someone else, by not replacing bedding ‘pilfered’ from the other ward. Missing bedding surfaces an error signal, which should be detected and acted on according to procedure, cybernetically as a non-conformity; however, instead of launching the procedure to restock bedding, the staff member ‘changes the process’ so transferring the non-conformity to become someone else’s problem. There is no learning because the problem is neither formally confronted nor resolved, and the staff member possibly does not even report the incident, satisfied that he or she has resolved the immediate dysfunction.

Had correct procedure for restocking missing bedding been followed, it would have raised the need to answer the question, ‘why was bedding missing in the first place, and what was wrong with the existing procedure?’ This would have ultimately led to preventive measures avoiding recurrence of the problem everywhere by diagnosing, rectifying, and rewriting the defective bedding-supply procedure and auditing its application. This would have lowered future supply risk and helped the organisation to learn how to avoid the problem recurring both in the future and elsewhere. Instead, chaos was created.

Workarounds deny the hospital valuable opportunities to learn and to progress. They are not good. Why do they occur? Is it due to lack of training? Do contingency procedures not exist for staff to follow? Has the workaround staff member been trained to report the incident? Does he or she think it is unimportant? Is he or she afraid to do so? Is it a bad day?

Workarounds stop the organisation from learning. However, as staff ‘firefight’ process problems, they experience ‘heroic’ personal satisfaction (Eatock et al., 2011) in ‘beating the system’ to serve the patient at all costs. Nurses report feeling gratified when they perform a workaround to an obstacle: as one said, "working around problems is just part of my job." These feelings of pleasure that nurses report when overcoming problems on their own constitutes a subtle mechanism of reward and contentment; ironically, this feeling of self-sufficiency decreases the chances of resolving the cause of a problem for once and for all; organisational learning is choked off.
If errors go unrecorded, or procedures go unresolved, they become ultimately harmful to the organisation and to patients. Such behaviour is toxic from an organisational learning standpoint: if dysfunction is not dealt with, either by the nurse or by a manager, and if it is not registered as such, so launching development of procedure to avoid it happening again, no repeatably preventive action transpires, and the organisation remains risky and unequipped to explain and to manage a host of problems, such as missing bedding.

However, if leadership were just to decree ‘no workarounds’ without providing rationale, focus, training, and resources to achieve this, it would impose unrealistic goals on staff which may serve only to increase work-related stress. Nurses are trained to act for the good of the patient at all costs, but they are not trained to carry out process improvement (Eatock et al., 2011): they cannot be expected to solve such process problems on their own.

If nurses report, the hospital should be able to quickly solve the problem, but if not, it should be able to call, for example, upon a trained improvement team. Otherwise, workarounds will continue to remain around to stay.

Fig. 9 illustrates the workaround mechanism.

An error signal of missing bedding is detected and assessed as a non-conformity; the staff member then decides to ‘purloin’ bedding from another ward. This is a process change as, instead of applying SOP to restock, the staff member invents a toxic solution. The ‘quick fix’ leads to the personal gratification of the staff member, but the problem of missing bedding is transferred to other staff members. Because the risk itself of missing bedding is not addressed, the hospital misses an opportunity to improve the bedding-supply process. In this case, dysfunction travels as the staff member and then others facing the same problem as a knock-on, do not report, but choose a harmful workaround every time: the dysfunction potentially travels throughout the clinic until the laundry restocks the wards.

Perhaps the workaround was necessary to save a life, but this does not remove the staff member’s responsibility to inform and to bring the hospital to repair this broken process.
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

159

Fig. 9 shows how the workaround does not engage a cybernetic learning cycle at all. The workaround has led to a non-conformity; the staff member finding the non-conformity, engages action unforeseen in the procedure to get a quick fix, but in doing so, creates the same problem elsewhere. The error signal is disregarded, so there is no feedback of the error signal or correction applied to the procedure, which would avoid the problem reoccurring in the future if the new procedure were respected.

Leadership cannot obtain process improvement by tolerating workarounds; they are not a solution but a problem. Staff should apply SOPs; if they don’t function, then the SOPs should be repaired. Without such improvement, staff will go on indefinitely firefighting by working around processes.

Leadership must require process-improvement to identify and to attack the behaviour which allow workarounds to occur; risk is transferred and there is no learning; only leadership can institute and maintain a culture of continuous improvement which stops this, locks in quality, and takes SOPs to the next level.

6.3.3 The Process-Capability cycle
The cybernetic cycle controls process by continual detection and feedback of error signals from the process output; such error signals convey information on non-conformity with respect to process-output specifications. If there is no such detection, the process continues; if there is detection, the process may be stopped as necessary, and feedback used to adjust the input to prevent the error from reoccurring: this simply amounts to applying the cybernetic cycle.

The measure of conformity of actual output with output specification is termed Process Capability in Six Sigma idiom. Process-capability testing occurs with a rhythm which at best avoids stoppage of the process, if necessary, to assess the existence and nature of the non-conformity, and to quickly resolve it. This Process-Capability Cycle is shown in Fig. 10 below.

The reactive nature of real time capability feedback distinguishes it as short-term control of operating process. It is not long-term, in the way that team-based improvement projects apply risk-prevention change. Subsequently, improvement requires updating Standard Operating Procedure and having it respected by staff.

The feedback loop or learning loop in the centre of Fig. 10, is the building block of organisational learning. An error signal is generated by the process itself to report when it is not functioning correctly with respect to specifications. The fact that a non-conformity is recognised and assessed brings staff to diagnose and to evaluate the problem, to trace its root causes and to adjust the input to resolve it; in doing so, staff learns to do better. The process-capability cycle is short term in that it ideally functions with the process running, and this at a frequency adapted to intervening within one Takt time (p271).

Table 5 shows examples of the types of process errors and problems in the hospital which engage this standard cybernetic cycle called, in Fig. 10, The Process-Capability Cycle. These project examples have been noted from the literature at various times during
this research. They show problems which, by feeding back an error signal during operation of the process can be immediately resolved with or without the need to rewrite procedure.

![Figure 10 The Process-Capability cycle](image)

Among the examples shown, hospital staff may find, for example, that an emergency trolley has a broken seal indicating that it may have been used: in this case it is procedurally unavailable. It should be sent off to be cleaned, re-equipped, and re-sealed, but if it is nonetheless used, this as a workaround. The procedure is *not* to use a trolley with a broken seal. The problem is that it should have been ready and available and sealed, but it wasn't, and this should lead to applying the procedure.
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

Medication errors occur in hospitals: for example, antibiotics are administered in a limited quantity over a limited time to avoid patient immunity. Failing to respect this procedure is harmful to the patient, and if the procedure does not provide the checks and balances with a system alerting staff, the process might be broken. It is a simple capability problem and possibly easily fixed.

The NHS Safety Thermometer is a procedure which, among other things, brings nurses to avoid catheter-related urinary tract infection. This means applying strict guidelines and following safe procedure when changing catheters when necessary. If this is not done, then there is a potential problem of infection: it is sufficient to carefully apply the procedure every time.

Labelling errors can occur between the patient and the laboratory. Test results can end up at the wrong patient, with the wrong physician, at the wrong time, with the wrong result, etc. Registering these errors and feeding them back to where involved staff understand the
need for care in labelling may be a sufficient measure; although, *poka yoke* (p271) methods using bar codes for example can be applied at a more effective level of monitoring and control as in the following risk-prevention cycle.

6.3.4 The Risk-Prevention cycle

Risk prevention requires diagnosis, using tools such as root-cause analysis, possibly FMEA (p271) and teamwork to arrive at preventive solutions. Team-based activity, such as TPS *kaizen* events, cannot always adopt a parallel pathway while the process is running, and they may require stopping the process to fix the problem. This engages long-term learning. Developing and introducing a preventive measure into the SOP to avoid error happening is the act of risk prevention. Long-term risk prevention and long-term organisational learning advance together. Thus, the difference between using immediate feedback assessment in ‘real time’ in the capability cycle and using team time outside process cycle time to reduce risk in the risk-prevention cycle, is the difference between ‘short-term’ reactive capability control and ‘long-term’ risk prevention, both having in common that they feed the learning cycle, one immediately and the other iteratively.

Fig. 11 shows the Risk-Prevention cycle as a cybernetic cycle where the error is monitored risk and where the feedback loop requires analytical time and team-problem-solving time to ensure the revised procedure prevents risk.
The Risk-prevention cycle is a medium-term approach because risk avoidance requires collecting data and data analysis to quantify and to define the drivers of risk. In this way, the cycle requires the time necessary to perform analysis and to develop measures to resist or to prevent risk by modifying process inputs and the procedure as necessary to prevent such risk in the future. The types of projects listed in Table 6 under *problem area* are quite different from simpler short-term capability fixes above. The problem may require causal analysis, research, and testing: for example, why is there a crisis of sepsis in the department? How can procedures be modified, or training given, to reduce infection? How can the hospital get around poor writing on physician orders? What measures are other hospitals successfully taking to reduce falls? ...and so on.
### Table 6 Project examples using the Risk-Prevention Cycle

<table>
<thead>
<tr>
<th>Category</th>
<th>Staff</th>
<th>Problem Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection</td>
<td>Administrative and nurses</td>
<td>Avoiding sepsis in services, Errors in cleaning and disinfection, Reducing nosocomial/iatrogenic infections, Identifying and managing IVs made under poor hygiene conditions, Reducing catheterisation infections</td>
</tr>
<tr>
<td>Medicines</td>
<td>Physicians</td>
<td>Avoiding illegible physician orders, Reducing number of pharmacy wrong dose errors</td>
</tr>
<tr>
<td>NHS Safety Thermometer</td>
<td>Nurses</td>
<td>Reducing the number of falls</td>
</tr>
<tr>
<td>Clinic</td>
<td>Physicians</td>
<td>Handoff errors between doctors and equipment technicians, Undetected cardiopulmonary warning signs</td>
</tr>
<tr>
<td>Governance</td>
<td>Management</td>
<td>Organising safety huddles</td>
</tr>
</tbody>
</table>

Examples of this kind of initiative in the hospital almost certainly require establishing cross-functional improvement-team work of the kind TPS employs. Problem-solving teamwork is a cultural facet of many hospitals but not of all. It requires clear sight and heavy leadership support to bring busy clinicians away from their clinic to spend time to resolve a problem as a team. The use of teamwork in a hospital which is unused to the method can lead to a quantum leap in performance and may be one of the most important recommendations to make to *inadequate* performers.

Among the problem areas approached in Table 6, the NHS Safety Thermometer includes a procedure to limit clinical risks suffered by patients simply because they are in hospital. The procedure also protects against bedsores, against deep vein thrombosis arising from immobility and other hospitalisation problems. Another example is avoiding the
risk of patients falling from hospital beds; team thinking around the problem may propose equipping beds with fall rails (Fig. 12), which have the advantage of being preventive as well as visual controls.

The risk-prevention cycle shown above in Fig. 11 is the second block in the total learning cycle with risk-prevention teams working over time on questions of reducing handoff errors between medical teams and of organising safety huddles among staff.

Another risk-prevention measure benefitting from immediate visual impact is being able to quickly locate hospital equipment or its absence by allocating dedicated ‘go-to’ floor space (Fig. 13) with floor markings. Time is often wasted in searching for equipment and knowing where to go to find it thanks to floor markings, saves time; also, absence of the expected equipment from its go-to space is a strong visual signal that it needs to be found and returned. In the case of emergency trolleys for example, clutter and careless misplacement could cost lives. It is rather a question of risk avoidance requiring reflexion and planning; the teamwork required is medium term and implies beyond a simple question of capability improvement to engage prevention.

6.3.5 The Continuous Learning Cycle

Learning in organisations does not occur without engaging continuous improvement in its double function to both control capability over the short term and to prevent risk longer term.
The continuous learning cycle (Fig. 14) assesses feedback from the process output and analyses it to suggest change; it is the total of both the shorter-term process-capability cycle, and of the longer-term risk-prevention cycle.

Continuous learning imposes a comprehensive cybernetic cycle of control and improvement, because respect and updating of procedure are the bedrock of both of capability and process-risk prevention, and longer-term capability and risk improvement which provides staff repetitive learning and experience.

Fig. 14 shows the complex feedback-control loop made to recognise and to assess process error, both to deal with non-conformity of output with the process-customer specification and to prevent risk disturbing the process.

Nonconformity and risk entail correctly applying and, if necessary, improving Standard Operating Procedure to guarantee conformity, and it is the continuous operation of this total control loop which ensures continuous organisational learning around processes. In Fig. 14,
contingent feedback control loops in red usually deal with special-cause dysfunction: one at the base of the framework which, in the case of nonconformity as procedural error, signals the need to respect, verify and/or rewrite the S.O.P. itself; the other red loop on the right of the framework reveals monitored risk and the possible need for project work to prevent it in attacking special cause variation; this work also leads to rewriting the S.O.P. as necessary to lock in risk prevention over the long term.

The whole is thus made up of two feedback mechanisms:

- a red loop at the base requiring short-term action to modify, to update and to apply corrected procedure to avoid nonconformity of output, which might or might not occur in real time, for example, during process ‘shifts and drifts’;
- a red, long-term action loop on the right which addresses risk of possible non-conformity, and which is commonly achieved through process-improvement teamwork running, for example, kaizen events during a stoppage to improve a process.

Both together provide total organisational learning cycle around the process.

The continuous learning feedback-control loop in Fig. 14 ‘ratchets in’ one-way improvement, revising procedure in the direction of ongoing change and, if updated procedure is perfectly respected, ensuring conformity. The loop is performative in that it provides not only for improvement of process random noise but also for prevention of discrete events which exceptionally appear to disturb the process. Integrating capability improvement with risk prevention makes organisational learning possible through short-term improvement.

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36 Special cause appears as a process disturbance with an origin outside the process itself, as opposed to common cause variation, which is random variation conventionally limited within ±3σ around the process mean.

37 Toyota quality specialists and improvement-team members use just four key tools during kaizen: go and see; analyse the situation asking five times ‘why?; apply one-piece flow and apply andon to surface problems.
action to maintain process output in conformity with specifications and medium-term teamwork to bring processes to be more robust.

Such learning allows resolution of complex problems in the hospital. These might include avoiding surgical infections or combating Never events such as retained foreign objects or wrong-site surgery. This learning environment helps to foster a paradigm change such as the use of checklists in surgery. Leadership initiatives using learning can create a harmonious, effective, and motivated staff culture within the hospital: clearly, good governance and talented leadership in learning are key to such success.

Examples of total learning projects, such as those seen in Table 7, are organising timeouts and checks in surgery before critical acts to detect and to prevent potential wrong side or wrong site interventions; systems to surface error signals such as wrong patient, or missing surgical artefacts not removed from the patient after surgery. Such projects formalise information-feedback ‘loops’ using the long-term cybernetic cycle to signal and prevent errors. Medicine reconciliation checks in wards at the end of each day may similarly show up missed or excess administration of medication. These projects typically require team skills to favour such organisational learning (Tomlinson, 2018).

The heart of TPS is teamwork: at all levels it encourages staff to share ideas and to work together in achievement of these common goals which exist everywhere in the continuous learning cycle: small teams create a mechanism which makes it easier to build trust among members, where, in larger teams, information management and relationship building become more difficult to manage. The improvement tool used by small teams is called kaizen (Marksberry, 2012).
6.3.6 Organisational Learning in practice

Surgical practice could learn from aviation skills, which require pilots to use pre-flight checklists as preventive safety measures: Chassin, (1998) questions the unwillingness of surgeons to use such valuable risk-prevention tools, which they ironically call ‘cookbook flying’. Pilots are no less prone to error than doctors or nurses, but they don’t question that pre-flight checklists are critical to prevent errors, which can be just as lethal to the individual as error discovered on an operating table (Chassin, 1998). Some surgical units accept the airline inspired hierarchy challenge tool (HALT), which proposes a series of prompts for any...
surgical team member and especially juniors to speak up and challenge the surgeon if they have a concern, something unheard of a few decades ago. In aviation and manufacturing, a safety culture emphasising safe practices and management commitment to safety ensures ongoing progress in error prevention. These organisms emphasise standardisation of safe practices and invest in safety training and research.

Bion & Heffner, (2004), claim that, although industrial experience provides valuable insight into potential solutions for clinical errors, the extent to which it applies to healthcare remains uncertain. These authors consider a more appropriate analogy than manufacturing to be one of the Armed Forces, which contend with the uncertainties of warfare and of collateral damage: indeed, the American armed forces have been using Six Sigma and Lean for more than two decades.

Clearly, progress in this domain requires the long-term focus of the continuous learning cycle to attack the complex issues of bringing surgical teams to work in this way; the questions involved are complex, far from those of simple capability improvement.

And, in the meanwhile, as seen above, the CQC has discovered that, at the NHS, risk is seen as being ‘part of the job’, and that staff are not expected to make errors because the ‘culture in which they work is one which considers itself as essentially safe’. They find that safety education is not a priority for leaders and that accountability for deciding acceptable risk is unclear and that NHS staff struggle to cope with safety guidance anyway. Staff lack the procedural discipline to stop using workarounds but cannot do so because clinical processes are not standardised. (Opening the Door to Change (CQC 12/2018)).

The cybernetic cycle bringing the process to improve or to evolve by staff adapting it to ongoing short-term and long-term change can be understood by the term learning in the context of this thesis. Decisions and actions taken by staff which improve what they do, and which bring processes to function better, are the fruit of learning from changes applied and formalised during successive improvements.

A 2010 journal article entitled, ‘Get a better Hospital 5 Days’ (Arthur & Inc, 2010) analyses the Institute of Medicine 1999 report, To Err is Human. Echoing the NHS Safety
Thermometer and the NHS classification of Never Events\textsuperscript{38}, this author categorises preventable adverse events in American hospitals which Medicare threatens to pay for no longer. Jay Arthur believes that hospitals can learn to reduce medical mistakes from the then level of 30,000 patients per million to the Six Sigma level of 3.4 PPM, and he presents several findings where applying such process science would validate his point. With complexity caused by comorbidities, readmissions to intensive care, undetected warning signs of cardiopulmonary arrest and the risk of premature discharge from intensive care, writers confirm the need to learn a \textit{systems approach} to error prevention, at a time when healthcare-worker fatigue from long hours of work impairs patient safety (The Lancet, 2019). The Continuous Learning Cycle shown above integrates such a systems approach to avoid and to prevent risk and upholds the fact that, \textit{hospital risk and learning are intimately connected and inversely correlated.}

In conclusion to this section, CQC assessments in the Appendix show a range of staff behaviours around hospital processes, some of which have ill-fated consequences for risk and all of which can be improved through organisational learning. As an outcome of this research, various combinations of information loops constructed around the cybernetic model proposed in Chapter 3 (p67), taken together with the Literature Review in Chapter 2, suggest five representative configurations of staff behaviour in controlling risk and resulting in learning around hospital processes: they are ranked in increasing order of effectiveness: -

1. inaction
2. workarounds
3. capability-cycle activity
4. risk-prevention-cycle activity

\textsuperscript{38} A 2009 study conducted in Connecticut reported that 41\% of all adverse events were linked to a patient death or injury associated with a fall. New Jersey statistics in 2007 showed that 77.6\% of patient falls occurred in the patient room, and a Six Sigma group describing this study proposed several countermeasures (Arthur, 2010):

- formalised falls-risk assessment for each patient;
- checklist of medications known to increase a patient’s risk of falling;
- pharmacy colour coding of medications known to increase fall risk;
- use of nursing whiteboards to identify high-risk patients;
- hourly rounds to high-risk patients, particularly for toilet needs;
- colour-coded clips on wheelchairs and stretchers when transporting high-risk patients;
- a pocket guide to fall prevention for nurses and physicians.
5. continuous learning-cycle activity

They are outlined in Table 8 below with summary, descriptive comments and detailed by type of behaviour in the subsequent paragraphs.

<table>
<thead>
<tr>
<th>Control behaviour</th>
<th>The model</th>
<th>Action</th>
<th>Procedural discipline</th>
<th>Risk</th>
<th>Learning</th>
<th>Comments</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inaction</td>
<td>None</td>
<td>Abandon</td>
<td>None</td>
<td>Unconstrained risk</td>
<td>No learning</td>
<td>Structurally deficient performance</td>
<td>Not solving problems increases probability of harm and waste.</td>
</tr>
<tr>
<td>Disregard of procedure</td>
<td>The Workaround</td>
<td>Process change</td>
<td>None</td>
<td>Extended risk</td>
<td>No learning</td>
<td>Short term satisfaction with knock-on hazard</td>
<td>Increases overall workload and corrupts procedural discipline.</td>
</tr>
<tr>
<td>Capability focus</td>
<td>Process capability cycle</td>
<td>Ensuring conformity</td>
<td>Respect and maintenance of procedure</td>
<td>Short term control</td>
<td>Some Learning</td>
<td>Real time monitoring of conformity</td>
<td>Detect, understand and act on process-output non-conformity error signals, rewrite procedure.</td>
</tr>
<tr>
<td>Continuous learning</td>
<td>Organisational learning cycle</td>
<td>Permanent practice of overall improvement</td>
<td>Procedure as the bedrock of all risk prevention and learning</td>
<td>Conformity and ongoing improvement</td>
<td>Deep learning</td>
<td>Outstanding performance</td>
<td>Respect, continually improve and update procedure.</td>
</tr>
</tbody>
</table>

Table 8 Ranking of Process-Control behaviours in hospitals

6.4 Leadership focus on process improvement

As found above, not respecting procedure is, according to the CQC, the major vector of inadequate performance followed by poor feedback of error data and failure to act upon it. This should lead inadequate hospitals to focus on actively managing procedures and error feedback if they are to improve. To achieve this, TPS confirms the unavoidable requirement for all staff to read, to update and to obey procedure on the one hand and to carefully observe and to report error on the other. Doing nothing or employing workarounds in the case of dysfunction should not be an option: workarounds do not permit learning and create problems elsewhere (p154).

Certain outstanding NHS Trust Quality Accounts describe Get It Right First Time (GIRFT) methodology\(^{39}\) to reduce unwarranted variation in clinical practice, which improves

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\(^{39}\) GIRFT has led to a number of improvements in NHSD hospitals:
- A Critical Care & Surgery Therapy Team positions a therapy communication board behind patients’ beds in Critical Care to document therapy input;
clinical quality outcomes for patients (evoking Six Sigma) and eliminates unnecessary procedures (evoking Lean). This, along with the use of simple, unambiguous yes-or-no signals to show whether output is defect free (evoking *poka yoke - p271*) is based on a philosophy of a process condition where error is *impossible* to commit or made very obvious. But *inadequate* hospitals do not exhibit the capacity to work this way.

Furthermore, physicians are looked up to in hospitals, but their general lack of concern with hospital process outside their own strictly clinical area, and their tendency to gravitate to peer groups at some distance from the day-to-day preoccupations of hospital management in the clinic is possibly conducive to ongoing dysfunction (Lindsay et al., 2020; Van Kooy & Pexton, 2018). This challenge appears ultimately to lie at the door of hospital leadership: hospital staff cannot discover for themselves the reasons for and the gravity of these problems; it is within the overall perspective of leadership where such difficulties are surfaced.

Also, for leadership to succeed, it needs to be seen to immerse itself in the processes of risk prevention and of learning in the clinic and to actively engage with the longitudinal patient-facing journey. This requires leadership of *inadequately* performing establishments to prioritise personal concern with process over concern with finance or administration. Clearly many exceptional trust leaders do this, but unfortunately, some don’t, and the result can lead to an *inadequate* CQC rating.

TPS suggests leadership participation and involvement. Leadership’s role is to envision, to integrate and to unify: only leaders can promote cooperation and collaboration.

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- There is availability of sepsis-care bundles on dedicated sepsis trolleys at all times, leading, for example, to orthopaedic improvement by reducing surgical-site infection rates for hip and knee replacements; information may be included with or above the trolleys, providing guidance for staff about emergency procedures and actions to take;
- Tamper-evident emergency trolleys with resuscitation equipment are made available on wards; staff make daily and weekly checks to ensure they are ready for use in an emergency;
- Surgical-team safety standards for invasive-procedure work streams include ‘stop-check’ time-outs for the team to pause and to refocus on process and laterality;
- Patient-safety training spotlights the role of hierarchical behaviours when calling surgical time-outs to avoid embarrassing team members and juniors, and leading them to speak up if they spot something wrong; in this way, *outstanding* Trusts support staff to feel confident to raise concerns about unsafe clinical practice and enforce the desire to learn from incidents;
- All ward staff are trained in the application of the ‘NHS Safety Thermometer’ to fight against bedsores, falls, VTE and urinary infections.
Management systems are designed to bring stability to the organisation, but leadership rather has the role of articulating the vision, giving it legitimacy, and inspiring all staff to follow. While the function of management is to create stability by anticipating change, the function of leadership is rather to create change: leadership is disruptive to the management process because leadership challenges the organisation to change. Thus, leadership must not be restricted by structures that already exist in the organisation: its role is to define the future image of the organisation. It must foster a concrete vision that is compelling, inspiring, imaginative, and even exhilarating, but when the vision is weak, staff can misinterpret it. Also, if employees are not developed, the organisation cannot expect to develop either. Leaders should show concern for staff welfare and work to build their self-esteem (Marksberry, 2012).

And do hospital leaders grasp the concepts of processes, procedures, and feedback? Do they realise what broken processes are? Do they know how to go about repairing them? Do leaders frequently walk about the clinic? Do they continually question staff and patients? For those who do not understand, they should immerse themselves in the patient-facing processes of their hospitals to learn what makes up the daily dose of risks in the clinic and bring staff to systematically address process problems.

6.5 How can hospitals proceed?

Leaders should discover that focussed process-improvement workshops of motivated staff are the most efficient and effective tool at their disposal to obtain change in risk and learning performance and that crucially, such workshops are within their own power to foster? But how should leadership of an inadequate hospital start? One answer is to begin by reading the trail of historical, published CQC assessments of the hospital which, since 2009, form a useful evolving performance diagnostic. Another is to initially engage the organisation in an overall internal process diagnostic to subsequently champion improvement teams concentrating on risk control and on organisational learning using, according to this research, TPS respect for procedure and cybernetic theory.
As the theme of this thesis is to propose that the road to outstanding risk and learning performance is to respect and update procedure, to provide process feedback and to take corrective action to improve, then, comparing specific performance areas with outstanding CQC assessments constitutes a valuable pointer to identify where problems and opportunities may lie.

A benchmarking approach, such as Table 9 below, shows where behavioural improvement opportunity lies under the TPS/cybernetic titles of respecting SOP, providing feedback, and acting to improve. The CQC provides innumerable examples of what outstanding performance means with concrete examples throughout their assessments. Leadership of inadequate hospitals needs to look no further than at a detailed comparison of own performance with published assessments of outstanding hospitals to find where opportunity lies. A process-management comparative analysis between a hospital and publicly available CQC assessments of outstanding best-practices identifies many critical areas and surfaces improvement ideas.

From this point, ongoing process improvement implies periodically performing operating audits and diagnostics and using the numerous techniques and options available to leadership for assigning coached improvement teams to evacuate process problems. Applying process-improvement science\(^{40}\) also combats workplace distress by resolving dysfunction which delays and complicates work and irritates clinicians, so choking learning and creating a higher risk environment.

Spear & Bowen, (1999) found that the Socratic style of TPS tends to de-stress work. TPS tools adapt workload and increase empowerment to promote a better work mode and, by eliminating waste, brings staff to feel less exhausted (Laanti, 2013). Furthermore, Lean 5S introduces order and cleanliness by removing clutter, brightening the environment, providing physical comfort, and limiting noise, all to bring hospital spaces to be more

\(^{40}\) GIRFT, VMPS, Lean Six-Sigma.
pleasant both for staff and for patients. The resulting workspace becomes ordered, calm, less risky and properly conducive to care.

This said, research shows that leadership and governance are charged by CQC commissioners to personally shoulder three roles which set these priorities squarely on their shoulders because only leaders are in a position to obtain improvement. These priorities are, from the research findings in Chapter 4:-

- to ensure sufficient resources, and this at a time of serious staffing crises as clinicians leave the NHS;
- to develop staff skills, at a time when technology is changing the profile of skills sets in clinics and when training becomes a critical need;
- to ensure process quality, at a time when physician gaming is stymieing efficiency improvement in too many NHS hospitals.

Furthermore, all of these requirements have substantial consequences for risk prevention and organisational learning.

### 6.6 Contribution to knowledge

It appears presumptuous to believe that such a vast, multifaceted organisation of 1.3 million staff and of more than 200 trusts, as the NHS, could learn from this work, so the idea of ‘contribution to knowledge’ may be extravagant. However, this work over the past four years may bring ideas on how some hospitals might work otherwise.

The theme is respect of procedure⁴¹, as the currently recorded right way to do things. Analysis of data in this thesis shows non-respect of procedure to be the most commonly mentioned CQC criticism of performance in inadequately assessed hospitals.

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⁴¹ ‘Procedure’ in this thesis is TPS Standard Operating Procedure (SOP), which is continually updated, written, diagrammatic and visual instruction defining how all staff must manage a defined process to ensure minimum risk, and maximum efficiency, effectiveness, and safety. Staff are permanently instructed to apply it in every case as the best way to run the process and to improve and to update it as and when necessary. Since, 2009, the authoritative CQC provides detailed, publicly available assessments of socio-technical systems performance in all English acute hospitals, which forms the secondary data which was researched.
In order to understand this, TPS-type focus on procedural discipline, supported by cybernetic negative-feedback process-control theory which respects updated procedure, has the potential over the short-to-medium term to improve learning around hospital processes and to eradicate the risk of chaos.

Box-and-arrow diagrams based TPS respect for procedure, on cybernetics, and on socio-technical process rationale, explain in this thesis how by not respecting procedure, the destructive nature of NHS workarounds (Edmondson, 2004) continues to plague NHS processes with entropy and waste.

This research shows how TPS respect for procedure could bring leadership to protect and to sustain process-quality improvement initiatives42 in the hospital as a never-ending mission of organisational learning, especially by bringing the wider team of clinicians and management to work shoulder to shoulder to improve the patient journey and to prevent risk. But it carries a message also for hospital CEOs to get involved, creating, and providing staff teams with the support, resources, and engagement to sustainably improve the patient journey.

42 such as VMPS and GIRFT
## Comparative Analysis of CQC assessed *inadequate* and outstanding learning and risk cycles

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Narrative</th>
<th>Inadequate hospitals</th>
<th>Outstanding hospitals</th>
</tr>
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<tbody>
<tr>
<td>Respecting procedure (SOP)</td>
<td>Procedure (SOP) represents the best known updated way to conduct a process: a permanent instruction exists to always apply it precisely as written, but procedure is in a form which can be updated and is visible at the work position where the process is executed.</td>
<td>There was no review procedure of clinical guidelines, which were not up to date (CQC assessments). No confirmation was possible of an audit trail because a seal broken on a trolley and a tag label were not numbered (CQC assessments).</td>
<td>Effective procedures really are applied to every kind of process, respecting governance structures of accountability, patient safety, clinical effectiveness, performance-management and reporting, record keeping; change management and many other processes.</td>
</tr>
<tr>
<td>Providing Feedback on dysfunction</td>
<td>Information on process output conformity with output specification surfaces an error signal in the case of non-conformity, whose profile and frequency indicate risk.</td>
<td>Staff did not always report safety incidents and did not always learn lessons from them. (CQC assessments) The governance network was not mature enough to be fully effective in identifying and mitigating risks or in providing assurance that actions were consistently resulting in improvements to the safety and quality of patient care. (CQC assessments) Staff had no system in place to know whether facilities had been cleaned. (CQC assessments)</td>
<td>Staff collected safety information and used it to improve the service. (CQC assessments) The trust managed safety incidents well and learned lessons from them. (CQC assessments) The service used monitoring results well to improve safety. (CQC assessments) Services managed patient safety incidents well: staff recognised incidents and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team and with the wider service (CQC assessments)</td>
</tr>
<tr>
<td>Taking corrective Action</td>
<td>Following analysis of the non-conforming error signal and identification/design of a solution or of prevention, action is taken to update procedure and to train in the new procedure.</td>
<td>Services monitored the effectiveness of care and treatment but did not consistently use the findings to improve patient outcomes. (CQC assessments) The service used monitoring results, but it was not clear how this was used to improve safety. (CQC assessments) The Trust did not ensure that proper rooms were allocated for use with psychiatric patients to meet requirements to keep patients safe; (CQC assessments) The CQC was not assured that one of the services was always meeting the requirements to provide safe care in all areas. (CQC assessments) The systems and processes for identifying, reviewing and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation. The Trust did not have effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. (CQC assessments)</td>
<td>Staff in outstanding hospitals recognise waiting rooms as busy and overwhelming for some patients, especially for those with mental health conditions or with autism, and may search for quieter rooms if available. The service prescribed, gave, recorded and stored medicines well, patients getting the right medication at the right dose at the right time. (CQC assessments) Staff generally followed systems and processes when safely prescribing, administering, recording and storing medicines. (CQC assessments) Patients had individual risk assessments which were comprehensive, reviewed regularly and shared between any teams working with the same patient. (CQC assessments) The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. (CQC assessments) Equipment had been maintained and serviced appropriately, maintenance records were seen. (CQC assessments)</td>
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CHAPTER 7 CONCLUSION

This research was launched to attempt to answer the research question: -

*RQ How can NHS hospitals manage processes to reduce risk and to improve learning?*

This conclusion chapter summarises key points of this research.

Leadership has a duty to bring all to work together to respect procedure in the way that certain outstanding hospitals do. However, leaders do not always understand processes or process improvement nor the way in which systems management leads to outstanding performance in the fields of risk and learning: there appears indeed at times an inability to grasp the role feedback in processes, and even senior detachment from systems improvement.

Engaging TPS respect for procedure and cybernetic control theory, this thesis presents a model to understand the importance of respecting procedure and shows how risk prevention and learning are parts of the same continuous learning cycle. TPS respect for procedure protects clinical staff from struggling by simplifying work, because as processes become more chaotic, the outcome is burnout and staff departures. This problem merits at least as much CEO attention as meeting operational targets. But getting change is difficult facing a cohort of physicians in denial, who affirm that what they do is essentially safe and who even game the issues to avoid reform: such behaviour implicitly challenges the conclusions of the Berwick report, which requires training of staff in quality, in safety sciences and in risk prevention. Also, the trite complexity argument challenging change needs to be itself challenged, because process sciences have the tools to deal with it.

Getting physicians and management to work together can unlock a vast potential to stop dysfunction and chaos in hospitals.

The idea of quality, which is, according to the CQC, currently ambiguous and contested needs to be properly defined, and the fear of blame needs to be addressed
without destroying accountability, all by CEOs who ought to remain in place long enough to face the consequences of their management.

This research shows that the major destructive behaviour is staff disrespect of procedures, which are usually the collectively learned best methods of managing hospital processes and of preventing risk, by continually obeying, developing, and sharing knowledge of how to work effectively. In researching secondary CQC data, this major CQC criticism, levelled at both inadequately and outstandingly assessed hospitals, appears as staff not respecting, applying, maintaining, or updating procedure in the way that the widely applied TPS model urges since the 1950s. Indeed, TPS behaviour around SOPs is the tried and tested way in which risk of process error is cybernetically managed and in which staff learn collectively how to work.

However, lack of process understanding among hospital staff appears to frustrate such practice and emphasises a crucial need for collective learning to improve NHS processes. On the other hand, learning to maintain, to respect, to correctly apply and to share procedure as best practice appears, according to CQC assessments, as one of the defining properties of certain outstanding hospitals.

Hospitals are expected to internalise thousands of pages of procedures in the form of NHS pathways, guidelines, policies, and protocols which are required to be instituted and to be respected for good reasons, but it appears that especially inadequate hospitals do not always find the time, energy or willingness to apply them, where many outstanding hospitals appear to find ways, often enriching guidance with locally adapted procedure. In these hospitals, procedures are not documents filed away, but rather fully read, updated, visible, clearly useful, understandable, visually presented records and reports, often exhibited at the point of work. They are an ‘active’ tool to guide staff to ‘get it right’ every time. In this way, procedures ensure progress by exhibiting continually updated, tried, and tested knowledge, often in a visual medium, at the right place to prevent risk and to learn.

One disturbing outcome of disregard of, or of non-existent, procedure is the NHS workaround, which is broad disrespect of standard procedure. As this thesis shows,
workarounds thwart learning; they do not resolve risk, and ultimately, they create further problems (Edmondson, 2004). It should be routine to run processes everywhere in the clinic according to a taught standard method, and this is, (by definition under TPS), the locally available, updated SOP itself. Workarounds occur in part because of poor training and in part because procedures are not standardised or inexistent: whatever the reason, they occur in the NHS despite the damage they do. The problem of workarounds is all the more serious that a commonly cited excuse is that healthcare systems are complex, where credible reasons might identify other causes, such as inability to change, time pressure, chaos, or disinterest to solve recurrent underlying problems. Leadership and first-line supervision have key responsibility to bring staff to learn how to apply and to develop procedure through continuous reflection on the way hospital processes should be run. There should be no misunderstanding that, in a hospital, applying procedure is thought to be optional, as only someone else’s opinion on how to do things: a hospital should not be a place for doing routine things ‘my way’. Disrespect of procedure can be harmful, and no amount of explanation can warrant it.

If certain outstanding hospitals do in fact respect and apply SOPs, it is because they have worked to learn as an organisation how to do it, with the full backing of leadership and over time. They have given due weight to procedure; they have given space to staff to learn; and they have understood how to approach and how to correctly adapt procedures to local conditions. Also, they have fully coded procedures into their daily work. An fine example of how to achieve this appears, in Renshaw et al., (2020) (p53)43 on how to reduce falls.

43 However, Mark Renshaw takes a view on how hospitals become outstanding. “The CQC-insight composite measures are an interesting list and not necessarily the most obvious safety and quality measures: there are 12 indicators that, when combined, have the strongest correlation with the overall rating reported for each acute trust” (Renshaw Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust personal communication 10/2022). “They are:

- Patients spending less than 4 hours in major A&E
- Advice at the start of labour
- Ambulances remaining at hospital for more than 60 minutes
- Cancelled operations as a percentage of elective activity
- Communication between senior management and staff
- Confidence and trust in the doctors
- Fairness and effectiveness of reporting
- Flu vaccination uptake
- In-hospital mortality: infectious diseases
Furthermore, it appears that some leaders in certain hospitals do not grasp what process improvement means, nor that they fully understand what process is, nor how to use teams and workshops to obtain improvement. They may even have rather more interest in financial issues than in operational ones. Without such operations understanding, CEOs cannot come to grips with questions of risk avoidance or of learning in the clinic: without understanding the links between risk and learning on the one hand, and process and procedure on the other, it is unlikely that such leaders can recognise and support operational priorities in the clinic, which may indeed require the resources and authority that only a CEO can provide. Conversely, in the spirit of Florence Nightingale, there are numerous cases in the NHS where senior nurses show the process knowledge, human skills and experience required to effectively lead change in hospital processes.

CQC data itself clearly shows that disregard of preventive procedure in inadequately assessed hospitals is the primary driver of dysfunction, and that not appropriately identifying, recording, and reacting to incidents ultimately blocks staff learning and risk avoidance around processes. Using the abundant literature and analysis of CQC data, this thesis has searched to show how carefully learning to record, to update and to apply the learning and risk-prevention outcomes of cybernetic process management as procedure in hospitals, especially in hospitals which are assessed as inadequate by the CQC, can offer a path to improved performance.

And, essential to understanding process management is cybernetics, the science which describes how systems function on the basis of feedback on, and of control of, variation to attain optimal output goals. However, for cybernetic control to function, there is a requirement to learn to operate processes always in a standard, optimal way, every time, otherwise the risk of variation cannot be identified, and current procedure cannot be improved.

- Patient led assessment of privacy, dignity and well-being
- Treatment with respect and dignity."
Cybernetics thus provides a model to prevent risk, to facilitate learning, and against which to assess the impact of staff behaviour on hospital-process performance. And, in applying TPS respect for procedure, the literature suggests that cybernetic theory itself lies behind the role of procedure in the process-control cycle to prevent risk and to foster collective learning. In fact, cybernetic reasoning can be argued to lie behind many of the various dynamic risk-avoidance concepts used in healthcare, such as double-loop learning, Safety II, FMEA, PHA and SWIFT.

Broken processes stress staff and wear them down by the continual risk of confronting mistakes and complications (Edmondson, 2004). Burnout results from this and leads to clinical staff departures from hospitals. The Francis (2013) report identified a pernicious focus on meeting ‘business’ targets at the Mid Staffordshire trust, rather than on managing staff and the patient journey. Even so, and despite Francis’s recommendations, the Mid Staffordshire trust found it difficult to grasp what needed to be done anyway. Conversely, many outstanding trusts practise successful versions of the TPS model such as VMPS and as GIRFT (p271) which, for more than a decade, have helped to obtain real change around risk and learning in English hospitals.

In industry, people come to work to earn a living and not to get hurt. In industry, safety is made everyone’s business. Processes and procedures are continually developed and updated, frequently with safety as the overriding goal. It is thus disturbing to read the CQC discovering that NHS staff consider what they do as “essentially safe” (Opening the Door to Change (CQC 12/2018)), roundly contradicting the observation that “hospitals are now widely considered to be dangerous places” (Kenney & Berwick, 2010). Furthermore, the Francis report demands accountability for safety to extend throughout the organisation, even to the CEO and to the board, where, according to the CQC, demand for a blameless culture among clinical staff is growing. However, the CQC finds there is “no common understanding about what is meant by patient safety”, and NHS hospitals do not believe they have a safety problem anyway, because ‘risk is just part of the job’ (Opening the Door to Change (CQC 2018)).
The tendency in industry to promote lifelong learning for staff, notably in risk prevention, suggests a goal for the NHS. It could include formal, ongoing professional learning to satisfy the recommendations of the Berwick (2013) report and to provide a practical solution to ongoing training in risk avoidance, organisational learning, in quality and in safety sciences. It could make a point of including senior management. As in industry, learning safety could be made lifelong and applicable to all in hospitals.

But Dixon-Woods, (2019) doubts the ability of the NHS as an organisation to achieve this because of lack of management support, of missing skills, of the need for significant resources to succeed, and of gaming by senior staff. Renshaw adds that “training is very thin on the ground and that lots of initiatives have come and gone, barely leaving a footprint” (Mark Renshaw Head of Quality Improvement, University Hospitals Sussex NHS Foundation Trust: personal communication 2022).

This thesis shows that risk prevention is both essential and integral to the learning cycle and that, without it, the activity of learning itself disappears as an outcome of the control of processes. At all events, with risk as a property of process, and with learning as a property of cyclic process control, risk prevention enforces learning and learning prevents risk, and this thesis contends that the intimate, cyclical relation between these two factors significantly narrows analytical distinction between risk prevention and learning.

Crucially, the major cause of risk is found in this research to arise from nonadherence to procedures, although Liker, (2004) reminds us that there is a need to find a balance between rigid procedures and the freedom to innovate which lies in how standards are written and who writes them: nonetheless, this thesis emphasises the need for standard procedures to be maintained and respected to protect patients from risk. Furthermore, working at all times to correctly communicate, apply and manage procedure is the path to excellence: even when hospital processes become complex and chaotic, respect of updated procedure lights the way back to calm and to risk-free patient care.

Conversely, as Dixon-Woods, (2019) claims, “the NHS admires problems without solving them”. She posits that there is little learning from safety incidents and that there is an
inability to grasp the causes of error. Renshaw et al., (2008) deny that data analysis at the NHS effectively shows what goes on: there appears a need for the NHS to ramp up its analytical and communication processes to effectively provide learning from reported incidents to all hospitals. However, as medical professionals do not know how to improve process quality using structured methods, and as NHS best practice is not always effectively diffused or applied, such learning does not appear as a priority.

Applying respect for procedure is a way of controlling risk and of improving learning; also, TPS change methodology simplifies work and protects staff from struggling with process problems. It appears strange then to find that TPS-Lean tools, which were developed also to reduce chaos and stress, meet with such resistance and misunderstanding, and this is so even in solving 80% of process problems Jay Arthur, (2011) claims to be uncomplicated questions, which can be easily resolved with standard work. The complexity argument (Weick & Sutcliffe, 2003; Woodward, 2019), so often claimed by clinicians to oppose change, must be deconstructed in the perspective of Jay Arthur’s finding.

It also becomes clear that, without the personal commitment of the CEO to overcome his or her unease to put up the resources, improvement cannot occur. Training, development and clinical supervision of staff who know and operate patient-facing processes must be the responsibility of senior staff under TPS.

In many trusts, leadership must also find a way to unlock the vast potential of getting physicians and management to work together on process improvement. Their standoff, along with workplace stress, are damaging influences on hospital capability. Physicians are at the cutting-edge of what hospitals do, and there is little doubt their craft requires considerable knowledge and care, but their purported cabalistic behaviour in opposing process improvement appears outside their purview; they must use their power carefully because staff look up to them. Hospital management have a vital job to do also, but they can’t do it in the face of antagonistic behaviour by senior doctors. The hospital patient is between the doctor’s hands generally for a small part of the patient journey in the clinic; but
the broken, risky processes from which the hospital patient suffers most during his or her longitudinal journey, such as waiting in corridors, noisy overcrowding, and bed unavailability are often rather more management challenges. When managers strive to improve the patient journey and to reduce stress among staff, it appears unusual that a board should tolerate obstructive behaviour by senior physicians (Lindsay et al., 2020). Sarah Patterson’s comment that:

   success depends not on the actions of a charismatic, heroic individual, but on the system (Arthur, 2011)

seems totally appropriate, and indeed, in the United States, obstructive, cabalistic behaviour among senior physicians, who are also endlessly challenged by KPI, efficiency, and effectiveness requirements, appears to be relatively unknown. Better systems are everyone’s responsibility.

However, most outstanding NHS trusts do structure themselves to improve quality and to contain risk, their leadership providing the vision, drive, resources, methodology, infrastructure, and vitally, a wide team-wide spirit and enthusiasm around change, to succeed.

And we learn that health chiefs resist detection by commissioners to avoid risk of ‘local difficulties’ for the trust; this appears as gaming too, and it can put the CQC in a difficult position. And if the CQC cannot detect and report risks to care because the idea of quality is rendered ‘ambiguous and contested’, then who can? The creation of the CQC in 2009 provided English healthcare with a formidable tool to encourage change in hospitals, however, enforcement of its powers appears blocked by incertitude and by CQC fear of the “consequences of adverse outcomes”. Is there not a question then of investing power in an organism which may be afraid to use it?

Staff did not report incidents at the Mid Staffordshire NHS trust because they risked blame. Now hospitals bend over backwards to create a ‘just’ culture to avoid staff fearing blame. But where does that leave Francis’s, (2013) accountability? Can hospital staff be justified in not reporting incidents and in not acting on them because they fear blame? In
doing so they cannot learn. Does the shift from a blame culture to a just culture not completely remove accountability and the obligation to report? Is this an improvement to the patient journey? Indeed, does it reduce the risk which faces patients under medical treatment? Possibly Amy Edmondson’s (2004) and Mark Renshaw’s (2020) insights into the obstacles faced by nursing staff clarify this context:

The incidence of process failure was close to one per nurse per hour, making these dedicated caregivers day a constant navigation through small (and sometimes large) obstacles to simply get the job done .... The stunning frequency of work process problems in hospitals, however, made the inability of nurses to track each of these many problems down to its root causes, unsurprising (Edmondson, 2004).

After serious patient injury, staff reported feeling guilty, blamed, ashamed, and angry both with themselves and with each other. They often found it hard to talk about such feelings, both because of fear and of being blamed themselves, or of upsetting others by calling their professional judgement and practice into question. (Renshaw et al., 2020)

And are healthcare problems really intractable because “unique”, as Anderson and Røvik claim? It does appear that the first step to change in the NHS is for all staff to update and to fully respect all procedures so that all can learn while improving systems to reduce risk. Unchallenged, careless behaviour feeds broken processes and increases risk: such circularity, which leads to workarounds, and which fails to provide learning, ought to be addressed. Additionally, the concerns expressed that standardisation may override clinicians’ ability to use professional judgement need to be weighed against the tendency of doctors to ‘game’ change initiatives (Lindsay et al., 2020).

Furthermore, the hackneyed phrase that doctors don’t make cars is wearing thin. Healthcare staff should finally accept that change has nothing to do with making cars, and everything to do with clinical staff burnout and with the patient journey.

In industry, where TPS has been successfully developed over 70 years, the ongoing nature of learning is secured by social and management pressure in a way which survives even the coming and going of leaders. Unfortunately, however, the turnover of trust chief
executives and uncertain attitudes to change do not appear to provide for the sustainability of such initiatives within the NHS.

At all events, all processes, whether clinical or not, are amenable to risk reduction in one way or another. Remarkable problem-solving tools exist to crack the most complex process problems: change depends only on the willingness, knowledge, resources, enthusiasm, teamwork and learning to achieve it. Finding solutions to process risk requires good analysis of good data correctly reported and studied followed by learning, competent improvement, and ongoing control.

7.1 Limitations of the study

In the complex environment of hospitals, the definition of risk must be considered open to mainstream categories and contexts not treated in this thesis.

Risk is defined in this thesis as:

- a perceived threat of damage or uncertainty involving hazard, injury, loss, or any unfavourable event involving patients, staff, equipment, hospital resources and facilities, which results from a behavioural, technological, or other dysfunction in a process: it is evaluated by probability of occurrence and magnitude of impact of negative or undesirable consequences and may be avoided through preventive action.

This a hybrid definition is taken by the researcher from a number of sources to focus on risk in hospital processes. It has the characteristic of concentrating on sociotechnical systems in the clinic. However, work is done in other areas around risk in healthcare sociotechnical systems: for example, Dimitra Petrakaki et al., (2014), focus on the effect of technology on risk and blame in the case of the English Electronic Prescription Service (EPS): this work, presenting EPS as a technological process, shows how technology itself can introduce unanticipated risks with behavioural consequences for power, responsibility, and blame among professional actors. The authors suggest that risk is embodied in the technology, for example at the interface with actors, as well as in behavioural interactions involving human error and incorrect information. This work shows that technology affords
opportunities and constraints of interpretation, transformation, and translation. According to Mary Douglas, (2002) an inherent politics of risk is implicit in notions of responsibility and blame across social boundaries, and technology presents opportunities in practice for risk across such technological interfaces. In this way, various stakeholders construe different risks across technology, giving rise to a power politics of blame-sharing, blame-gaming, and blame-shifting.

This is illuminating research which brings light to bear upon the behaviour of actors operating information technology and which parallels the process principles described in this thesis: it shows how technology itself can lodge significant occasions of risk. It is an example of risk dynamics outside the cyclical, cybernetic-process reasoning of this thesis, and enriches behavioural understanding of agents at the interface of healthcare processes. Also, it provides opportunity for ongoing research.

Furthermore, risk in a healthcare setting might occur outside clinical areas such as resources management, financial or otherwise, bed occupancy, staffing, supplies, canteen, and maintenance services, and so on, which are not researched here outside the essentially clinical and medical process context of this thesis, but which impact the patient journey, nonetheless.

There is significant potential in researching these parallel occasions of risk, none of which has been researched in this thesis.

Also, no detailed enquiry is made into roles of close supervision and of coaching in organisational learning; it was not found to be within the boundaries of this thesis to investigate the content and activity of teaching process science to medical professionals, which is nonetheless so crucial.

7.2 Directions for future research

This thesis upholds the cyclical nature of learning through continuous improvement furthered by cybernetic management of process and by the upkeep of procedure: in this respect, learning focuses on how clinicians develop their understanding of process...
performance and quality improvement in their daily activities, giving ample opportunity to research this using the virtues of Participatory Action Research.

Indeed, at the outset of this research in 2018, there was a wish to apply Participatory Action Research (PAR) in hospitals to evaluate the practice of, and opportunities for, the techniques of process improvement. This was rendered impossible by the restrictions imposed by the Covid crisis, and two years later, attention was transferred to findings specifically related to risk and learning in hospitals as mentioned in the Berwick (2013) report.

The outcome was to use the TPS model and to apply cybernetic theory to research these questions supported by content analysis of secondary data provided by the CQC, which reveals the crucial problem of disregard of procedure in NHS hospitals.

Potential exists to return to hospitals to explore process theory by researching the innumerable process examples which exist in NHS healthcare as ‘Work As Done’, which may miss out on the healthy management of procedure. Such research would be invaluable in NHS hospitals assessed as inadequate by the CQC, where there appears to be little process understanding of risk and learning or sensitivity to the benefits of greater efficiency and effectiveness.

But there have been so many failures, so because of its participatory, teamwork ‘hands-on’ nature, Participatory Action Research (PAR) may help to loosen the stranglehold which senior physicians appear to have over the practice of process improvement. There is a scenario where teams constituted of nurses, young physicians and practitioner-academics could smoothly identify and evacuate the chaos which the literature identifies. It is to be hoped and to be expected that many younger physicians have by now in their studies come across the topic of clinical-process improvement in hospitals: Participatory Action Research (PAR) could be the thin end of the wedge by which to introduce techniques of TPS and/or its in-house versions, such as GIRFT, into the hospitals which most need it throughout the English NHS. And the Participatory Action Research (PAR) approach with local team workers may be appear non-threatening.
Also, it appears that, in the power hierarchy of the clinic, where senior physicians seem to come first, the position of patients could be usefully deconstructed. Beyond the purported dedication of nursing staff, research into the patient journey and into the patient experience may provide opportunity for PAR in hospitals to address the politics of harassed physicians. However, this cannot work without committed, stable CEO leadership and a first-class practitioner-support programme.

Additionally, Marksberry, (2012) insists that TPS is more focused on stabilising and on standardising operations *before improving them*. When energy is added to increase the amount of order in a system, this is negative entropy, which is, he claims, in many ways equivalent to employee and organisational learning. In effect, Marksberry holds organisation of a system to be the opposite of entropy, and when staff connect with TPS, they become a conduit of negative entropy for improving the workplace. These ideas of stabilisation before standardisation and of defining the idea of negentropy as learning appear original and to merit further research.
This chapter contains the detailed CQC assessment dataset, presents the grounded coding resulting from NVIVO and Gioia analysis, groups various documents and a glossary as noted in the index.

**CQC assessments as secondary data**

The following assessments were made by the CQC of 38 hospitals in the North West, South East, South West and West Midlands of England. The total sample comprised 54,220 staff as at 5/2/2020.

20 of the hospitals were in trusts assessed as *Inadequate* and 18 in trusts assessed as *outstanding*. All the assessments recorded below are transcribed directly from CQC documents in the language of the commissioners with no order other than grouping under risk and learning in *inadequate* and *outstanding* hospitals.

**CQC assessments concerning risk in *Inadequate* hospitals**

The systems and processes for identifying, reviewing, and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation. In many cases incidents including serious incidents were not reviewed or investigated in a timely manner, and there was no effective senior level oversight of incidents. The trust was an outlier for Never Events and staff had not been provided with the correct list of incidents that should be categorised as a never event or had not acted on them accordingly. Surgery services were not meeting the incomplete pathway referral to treatment times for all of the surgical specialties. Patients requiring emergency surgery were sometimes delayed unnecessarily. Systems and processes for ensuring patients were risk assessed prior to surgery were not operating effectively. There was no assurance when changes to theatre lists were made that patients were being allocated to the most suitable theatre or team. Safety briefings were not always undertaken prior to the start of a case/theatre list. Systems and processes did not ensure compliance with the World Health Organisation (WHO) Five Steps to Safer Surgery checklist. WHO surgical safety checklists were not always fully completed or audited. There were not effective systems and processes to ensure that equipment was of good repair, had been serviced, maintained, tested or calibrated across the whole organisation. Safety checks on equipment were not carried out by planned dates. Systems and processes in maternity to identify and manage deteriorating women did not
operate effectively. Use of the Modified Early Obstetric Warning System (MEOWS) was inconsistent and ineffective. Systems and processes to manage the care of women identified as needing or potentially needing high dependency (level two critical care) care did not operate effectively. There were insufficient midwives with the relevant training, skills, experience or competency to care for high dependency women, and there was a lack of guidance for staff. The second obstetric operating theatre (used at times when the main obstetric operating theatre was in use, and occasionally for emergencies) did not meet minimum standards required of an operating theatre. It had not been fully risk assessed so as to put the necessary controls in place to protect mothers and babies from the risk of harm. There were no formal arrangements to ensure there were suitable numbers of staff available to provide cover for a second obstetric operating theatre. There were no systems and processes to ensure lone working community midwives were able to respond to emergency situations. The request for additional session form, to risk assess patients prior to surgery, did not provide a clear auditable trail of the decisions made and confirmation the theatre, staffing and equipment were appropriate. The training provided to community midwives had not been adapted to reflect the complexities of working in a community setting. There were not always sufficient numbers of staff with the skills, knowledge and experience to meet patients’ needs. There were no formal or long-term systems and processes to ensure there were sufficient numbers of registered nurses (Child Branch) deployed to meet the needs of children and young people in the emergency department at all times. There was a risk that staff could not summon emergency help from theatre one (main maternity theatre) as there was no emergency call bell, or process to ensure staff were not alone with a patient at any time. Systems and processes to ensure equipment was of good repair, serviced, maintained, tested or calibrated across the whole organisation were not operating effectively. Our previous inspection found there were not effective systems and processes to ensure equipment was of good repair, had been serviced, maintained, tested or calibrated across the whole organisation. The trust did not have an accurate medical equipment asset register. There was a lack of knowledge of where equipment was, which impacted on the trust’s ability to provide accurate assurance reports regarding equipment servicing. Our previous inspection identified safety checks on equipment were not carried out by planned dates, in particular anaesthetic machines and anaesthetic syringe pumps. Assets which were maintained by clinical technology, or manufacturer maintained, had dates of the last planned preventive maintenance and date of due planned preventive maintenance recorded, with those which were overdue flagged. We raised concerns about the systems and processes for ensuring patients were risk assessed prior to surgery. The theatre scheduling policy included risk assessment, criteria on allocation of theatre lists, management of emergency situations, authorisation process, last minute changes and alterations to the
operating theatre lists’ schedule. The key objectives were to ensure information was as visible as possible and theatre teams took ownership to ensure the right specialty was in the right place. theatre pro-forma to ensure appropriate theatre allocations. We saw an example of the completed session form (theatre pro forma): this included the speciality, primary surgeon, planned procedure, patient acuity, surgical class, and known comorbidities. Best practice was not always being followed as not all staff were in attendance at the safety briefing. Staff told us not all of the theatre team attended all briefings as one member of the team would often be collecting the patient. In response to our warning notice, the trust took immediate action to secure a comprehensive external risk assessment. This highlighted concerns with regard to: the air change rate of 18 changes per hour, which was less than stipulated for a theatre environment at 25 changes per hour; infection control as theatre instruments were being carried across a corridor due to the lack of a preparation room; the environment as there was peeling paint and inappropriate ceiling tiles, and the proximity of the sink to the surgical field was insufficient to prevent the spread of infection; the lack of a surgeon’s control panel and a full specification theatre light, with back up in case of a power cut; the room was 21 square metres, but to meet theatre standards, it should be a minimum of 50 square metres. We remained concerned about the lack of a safe preparation space in theatre two, and the potential for the spread of infection as a result of this. We were also concerned about infection prevention and control due to some of the larger equipment being stored outside of the theatre in a non-theatre environment.

Although the service provided mandatory training in key skills, systems in place did not ensure all staff accessed mandatory training. The trust did not meet its own target for compliance for nursing staff. We found that medical staff had not undertaken mandatory training. Recommendations for medicines management were not always followed, for example medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol. Staff at all levels did not always have regular opportunities to meet, discuss and learn from the performance of the service. Staff did not effectively record risks to patients, such as allergies. There was a risk that staff would not have the information readily available to enable them to minimise risks. Care records were not kept well, and patient records were not available at all times to staff. Not all records were easily available to all staff providing care. Notes were not always legible. The resuscitation bag and oxygen were being stored in two separate places and it was not clear whether there could be a delay in getting both to the patient in the event of an emergency. The care provided was not always in line with best practice and the effectiveness of the service was not always monitored. Staff did not always follow the principles of the mental capacity act and best interest decisions were not always undertaken or documented. Staff did not always complete and update risk assessments for each patient and they did not always remove or minimise risks. Staff did not
always keep detailed records of patients’ care and treatment. Records were not always up to
date. The service did not always manage patient safety incidents well. Managers did not
always investigate incidents appropriately. When things went wrong, staff did not always
apologise and give patients honest information and suitable support. The service did not
always provide care and treatment based on national guidance and evidence-based
practice. Managers did not always check to make sure staff followed guidance. Doctors,
nurses and other healthcare professionals within the wider hospital did not always work
together as a whole multi-disciplinary team to benefit patients. Staff did not always support
patients to make informed decisions about their care and treatment. They did not always
follow national guidance to gain patients’ consent. They did not always know how to support
patients who lacked capacity to make their own decisions or were experiencing mental ill
health. They did not always use agreed personalised measures that limit patients’ liberty.
Staff did not always assess the risks to patients appropriately nor act on them and did not
keep good care records. They did not manage safety or medicines well. Staff collected
safety information but did not always use this to improve the service. The care provided was
not always in line with best practice and some aspects were based on the judgment of staff.
Staff did not always follow the principles of the Mental Capacity Act. Care was not
consistently tailored to individual patients Staff did not effectively complete and update risk
assessments for each patient and did not always remove or minimise risks. Staff did not
always identify or quickly act when patients were at risk of deterioration. The service did not
have enough staff to keep patients safe from avoidable harm and to provide the right care
and treatment. Staff did not always keep detailed records of patients’ care and treatment.
Records were not always clear, up-to-date, or stored securely. Systems and processes used
to prescribe, administer, record and store medicines were not always robust. The service did
not manage patient safety incidents well. Staff did not always recognise and report incidents
and near misses. Staff used equipment and control measures to protect patients,
themselves, and others from infection. They kept equipment and the premises visibly clean.
The design, maintenance and use of facilities, premises and equipment kept people safe.
Staff were trained to use them. Staff managed clinical waste well. The service did not
always provide care and treatment based on national guidance and evidence-based
practice. Whilst the service had a process in place for the introduction of new guidance,
managers did not check to ensure this process was followed. As a result, several key pieces
of guidance were out of date or had not had a timely review. Records showed that patients
with additional nutrition and hydration needs were not always assessed or commenced on
special feeding and hydration techniques when necessary. Some areas did not have enough
nursing staff with the right qualifications, skills, training and experience to keep. There were
inconsistencies with infection control and prevention techniques, particularly hand hygiene.
The trust did not ensure everyone completed mandatory training. The trust did not have effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. Not all risks identified during the inspection were documented on risk registers. The trust must ensure all electrical equipment is safe to use and tested within manufacturers guidelines. The trust should ensure equipment is well maintained and stored safely. The trust must ensure appropriate checks are in place for disposable equipment, so they are within their expiration date. The trust must ensure there is a systematic and effective approach to identify and manage risk throughout the service and update risk registers to ensure all risks are identified and mitigated where possible. The trust must ensure all staff are able to recognise and report incidents appropriately. The trust must ensure the risks associated with storing of out of date-controlled drugs are removed. The trust must ensure risk assessments on patients are completed in line with national guidance, including correctly identifying and responding to the risks of sepsis, escalation of high National Early Warning Scores and venous thromboembolism assessments. The trust must ensure policies, procedures and training are put in place to ensure radioactive specimens are disposed of safely. The trust must ensure appropriate checks are in place for all medicines, including emollients and creams, so they are within their expiration date. The trust should ensure that cleaning schedules displayed are completed to show areas that have been cleaned. The trust should review the processes for assessing and recording staff competencies, including the use of medical devices. The trust should consider the need for a risk assessment in relation to the half glass wall on the first floor. The trust should ensure all staff comply with guidelines for the safe use of personal protective equipment, particularly with regards to the use of gloves and aprons. The service should review the provision of hand sanitising gel and take steps to ensure it is always available. The trust should ensure that eligible staff receive sepsis training. The trust had systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected, but these were not always effective. Not all systems in place were effective in recognising and responding to deteriorating patients’ needs. This included harm reviews of patients waiting for a procedure. The trust did not ensure everyone completed mandatory training. While staff understood the need to protect patients from abuse, not all staff had completed training at the required level to ensure they had the appropriate level of knowledge to do so. The unit did not have a compliant mental health room, in line with guidance in the Royal College of Emergency Medicine toolkit, Mental Health in Emergency Departments 2013. Some areas did not have enough nursing staff with the right qualifications, skills, training and experience to keep people safe from avoidable harm and abuse and to provide the right care and treatment. Not all systems in place were effective in recognising and responding to deteriorating patients’ needs. This included screening patients for sepsis, harm reviews of
patients waiting for a procedure, and reassessment within 24 hours for venous thromboembolism. The service did not have robust processes in place to ensure staff were competent for their roles. Not all staff had received an appraisal. Not all staff received supervision to provide support and monitor the effectiveness of the service. Not all systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected were effective. The trust did not have effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. Not all risks identified during the inspection were documented on risk registers. There were inconsistencies with infection control and prevention techniques, particularly hand hygiene. Processes to monitor the safe storage of medicines were not always followed. The service did not control infection risks well. There was poor compliance with the use of control measures to prevent the spread of infection. The service did not control infection risks well. Hand hygiene best practices were not always followed to prevent the spread of infection. Staff did not routinely wash or sanitise their hands between patients or when entering and leaving clinical areas. During the previous inspections of November 2016, April 2017 and November 2017 we highlighted concerns regarding the completion of the 24-hour re-assessment regarding venous thromboembolism (VTE). During this inspection we saw that the concern remained with only one of the four records reviewed having a completed VTE reassessment. This meant the trust was not compliant with the National Institute for Health and Care Excellence (QS3) guidance. Some areas did not have enough nursing staff with the right qualifications, skills, training, and experience to keep people safe from avoidable harm and abuse and to provide the right care and treatment. The service did not have robust processes in place to ensure staff were competent for their roles. Not all staff had received an appraisal. Not all staff received supervision to provide support and monitor the effectiveness of the service. Most staff had not received training in the Mental Capacity Act 2005 (MCA) and Deprivation of Liberty Safeguards. Staff generally understood their roles and responsibilities under the Mental Health Act 1983 and the MCA. Not all systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected were effective. Processes to monitor the safe storage of medicines were not followed. Room and fridge temperatures were not routinely monitored. We have stopped the practice of patients being placed in areas inappropriate for delivering safe, high quality and dignified care'. Despite significant concerns being recognised in the past on the trust risk register, substantive actions to reduce risks had not been undertaken. Management wrote, 'We have had significant success relating to reduction in the overall number of falls. However, we didn’t succeed in reducing the number of falls resulting in moderate to severe harm' and, 'The total number of hospital-acquired pressure ulcers has reduced by 20% so we have reached our target. Within this however, the number of grade 3 and 4 pressure
ulcers increased from 31 in 2017/18 to 37 in 2018/19. Sufficient permanent staff were required but unavailable to keep people safe from avoidable harm and abuse, and not all staff had received safeguarding training on how to recognise and report abuse. Both medical and nurse staffing was not adequate to keep patients safe: one hospital was understaffed with regular reliance on agency and locum staff. This meant that not all staff were equipped with the right qualifications, training and experience to keep people safe from avoidable harm and abuse, particularly overnight, when staffing numbers were reduced. Also, the lone working policy was not adhered to ensure staff safety. In particular, out of hours, doctors had to have the capability and confidence to review end-of-life patients. Staff needed to complete mandatory safeguarding training in line with the trust target. The CQC found dietary risks to renal patients and that antibiotics were not always administered within an hour of identifying patients with suspected sepsis. Furthermore, staff needed training to understand deprivation-of-liberty safeguards and regulations and to ensure consent to care and treatment guidelines. In Maternity, handovers needed to be completed regularly and high-risk women in labour reviewed in the appropriate environment by the correctly qualified member of staff. In Maternity, Early Obstetric Warning Score (MEOWS) were not always fully completed; high risk women in labour were not reviewed regularly and by the appropriate member of staff; CQC inspectors advised that Maternity Early Obstetric Warning Score (MEOWS) charts must be fully completed and that all staff be trained in cardiotocography (CTG). Midwives prescribing antibiotics had to comply with the medications policy. Staff needed to better comply with infection control practices across surgical services. CQC inspectors found infection prevention and control practices to be variable particularly with regard to hand hygiene. As the management QA states, ‘We are currently rated ‘Red’ in terms of progress against the NHSI infection control action plan’. Some ward and theatre areas were visibly clean although cluttered with patient equipment and visitor chairs in front of fire exits. In another service, there were inconsistent infection and prevention practices: a patient in isolation had the side room door left open on two separate days. In addition, aspects of the ED environment did not support safe care. In one surgical service, theatre-controlled drug checks were observed as not completed daily and staff reported anaesthetists who discarded controlled drug waste without a witness present: all controlled drugs must be checked daily, and evidence documented. Staff had no system in place to know whether equipment had been cleaned. In the QA, management wrote, ‘Overall we have seen a reduction in high risk medication errors by 2% but haven’t achieved our target of 5%’. CQC inspectors required that end-of-life plans must be completed, and risk data measured and registered. One service-controlled infection risk well: staff kept themselves, equipment, and the premises clean; they used control measures to prevent the spread of infection. Another operated an effective early warning system to identify
deteriorating patients and took appropriate action in response. Another service mostly prescribed, gave, recorded and stored medicines well, patients getting the right medication at the right dose at the right time. In a surgical zone, theatre access was secure, with a reception area where staff were greeted and shown to changing areas. The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. Patient moving and handling equipment was available on the ward and in theatres. This had been maintained and serviced appropriately, maintenance records were seen. The service prescribed, gave, recorded, and stored medicines well, patients getting the right medication at the right dose at the right time. In general, however, effective systems were not in place to assess, monitor and review safety and quality performance of clinical services. CQC inspectors also noted that clinical guidelines were not regularly reviewed and were not up to date. The temporary environment of one unit was unfit for purpose in that it was cramped, with five services working alongside each other within a small area: this posed a fire risk and infection-control issues: the QA described the problem as follows, ‘People who use services and others were not protected against the risks associated with unsafe or unsuitable premises because of inadequate maintenance’. Among the recommendations were to ensure that proper rooms were allocated for use with psychiatric patients which meet requirements to keep patients safe; also, ward areas should be freed of clutter. Equipment needed to be used in a safe manner to protect patients from the risk of injury or harm, and systems were required to reduce the risk of safety incidents from reoccurring: however, certain equipment was not reviewed within trust and manufacturer guidelines; records showed that resuscitation equipment had been visually checked daily and that a weekly comprehensive check had been performed, but the seal on the trolley was broken and replaced to check the contents: the tag label was not numbered, so no audit trail could be confirmed. Arrangements for ensuring the availability, integrity and confidentiality of identifiable data, records and data management systems were not always in line with data-security standards. Prescriptions and observation charts were found not stored confidentially but left unattended at midwives’ desk in the ward area. They had to be stored safely and confidentially maintained. CQC inspectors required that end-of-life plans must be completed, and risk data measured and registered.

CQC assessments concerning risk in outstanding hospitals

The trust had enough staff to care for patients and keep them safe. Staff understood how to protect patients from abuse and managed safety well. The service controlled infection risk well. Staff assessed risks to patients, acted on them and kept good care records. They managed medicines well. The trust managed safety incidents well and learned lessons from
them. Staff collected safety information and used it to improve the service. Staff did not always complete or update risk assessments for each patient in medical care and did not always identify clear actions to remove or minimise risks. We saw general improvements in the safety of services provided in all areas, and there was a clear focus on patient safety. The whiteboard also facilitated a virtual follow-up list of patients to ensure that pending investigations were chased up and the results were acted upon. Patients had individual risk assessments which were comprehensive, reviewed regularly and shared between any teams working with the same patient. Monitor that all equipment is checked, and records kept that in line with trust policy and monitor all chemicals are stored safely. Monitor that all medicines, including controlled drugs, are stored correctly and that disposals records are accurate. Monitor that patient risk assessment templates are consistently completed by all staff on all wards and that actions plans to mitigate any risks identified are clearly documented. Robust arrangements were in place for identifying, recording and managing risks, issues and mitigating actions with strong ownership at divisional level. Recorded risks were generally aligned with what staff stated were the key risks. There were some differences in perception of risk e.g. Brexit and pensions. Leaders and teams used systems to manage performance effectively. They identified and escalated relevant risks and issues and identified actions to reduce their impact. They had realistic plans to cope with unexpected events. Staff contributed fully to decision making to help avoid financial pressures compromising the quality of care. The service controlled infection risk well. Staff assessed risks to patients, acted on them and kept good care records. They managed medicines well. The trust managed safety incidents well and learned lessons from them. Staff collected safety information and used it to improve the service. Not all equipment in the emergency department (ED) was checked in line with trust policy and some chemicals were not stored safely. Staff did not always store and manage medicines in line with the provider’s policy. Clinical support workers (CSWs) providing 1:1 observation to patients experiencing acute mental health problems did not have mental health competencies to give them the confidence to carry out this role. Staff did not always complete or update risk assessments for each patient in medical care and did not always identify clear actions to remove or minimise risks. The hospital had enough staff to care for patients and keep them safe. Staff had training in key skills, understood how to protect patients from abuse, and managed safety well. The service controlled infection risk well. Staff assessed risks to patients, acted on them and kept good care records. They managed medicines well. The service managed safety incidents well and learned lessons from them. Staff collected safety information and used it to improve the service. Staff did not always complete or update risk assessments for each patient in medical care and did not always identify clear actions to remove or minimise risks. Not all equipment was checked in line with trust policy and some chemicals were not
stored safely in the emergency department (ED). Staff did not always store and manage medicines in line with the provider’s policy. Clinical support workers (CSWs) in the ED providing 1:1 observation to patients experiencing acute mental health problems did not have mental health competencies to give them the confidence to carry out this role. The service provided mandatory training in key skills to all staff but not everyone had completed it. The service managed patient safety incidents well. The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients and visitors. The service continually monitored safety performance. • Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. Staff identified and quickly acted upon patients at risk of deterioration. The service controlled infection risk well. Staff used equipment and control measures to protect patients, themselves and others from infection. They kept equipment and the premises visibly clean. All areas were clean and had suitable furnishings which were well-maintained. The design, maintenance and use of facilities and premises kept people safe, and clinical waste was managed well. Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. Staff identified and quickly acted upon patients at risk of deterioration. The service had enough nursing staff with the right qualifications, skills, training, and experience to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix and gave bank and agency staff a full induction. The service had enough nursing staff of relevant grades to keep patients safe. The service had enough medical staff with the right qualifications, skills, and training to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix and gave locum staff a full induction. Staff kept detailed records of patients’ care and treatment. Records were clear, up to date, stored securely and easily available to all staff providing care. Patient notes were comprehensive, and all staff could access them easily. Staff generally followed systems and processes when safely prescribing, administering, recording and storing medicines. Monitor that all equipment is checked, and records kept that in line with trust policy and monitor all chemicals are stored safely. Monitor that all medicines, including controlled drugs, are stored correctly and that disposals records are accurate. The service used systems and processes to safely prescribe, administer, record and store medicines. Safety thermometer data was displayed on wards for staff and patients to see. Staff did not always complete or update risk assessments for each patient and did not always identify clear actions to remove or minimise risks. Monitor that patient risk assessment templates are consistently completed by all staff on all wards and that actions plans to mitigate any risks identified are clearly documented. In acute wards for adults of working age and psychiatric intensive care units a positive risk panel was held weekly, staff
could discuss particularly complex, high-risk patients with senior clinicians in order to agree
an effective care plan and to review risk. Managers were aware of the key risks in their
services, and these were reflected in local risk registers. Risk registers were used effectively
to escalate risks and ensure they were addressed. Staff assessed and managed risks to
patients well and followed best practice in anticipating and de-escalating volatile situations.
Individual wards had completed quality improvement initiatives to reduce the number of
patient-on-staff assaults, prone restraint and self-harming behaviour on the inpatient wards.
A positive risk panel was held weekly, staff could discuss particularly complex, high-risk
patients with senior clinicians in order to agree an effective care plan and to review risk. The
panel supported staff to implement evidence-based care in line with trust policy. It assisted
staff to manage risk in a positive way and helped to facilitate timely and safe discharge. The
service had enough staff to care for patients and keep them safe. Staff had training in key
skills, understood how to protect patients from abuse, and managed safety well. The service
controlled infection risk well. Staff assessed risks to patients, acted on them and kept good
care records. They managed medicines well. The service managed safety incidents well and
learned lessons from them. Staff collected safety information and used it to improve the
service. The service used systems and processes to safely prescribe, administer, record and
store medicines. Staff assessed risks to patients, acted on them and kept good care records.
They managed medicines well. The service managed safety incidents well and learned
lessons from them. Staff collected safety information and used it to improve the service. The
service controlled infection risk well. Staff kept themselves, equipment and the premises
clean. They used control measures to prevent the spread of infection. The design,
maintenance and use of facilities, premises and equipment kept people safe. Staff managed
clinical waste well. When providing care for patients, staff took precautions and actions to
protect themselves and patients. Comprehensive risk assessments were carried out for
people who used the services and risk management plans were developed in line with
national guidance. These were assessed, monitored and managed appropriately. The
service had enough medical and nursing staff with the right qualifications, skills, training and
experience to keep people safe from avoidable harm and to provide the right care and
treatment. Medicines were appropriately prescribed and administered to people in line with
the relevant legislation and current national guidance such as the transition between
inpatient hospital settings and community or care home settings for adults with social care
needs. The service managed patient safety incidents well. Staff understood how to report
incidents using the electronic reporting system and were encouraged to do so. The service
used safety monitoring results well. Staff collected safety information on falls and shared it
with staff, patients and visitors. Managers used this to improve the service. However:
Although staff kept electronic records and paper copy of patients’ care and treatment, some
records and care plans were generic or not goal oriented. Records were not easily available to all staff providing care as some information was available in electronic format whilst other information was kept in paper format at the bed side of patients. This caused a potential delay in delivering care and treatment. Staff assessed the physical and mental health of all patients on admission. They developed individual care plans which were reviewed regularly through multidisciplinary discussion and updated as needed. Care plans reflected the assessed needs, were personalised, holistic and recovery oriented. The trust must ensure that patients are kept safe. For example, promoting the sexual safety of people using the service. Staff regularly reviewed the effects of medications on each patient’s physical and mental health. Staff did not record that they had cleaned toys at the Reading site; this presented an infection risk as staff did not know when toys were last cleaned.

The CQC found that the trust collected, analysed, managed and used information well to support all its activities, using secure electronic systems with security safeguards. Information needed to deliver effective care and treatment was well organised and accessible. Daily handovers by the medical team were found to be informative, with detailed multidisciplinary discussions of current cases and the actions taken. Staff kept detailed records of patients’ care and treatment; records were clear, up to date, stored securely and easily available to all staff providing care. Staff completed and updated risk assessments for each patient and removed or minimised risks. They carried out risk assessments of pregnant women antenatally, including a perinatal mental health assessment, and referrals were made when required. Services controlled infection risk well: staff used equipment and control measures to protect patients, themselves and others from infection; they kept equipment and the premises visibly clean. Services managed patient safety incidents well: staff recognised incidents and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team and with the wider service. When things went wrong, staff apologised and gave patients honest information and suitable support. The CQC advised that the trust ensure that it complies with the requirements of the regulations relating to the "proper and safe management of medicines": in particular that staff follow the trust medication policy and procedures in the safe administration, storage and disposal of medicines; that the storage room temperature for medicines in the midwife-led unit is within range at all times; and that staff are competent in the denaturing process for controlled drugs. In the central delivery suite, there were medicines kept on open shelves within the clinical room which nonclinical staff could access; in the foetal medicine unit, keys for the medicine fridge were not kept with the midwives but in an unlocked drawer in the treatment room, which non-clinical staff could access. A number of consumables kept in the midwife-led unit (MLU) were out of date, with expiry dates ranging from 2016 to 2019. 20 bottles of hand gels and several other items were past their use-by date, including hand moisturiser,
hand soap, water for injections and powder-free gloves on the shelves in the clinical room and a box of similar items in the sluice. Staff had not ensured the safe use of consumables. The trust has undertaken to review all electronic prescribing systems in the trust with regard to insulin prescribing to identify any safety gaps and to discuss these with system providers so that patients who had insulin omitted on admission were identified electronically from Medway medicines notes, where pharmacy staff record medicines reconciliation. The trust also plans to improve the management of intravenous cannulas and to meet the national standard which requires at least 95 per cent of appropriate inpatients to have a VTE (Venous Thromboembolism) risk assessment. Fixtures and fittings had not been well maintained; inspectors found bathroom, toilet and handwashing facilities were in a state of disrepair; there was a risk of cross-contamination in the wards due to cracks in the panels of some baths and showers which had not been repaired. There were fewer bathroom and toilet facilities for women to use. Furthermore, the CQC were not assured that one of the services was always meeting the requirements to provide safe care in all areas: it did not follow best practice in managing medicines including storing and record keeping. Also, there were limited facilities and systems to care for patients with suspected communicable diseases in the adult emergency department. Access was by either stairs and lifts and signage did not clearly identify the right route. This meant patients may take the stairs and be delayed or at risk: monitoring of the stairs was not consistently maintained to ensure patients were not delayed there. Services had effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. Risk registers were used in each department, at divisional and trust level to review and monitor risk. Venous thromboembolism (VTE) assessments of the risk of a blood clot were not always completed: it was unclear whether the service was following standard operating procedure around VTE, as assessments were left blank on six out of the eight sets of notes. The recording of sepsis monitoring and intervention was not always found clear within patient records: inspectors saw a number of records with a sepsis pathway in a child’s records, however, the documentation was incomplete, and it was unclear what action had been taken and the outcome. Recommendations included to improve signage and access by stairs and lifts to clearly identify the right route and to improve systems and training to help support receptionists in identifying patients who need to be seen urgently. Leaders are knowledgeable and understand the risks in their areas. They prioritise safe, high quality care; An Electronic Prescribing and Medicines Administration System (ePMA) exists across the Medical Care Group wards and Emergency Department: this means that appropriate medication is given, reducing unnecessary life-threatening exposure to adverse drug related accidents and delayed and missed doses. For clinicians this means decision support at the point of prescription, improved legibility, a reduction in transcription errors and improved and
effective communication. In ED, patient-clinical information is displayed on a TV screen at the ED coordinator hub and zone. Furthermore, the trust is working to reduce the rate of avoidable harm from falls, pressure ulcers and medication incidents. Staff lock their computers and do not leave records open and unattended on screen; records are kept confidentially away from public areas. Staff keep themselves, equipment and the premises clean. They use control measures to prevent the spread of infection. There are systems in place to monitor adherence to infection prevention and control. Visitors are encouraged to maintain hand hygiene. Equipment is checked systematically and available for use. Services plan for emergencies and staff understand their roles if one should happen; emergency theatres are separate from elective theatres and available with a consultant overseeing the emergency-theatre lists. Staff know the correct protocols to follow if a patient suffers major blood loss, however, CQC reports that this hospital is a mortality ‘outlier’ for emergency laparotomies. The aim of GIRFT (Get It Right First Time) is to reduce unwarranted variation in clinical practice and to improve clinical quality outcomes for patients. (These goals include reducing preventable mortality: sepsis reduction by monitoring time from arrival to identification, time to antibiotic administration and delivery of the sepsis six care bundle at all times available on a dedicated sepsis trolley; orthopaedic improvement by reducing Surgical Site Infection rates for total hip and knee replacement; falls improvement; skin damage reduction). Emergency trolleys, which include resuscitation equipment, are available on each ward and department. The trolleys are tamper-evident to reduce the risk of equipment being removed and unavailable in case of an emergency. Staff carries out daily and weekly checks of this equipment to ensure it is ready for use in an emergency. (CQC controllers checked three trollies across the wards and saw all were in line with policy and that no dates had been missed for the month so far. They saw information located with or above the trollies, providing guidance for staff about the emergency procedures and action to take). Additionally, surgeons have been nominated for specific procedures as for example, cemented hip replacement, which have been standardised. The quality approach also implies care of patient safety: the NHS Safety Thermometer is a point-of-care measurement tool that focuses on the four most commonly occurring harms in healthcare: pressure ulcers, falls, urinary tract infections (in patients with a catheter) and venous thromboembolisms.

CQC assessments concerning learning in Inadequate hospitals.

The trust had one reported never event since our last inspection. Learning from previous Never Events, although some time after the incidents, had been delivered as part of a surgical services shared learning event. Ensure all staff from the theatre list team attend the safety briefing and safety debriefing. Consider the timings of the morning emergency theatre list meeting and the theatre morning huddle to ensure the theatre nurses can attend both in
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

full. The completion of safety briefings and debriefings, although an improving picture, were still not compliant. This still needed embedding across the theatre suites, particularly the completion of debriefings. Furthermore, not all of the theatre team were in attendance at the briefings. For example, theatre assistants may be collecting patients, or the briefing started before trainees arrived. Some staff also left before the debriefing. The clinical lead for serious incidents and associate director for clinical governance reviewed all potential serious incidents. A standard operating procedure had been developed centrally to address the changes in policy and oversight. This had been shared with divisional senior management teams and cascaded through their governance arrangements. During this inspection we were not assured sufficient learning had taken place around serious incidents we were aware of in theatre because not all staff were aware of the learning that had taken place, or any changes resulting from the serious incidents. In our previous inspection, we identified the trust was not able to demonstrate sufficient or rapid learning as a result of Never Events. We attended the first of the surgical services sharing learning events during our inspection. These events were planned to be held monthly, and a 70% attendance from staff was expected. There were five specialty presentations to review three Never Events, one downgraded never event, and one serious incident from 2017. Two of these were about trauma and orthopaedics relating to wrong-sided implant and retained metalwork. One related to anaesthetics, about administration of a wrong-side block. One was in ophthalmology, and about the wrong-side eye preparation. The other was a serious incident in ophthalmology about giant cell arteritis. The trust was introducing tagging of all medical equipment to enable an accurate asset register to be maintained, and to allow the team to successfully track and locate assets. In our previous inspection, the clinical equipment asset list supplied for surgical services showed 77 out of 104 pieces of equipment had no date of last service or date to indicate when servicing was next due. Two extreme risks were escalated to the corporate risk register. The medical devices’ group was now being provided with the responsibility to ensure medical device governance and review risks and were now named the medical devices oversight group. The purpose of this group was to provide assurance to the trust regarding safety, suitability, availability and safe use of all medical devices in use across the trust: the current form did not have a clear auditable trail of the decision made. Concerns around delayed transfer of care into an acute setting were raised as part of the warning notice. We were told by the trust that a new standard operating procedure (SOP) was in place, and we saw this was the case. The SOP gave clear guidance for midwives as to how to ensure that an ambulance was not diverted in a life-threatening situation, to another priority incident. Staff monitored the effectiveness of care and treatment. They used the findings to make improvements and achieved good outcomes for patients. Staff did not have regular opportunities to meet, discuss and learn from the performance of
the service. Leaders and teams did not use systems to manage performance effectively. They did not always identify and escalate relevant risks and issues and identify actions to reduce their impact. The service did not always collect reliable data and analyse it. Staff could not always find the data they needed, in easily accessible formats, to understand performance, make decisions and improvements. The information systems were not integrated. Staff did not always report safety incidents and did not always learn lessons from them. Staff did not always use the findings of their monitoring of the effectiveness of care and treatment to make improvements to outcomes for patients. Although managers investigated incidents, lessons learned were not always shared with the whole team and the wider service and there were risks that incidents could reoccur. The service used monitoring results; but it was not clear how this was used to improve safety. Staff collected safety information and shared it with staff, patients and visitors. The trust must ensure there is a governance framework in place for reviewing and sharing learning from patient harm incidents, and ensure staff are competent with categorising incidents. The trust should ensure mortality and morbidity reviews have adequate detail and evidence of actions or learning as a result. The trust should ensure patient outcomes are collected, monitored, analysed and used to drive service improvements. The trust should ensure the minor injuries unit has a systematic programme of clinical audit and local audit and processes in place to review what action should be taken. Generally, staff recognised incidents but did not always report them. The governance network was not mature enough to be fully effective in identifying and mitigating risks or in providing assurance that actions were consistently resulting in improvements to the safety and quality of patient care. There were inconsistencies in staff being able to recognise and report incidents. Patient outcomes were not routinely collected and monitored. There was no formal clinical audit plan. This meant that staff were unable to use information to improve care, treatment and patient outcomes. The service had not always improved its commitment to developing services by learning from when things go well and when they go wrong, promoting training, research, and innovation. The service did not have robust processes in place to ensure staff were competent for their roles. The service provided mandatory training in key skills to all staff but did not ensure all staff completed it. For some essential skills, including resuscitation training, fire and infection control, compliance fell short of the trust target. Information was not always collected, analysed, managed and used well to support activity. Mortality and morbidity remained an area of concern during the previous inspection and had not improved. During this inspection we found that reviews lacked detail and there was little evidence of actions or learning as a result. Quality Improvement Plan that focuses on really addressing the ‘root causes’ identified by our staff of the issues that the CQC highlighted. In the matter of learning, ‘The trust is committed to becoming the safest and kindest trust and as part of
that, it is important that each complaint is seen as an opportunity to reflect, learn and make improvements in the areas that matter most to our patients and their carers and families. To assist with this, all staff asked to comment on a complaint, are asked to consider what learning has arisen from the complaint and what actions are needed to implement that learning. Individual staff are asked to reflect on complaints that they have been involved on and learning from complaints is also discussed at Care Board meetings, and at ward and departmental meetings. Management wrote in the Quality Account that, ‘Our number of near miss no harm incidents have increased. We believe this is related to an improved reporting culture and staff flagging near misses in order to raise issues and support learning to prevent further incidents. In general, all incidents had to be reviewed and closed in a timely manner. Staff did not always recognise and report incidents appropriately: managers investigated incidents and made recommendations, however, effective action to prevent future incidents was not always taken: the management QA report observes that, ‘During 2018-19 we once again saw an increase in the total number of incidents being reported compared to the year before which demonstrates that staff are confident to report concerns’. Services monitored the effectiveness of care and treatment but did not consistently use the findings to improve patient outcomes. Certain staff were unable to describe any complaint their service had received or if the service had any changes in practice following a complaint: staff told how they had not received appropriate feedback from Never Events to improve services by learning from when things go well and when they go wrong. In one service, less than 50% of nursing staff had achieved their post registration qualification in critical-care nursing. Management wrote in the QA that, ‘We know we still need to improve on how staff receive feedback around incidents. Theatre staff told CQC inspectors that the audit process was not embedded: the submitted theatre-safety action plan had no completed actions identified, and indeed trauma and orthopaedics patients had a higher expected risk of readmission for elective admissions when compared to the England average. The theatre risk register showed a risk for more than two years that remained unresolved. In the wards, arrangements for the round did not always include multidisciplinary input and hospital-at-night teams could not always ensure a safe service: units needed to ensure multidisciplinary team (MDT) working joined up across critical care to ensure there was coordinated MDT patient review and management. The management QA reports on Never Events as follows: ‘During 2018/19 we recorded 5 ‘Never Events’ (Never Events are described as ‘serious, largely preventable safety incidents that should not occur if the available preventive measures are implemented’). These 5 Never Events were categorised as: a wrong site surgery incident in Musculoskeletal theatres; a retained foreign object in Paediatric theatres; a wrong eye laser procedure in Ophthalmology Outpatients; a retained foreign object in Gynaecological Outpatients; a misplaced Naso-Gastric tube incident (this has since been
downgraded from a Never Event following investigation). Fortunately, management indeed took measures described in the QA as follows: ‘There has been significant learning from these events which includes: our Scheduled Care Group is undertaking a major piece of work looking at improving safety culture in theatres. This includes looking at the use of the WHO safer surgery checklist (the five safer steps), redesigning consent processes, supporting staff to raise safety concerns and ‘stop the line’ and reducing the numbers of distractions in theatres. This work is being undertaken under the trust’s Transforming Care Production System banner and is subject to on-going measurement and audit; the retained foreign object in Gynaecology outpatients has led to a review and redesign of the LOCSIPPS (Local Safety Standards for Invasive Procedures) in use in Gynaecology and actions to ensure junior members of staff are effectively supported and supervised. These actions are subject to on-going audit; the wrong eye laser incident in Ophthalmology has led to the introduction of a WHO Safer Surgery style checklist for these procedures and a revised policy for marking patient’s eyes before procedures are commenced. Once again these actions are subject to on-going audit’. The QA adds that, ‘5 patient deaths during the reporting period are judged to be more likely than not to have been due to problems in the care provided to the patient. These deaths were reported as Serious incidents and a Root cause analysis report undertaken’. The outcome of the analysis is stated as follows: ‘1, Patients with Learning Disabilities may not report or exhibit signs of pain and deterioration the same as the general population. Knowledge of their normal response and listening to the family and carers is crucial. 2, Although there is a good knowledge of the management of patients with head injury within the ED setting there appears to be a misconceived bias when alcohol consumption is present, and the tolerance of lower GCS is more readily accepted. This can lead to delays in diagnosis and management of severe head injuries. 3, The importance of trust staff continuing prehospital treatment, and the administration of Tinzaparin where a DVT is considered. 4, It is normal practice for trained staff within the A+E to take blood and request specific tests to assist with diagnosis, prior to the Doctor’s review. However, there is a variance as to which tests are requested depending on the individual who initiates the request. It is apparent that there is a culture not to document specific investigations requested within the A+E care pathway, despite there being a facility to do this, but rather to write “bloods taken” without any specific details. The requesting of a D-Dimer level has become normal practice despite it being a test that should only be used for specific indications. 5, The investigation is not yet concluded from the 5th incident’.

The introduction of Swan lanyards for staff to wear to signal they were carrying out a bereavement visit. The end of life care (EoLC) team and bereavement service had introduced a bereavement visit lanyard for staff to wear when accompanying relatives on bereavement visits. This was implemented as learning from an incident in which a member
of staff accompanying a bereaved parent was approached by a colleague inappropriately because they had not identified the nature of the situation. The new lanyard was discreet and branded with the Swan logo, which indicated to staff that they should not interrupt the visit.

CQC assessments concerning learning in outstanding hospitals

Band four nursing assistants had undergone extra training to increase their skill levels. This included training to change patients’ catheters, to provide pressure area care and to order specialist equipment. Band four staff had also been trained to support diabetic patients with blood glucose monitoring and administering insulin. The service had also rolled out projects to increase nursing staff capacity. For example, a review of diabetic patients’ treatment plans was completed by district nurses and the diabetic specialist nurses and this had resulted in changes to patients’ treatment plans, which saved approximately 57 trained nurse hours per month. The community health service for adults implemented new models of care, for example, a diabetes model of care had been written by the diabetic team. This enabled the place-based team staff, as well as residential and nursing home staff to obtain the skills and knowledge required to manage diabetic patients within the community. Staff were trained to check blood glucose levels, how to respond to hypos and how to administer insulin. There was a fully embedded culture of continuous learning, improvement, and innovation throughout the community service for children and young people. All staff we spoke with were committed to continually learning and improving services. We were provided with a wide range of examples of these. For example, health visitors had introduced ‘Outcome Stars’ to help identify and assist parents who may need extra support. Physiotherapists had introduced free training courses to early years providers to support staff in helping children to be fit for learning. Occupational therapists had initiated equipment days which enabled families to try out a range of suitable equipment in a one stop approach. Speech and language therapists had introduced ‘babbling groups, for children born with cleft lip and palate. Further examples included the introduction of ‘Chat Health’ text services for mothers and young people, school nurse parent drop-ins, the use of video interactive guidance to promote positive parenting, and the ‘Bump and Buggy’ programme, for which the service was awarded ‘Innovator of the Year 2019’ at the city council’s Coventry Health and Wellbeing awards. Continue to monitor that all staff receive an annual appraisal of their performance. The trust collected reliable data and analysed it. Staff could find the data they needed, in easily accessible formats, to understand performance, make decisions and improvements. The information systems were integrated and secure. All staff were fully committed to continually learning and improving services. They had a well-developed understanding of quality improvement methods and the skills to use them. Leaders
proactively encouraged innovation and participation in research and actively celebrated staff successes. Significant improvements had been made since the last inspection. The trust was fully committed to improving services by learning from when things go well and when they go wrong. Not all staff were up to date with annual refresher training. All staff were fully committed to continually learning and improving services. They had a strong and clear understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The service managed patient safety incidents well. Staff recognised and reported incidents and near misses and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team, the wider service and other divisions. When things went wrong, staff apologised and gave patients honest information and suitable support. Managers ensured that actions from patient safety alerts were implemented and monitored. The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients and visitors. The service continually monitored safety performance. The service participated in all relevant national clinical audits. The service generally performed well in national clinical outcome audits and managers used the results to improve services further. Managers carried out a comprehensive audit programme. All staff were fully committed to continually learning and improving services. They had a strong and clear understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The service managed patient safety incidents well. Staff recognised and reported incidents and near misses. Managers investigated incidents and sometimes shared lessons learned with the whole team and the wider service. When things went wrong, staff apologised and gave patients honest information and suitable support. All staff were highly committed to continually learning and improving services. They had a well-developed understanding of quality improvement methods and the skills to use them. Leaders proactively encouraged innovation and participation in research. The introduction of a band 4 ward coordinator role to support ward managers in monitoring staff mandatory training and appraisals. The role had demonstrated an increase in governance compliance. Monitor that all staff are up to date with mandatory training. There was a really genuine commitment to learning and making improvements. The trust was committed to improving by learning from when things went well and when they went wrong. Staff learned from complaints, incidents and near misses and ensured that lessons learned led to improvements. The teams had a good track record on safety. The service managed patient safety incidents well. Staff recognised incidents and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team and the wider service. When things went wrong, staff apologised and gave patients honest information and suitable support. Staff are proactively supported and encouraged to acquire new skills and share best practice.
Managers monitored the effectiveness of care and treatment and used the findings to improve them. They compared local results with those of other services to learn from them. Community inpatient wards were committed to improving services by learning from when things went well and when they went wrong, promoting training. All staff were committed to continually learning and improving services. They had a good understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The approach to learning from deaths was exemplary with a clear focus on areas other than clinical needs such as dignity, end of life care and the experiences of those close to patients. There is a strong culture of reporting incidents to learn and improve: in its Quality Account, the trust writes that 33.3 per cent of staff said that in the last month they had seen errors, near misses or incidents that could have hurt patients/service users (this compares with 28.6 per cent in 2017, and the 2018 NHS average of 30.3 per cent); 89.2 per cent of staff said that the trust encourages them to report errors near misses or incidents. The CQC reported that there was a fully embedded and systematic approach to learning from incidents to drive improvements. The trust and its staff understood the importance of learning from incidents and near misses. In all areas the inspectors visited during the core service inspection, staff demonstrated a clear understanding of the requirement to, and reason for reporting incidents. They heard that feedback was given to those reporting incidents, so they could be assured the issues had been acted upon. Trust Quality Strategy (2016-2020) states the need to improve learning from serious incidents, reporting nine Never Events in 2017/18: one retained piece of swab following a dental procedure; one misplaced nasogastric tube; two wrong lens implants (ophthalmology); one mis-selection of high strength midazolam; one wrong side dental nerve block; two wrong tooth removals; one retained nylon tape following a cardiac surgery procedure. Recent serious incident investigations, including those conducted by the independent Healthcare Safety Investigation Branch (HSIB), have concluded that the implementation of guidance and safety recommendations does not, on its own, prevent certain Never Events because of the human elements and human interactions within the system designed to prevent them happening. For the period 2018-19, the trust reported one Never Event, relating to a retained foreign object post-surgical procedure. The trust undertook significant improvement actions to mitigate the risk of reoccurrence of similar incidents, including: improved surgery safety checklists; improvements in theatre environment enabling recording of clinical equipment used; development of human factors awareness rolled out for theatre staff alongside the introduction of Local Safety Standards for Invasive Procedures (LocSSIPs); staff empowered to challenge areas of concern; regular communication to staff through the learning events to share lessons, trend analysis and to share areas of good practice. The trust maintains good practice in the prevention of pressure ulcers, falls with harm and Venous thromboembolism.
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

(VTE) by educating and training all ward staff in the NHS Safety Thermometer; holding weekly harm review meetings; and overseeing falls improvement action plans including reviewing bedrail policy and falls-risk assessment. The trust established a Copeland Risk-Adjustment Barometer (CRAB) benchmarking group to review trends in mortality and complications at trust level, department level and surgeon level: CRAB creates an accurate picture of surgical consultants’ practice, adjusting for presenting risk, operation complexity and intraoperative complications; it helps to identify best practice and removes the risks of misinterpreting crude mortality statistics. The Critical Care & Surgery Therapy Team developed a therapy communication board that will go behind the patients’ beds on Critical Care to document therapy input with the patient, for example, how they transfer/mobilise, what diet they are having and speech and language recommendations. In A&E, increased training and development for nursing staff and implementation of patient-group directives to allow nursing staff to provide simple pain relief prior to patients being seen by medical staff remains ongoing. CQC findings at this trust are that: services use a systematic approach to continually improve the quality of their processes and they safeguard high standards of care by creating an environment in which excellence in clinical care flourishes: they have effective systems for identifying and reporting risks, for planning to eliminate or mitigate them, and coping with both the expected and unexpected; they have procedures to ensure that lessons learned are shared with the team and wider service; they use information well to support all the activities and secure electronic systems with security safeguards. Incidents are investigated and a process for sharing lessons learnt with all staff is well embedded by various methods such as team meetings, clinical simulation, generic emails and noticeboards. Learning and improvement is embedded to drive further incremental change using the Patient First Improvement System (PFIS) methodology. The programme comprises four strategic themes: sustainability; people; quality improvement; and systems and partnerships, to enable excellent care for patients. The trust achieved a sustained reduction in falls, with a predicted 32% full year reduction in 2018/19 compared with 2015/16 and a 20% reduction in the numbers of pressure ulcers overall. PFIS helps the wards and departments to support and sustain large-scale improvement projects. The PFIS system involves four months of training for each ward or department team through attendance at a series of modules and team days. Staff learn to implement PFIS in their areas and to adopt new Lean management techniques including ‘A3 problem solving’ (A3 is a structured problem-solving and continuous improvement approach, first employed at Toyota and typically used by Lean manufacturing practitioners: it provides a simple and strict approach), testing solutions using a ‘Plan Do Study Act’ (PDSA) approach, standard work, and process observation, as well as implementing improvement huddles: this training includes the use of Value-Stream Maps. The trust has developed a bespoke approach to sustaining a culture of
continuous improvement. The programme is based on standardisation, process development of care pathways, and on a philosophy of incremental improvement.
**Nvivo grounded thematic coding**

**Nvivo codebook**

<table>
<thead>
<tr>
<th>Nodes</th>
<th>Staff supervision poor</th>
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<tr>
<td>Name</td>
<td>Description</td>
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<tr>
<td>BAD LEARNING</td>
<td>No follow up action to improve or to prevent</td>
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<tr>
<td>Governance framework not adapted to learning</td>
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<tr>
<td>No feedback</td>
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<td>Data not collected or adapted</td>
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<td>Incidents not well reported or acted on</td>
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<tr>
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<td>Poor staff communication and feedback</td>
<td>Clinical audit not held</td>
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<td>Mortality reviews and follow up not done</td>
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<td>Preventative action not taken</td>
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<td>Nurses not trained</td>
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<tr>
<td>Staff not learning from incidents</td>
<td>Qualification of staff uncertain</td>
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<td>Staff not searching to improve</td>
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<td>Staff not using findings to improve</td>
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<td>Poor training</td>
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<td>No recognition of incidents</td>
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Burgess justifying a word search

Her KWIC technique explained

CQC function

The CQC surveys the operational characteristics of NHS Trusts their day-to-day performance benchmarks. Improvement patient safety, clinical and to the patient experience.
### NHS politics

**Governance**

**NHS context of workplace distress**

**Physician distress**

**Disruption**

**A&E services not necessarily chaotic**

### Hospital processes complex

**Medicine compartmentalised and handoffs**

**Muri and mura and stress**

**Nurse burnout**

**Reducing clinician distress**

**what mechanisms cause stress**

**Resistance to change Massey and Williams**

**CEO removes blockage to change**

**Failed deployment of process improvement (SS)**

**Staff teamwork poor**

**Cross-functional teamwork poor**

**Peer protection and internal hierarchies**

**NHS environment shifting and politically driven**

**Physician managerial standoff**

**Lean seen as managerialist**

In a litigious and providers hesitate; peer protection hierarchies tell story.

Does Process-combat work? How does by resolve which delay and irritate clinicians? Are nurses benefit?

How can NHS hospitals manage processes to reduce risk and to improve learning?
### Silo behaviour

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<th>Silos and learning</th>
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<td>Surgical allegiance</td>
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<td>Staff huddling poor</td>
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### OUTSTANDING PERFORMANCE AND RISK PREVENTION

| Clinical risk general ass process, wh management as the train staff to dist grips with ri |

### GOOD LEARNING

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<td>Learning in mental care</td>
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### Learning in surgery

<table>
<thead>
<tr>
<th>Nurses not learning</th>
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<td>Nurses coping rather than improving</td>
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<table>
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<tr>
<th>Physician learning</th>
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<table>
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<th>Good governance furthers learning</th>
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<table>
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<tr>
<th>Care monitored and improved</th>
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<td>Culture of learning continuous improvement and best practices</td>
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<td>Clinical audit used for improvement</td>
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<table>
<thead>
<tr>
<th>Safety information used</th>
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<tr>
<td>Safety monitoring applied</td>
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<tr>
<td>Sharing and comparing learning</td>
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<table>
<thead>
<tr>
<th>Learning correctly shared</th>
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<td>Ways to learn</td>
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<table>
<thead>
<tr>
<th>Learning by huddling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning patient care</td>
</tr>
</tbody>
</table>
### Learning by monitoring
- Nurse training in pain prevention
- Safety thermometer training done
- Learning events
- Learning event held in surgery
- Learning from Never events
- Good management of staff training
- Good, available data helps learning and improvement
- Leaders encourage innovation research
- Patient safety measures well managed
- Quality improvement CQC
- Risk register used
- Safety measures applied
- Staff appraisal important
- Learning entails improvement
- Best practices and procedures lock in learning

<table>
<thead>
<tr>
<th>Learning by monitoring</th>
<th>Nurse training in pain prevention</th>
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</thead>
<tbody>
<tr>
<td>Learning by participation</td>
<td>Safety thermometer training done</td>
</tr>
<tr>
<td>Participation in clinical audits</td>
<td>Learning events</td>
</tr>
<tr>
<td>Learning by reporting</td>
<td>Learning event held in surgery</td>
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<tr>
<td>Incidents recognised reported managed and lessons shared</td>
<td>Learning from Never events</td>
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<tr>
<td>Incident feedback given to staff</td>
<td>Good management of staff training</td>
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<tr>
<td>Incident review held</td>
<td>Good, available data helps learning and improvement</td>
</tr>
<tr>
<td>Incidents well managed</td>
<td>Leaders encourage innovation research</td>
</tr>
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<td>Learning by training</td>
<td>Patient safety measures well managed</td>
</tr>
<tr>
<td>Bereavement training</td>
<td>Quality improvement CQC</td>
</tr>
<tr>
<td>Learning patient dignity from eol</td>
<td>Risk register used</td>
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<td>Nurse training done</td>
<td>Safety measures applied</td>
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<td>Staff appraisal important</td>
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<td>Learning entails improvement</td>
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<td>Best practices and procedures lock in learning</td>
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## How can NHS hospitals manage processes to reduce risk and to improve learning?

<table>
<thead>
<tr>
<th>Best practices applied</th>
<th>Dysfunction feedback</th>
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<tr>
<td>CRAB benchmarking to foster surgical best practice</td>
<td>NHS safety thermometer</td>
</tr>
<tr>
<td>SOPs used in good hospitals</td>
<td>Visual display</td>
</tr>
<tr>
<td>SOP to address policy change</td>
<td>Error analysis and prevention models</td>
</tr>
<tr>
<td>Urgent care SOP in maternity</td>
<td>FMEA</td>
</tr>
<tr>
<td>Improvement by projects</td>
<td>GIRFT</td>
</tr>
<tr>
<td>Learning and visual aid prevention</td>
<td>NHS guidelines</td>
</tr>
<tr>
<td>Meeting times to ensure nurse availability</td>
<td>Poka Yoke</td>
</tr>
<tr>
<td>Review of treatment plans saves nursing hours</td>
<td>Process capability</td>
</tr>
<tr>
<td>Tagging done to manage medical devices</td>
<td>Process control</td>
</tr>
<tr>
<td>The role of procedure and of SOPs in learning to prevent dysfunction</td>
<td>Risk, reduction opportunities</td>
</tr>
<tr>
<td>Moving healthcare to SS quality</td>
<td>Sigma quality level</td>
</tr>
<tr>
<td></td>
<td>Locking in change</td>
</tr>
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</table>

<p>| Procedure error prevention and learning | Procedures respected |
| Action taken to correct |</p>
<table>
<thead>
<tr>
<th>Cleaning well organised and done</th>
<th>Processes and systems good</th>
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</thead>
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<tr>
<td>Equipment availability good</td>
<td>Record keeping good</td>
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<tr>
<td>Equipment cleaned</td>
<td>Recording of risk good</td>
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<tr>
<td>Equipment maintenance good</td>
<td>Risk Assessment done and acted on</td>
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<tr>
<td>Facilities well designed and or maintained</td>
<td>Risk registers good and acted upon</td>
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<td>Handovers well done</td>
<td>Safety information collected and used</td>
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<td>Incidents well managed</td>
<td>Risk and aviation</td>
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<td>Infection risk well controlled</td>
<td>Airline error prevention</td>
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<td>Information management good</td>
<td>Safety and error in healthcare</td>
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<tr>
<td>Medicine management good</td>
<td>Use checklist for procedures</td>
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<td>Mental health guidelines respected</td>
<td>Surgical processes good</td>
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<tr>
<td>NHS Safety Thermometer respected</td>
<td>Waste management good</td>
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<tr>
<td>Falls avoided</td>
<td></td>
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<tr>
<td>HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

**A&E staff accept Lean**

- Clinical six sigma projects
- Define Process
- LSS process improvements
- DMAIC
  - Improvement is a process
  - Improvement team photo
- Is process improvement about job loss
- Kaizen
  - Lean hospital projects
  - Positive results of improvement projects
- Six Sigma
  - Six Sigma type hospital projects
- TPS
  - TPS and IS
  - TPS and technology

**TPS jidoka**

- Challenging stopping process
- TPS learning
- TPS management
- TPS procedure
- TPS visual control
  - Staff behaviour good
  - Staffing collaborative
  - Staff qualifications and numbers good
  - Cross functional teamwork good
  - Training good

**RISK**

- Change is occurring constraints on health becoming more and managers struggling and procedures;

**ERROR**

- Clinical error
### How Can NHS Hospitals Manage Processes to Reduce Risk and to Improve Learning?

<table>
<thead>
<tr>
<th>Clinical error a major cause of mortality</th>
<th>Guidance not respected</th>
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<tr>
<td>Clinical error unavoidable</td>
<td>Incidents poorly identified and or reported</td>
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<tr>
<td>Clinicians not respecting procedure</td>
<td>Infection risk poorly controlled</td>
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<tr>
<td>Error prevention and statistics</td>
<td>Medicines management poor</td>
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<tr>
<td>Not stopping antibiotics</td>
<td>Mental health guidelines not respected</td>
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<td>Poor communication errors</td>
<td>NHS safety thermometer not respected</td>
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<tr>
<td>Service-process problems</td>
<td>Falls occurring</td>
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<td>Surgical error</td>
<td>VTE avoidance and canula mgmt poor</td>
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<tr>
<td>To err is human</td>
<td>No MDTs some nights</td>
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<td>Preventive procedures not respected</td>
<td>Patient care problems</td>
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<tr>
<td>Action not taken to correct and improve</td>
<td>Patient safety problems</td>
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<tr>
<td>Best practices disrespect</td>
<td>Processes or systems poor</td>
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<tr>
<td>Chemical storage poor</td>
<td>Protective equipment poorly used</td>
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<td>Cleaning poorly organised</td>
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Nvivo coding synonyms

A word count by Nvivo of the 50 most common words of 4 letters or more in the researched CQC Assessment data lists the corresponding synonyms applied by the software in its exploration queries. The keywords learning and risk appear in positions 21 and 22.
<table>
<thead>
<tr>
<th>Order</th>
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<td>six</td>
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<td>14</td>
<td>system</td>
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<td>quality</td>
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sustainability, sustainable, sustained, sustaining, sustainment, take, takes, taking, 'taking
availability, available, help, helped, helpful, helping, helps, serve, served, serves, service, service’, serviced, services, servicing, serving, usable
arrangements, arranging, order, 'order', 'order', ordered, ordering, orders, organisation, organisational, organisations, organise, organised, organisms, organization, organizations, organized, scheme, schemes, system, system’, system’, systematic, systematically, systemic, systems
calibrated, character, choice, choices, qualities, quality, 'quality, selected, selection, selectively, tone
aim, aimed, aiming, aims, billets, commit, commitment, committed, committing, direct, directed, direction, directions, directives, directly, grade, grades, grading, home, home’, 'home, identifiable, identified, identifies, identify, identifying, invest, invested, investment, lay, laying, local, locally, locate, located, locating, location, locations, office, order, 'order', 'order', ordered, ordering, orders, place, place’, placed, places, point, point’, pointed, points, posed, posited, position, positioned, positioning, positions, positive, post, posts, property, put, puts, putting, range, ranges, ranging, rate, rated, rates, rating, ratings, seated, seats, send, sending, set, sets, setting, settings, site, site’, sites, siting, situate, situated, situation, situations,
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space, space', spaces, spot, station, target, targeted, targeting, targets

act, act', acted, acting, acts, bring, bringing, brings, employ, employed, employer, employing, employment, employs, exercise, exercises, exercising, forged, form, forming, forms, function, functional, functional', functionality, functionally, functioned, functioning, functions, going, influence, influenced, influencers, influences, make, makes, making, moulding, operate, operated, operates, operating, operation, operational, operations, operations', operative, operator, operators, plant, plants, play, played, playing, plays, run, running, runs, shaped, solve, solved, solving, solving', studied, studies, study, studying, turn, turns, work, work', worked, working, workplace, workplaces, works

team, teams
	house, hospitalisation, hospitals

accomplish, accomplishing, accomplishment, achievable, achieve, achieved, achievement, achieves, achieving, coach, coached, coaches, coaching, contend, cope, coping, deal, dealing, direct, directed, direction, directions, directives, directly, director, directors, 'do, handle, handled, handling, manage, managed, management, manager, managers, manages, managing, oversee, overseeing, oversees, realize, realized, supervise, supervised, supervision

HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?
| 21 | learning | 603 | 0.51 |
| 22 | risk     | 292 | 0.50 |
| 23 | one      | 333 | 0.47 |
| 24 | clear    | 570 | 0.46 |
| 25 | project  | 448 | 0.46 |
| 26 | well     | 334 | 0.45 |

- acquire, acquired, acquiring, ascertain, check, check', checked, checked', checking, checks, condition, conditions, determination, determine, determined, determines, discover, discovered, discovering, discovers, hear, instructed, instructing, instruction, instructional, instructions, instructive, know, knowing, knowledge, knowledgeable, knows, learn, learned, learning, learns, letter, letters, read, reading, reads, see, seeing, sees, studied, studies, study, studying, take, takes, taking, 'taking, teach, teaching, watch, watched
- chance, chances, dangerous, risk, risks
- one, ones, right, rightfully, single
- author, authorisation, authorise, authorised, authorises, authorising, authority, authors, brightening, clarity, clean, cleaned, cleaning, cleans, clear, clearing, clearly, discharge, discharged, discharges, discharging, distinction, distinctly, earnings, enlightened, gain, gained, gaining, gains, intelligent, light, light', lights, make, makes, making, net, open, open', opening, openly, openness, opens, pass, pass', passes, passing, realising, realize, realized, solve, solved, solving, solving', top, top', understand, understandable, understanding, understands
- contrivances, design, designate, designed, designing, designs, external, external', externally, figure, figures, image, imaging, picture, pictures, plan, plan', planned, planning, plans, project, 'project, projected, projects, proposal, propose, proposed, proposes, relieve, see, seeing, sees, task, tasks, throw, throwing, undertake, undertaking, visual, visualise, visually
- advantage, advantages, comfort, comfortable, comfortably, considerable, considerably, considerate, considerations, easily, good, goode, goods, health, health', intimate, substantiated, well, 'well

HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?
| 27 | support | 520 | 0.45 |
| 28 | ensure | 467 | 0.45 |
| 29 | events | 549 | 0.44 |
| 30 | healthcare | 249 | 0.44 |
| 31 | report | 391 | 0.43 |

accompanyed, accompanying, admirable, affirm, affirmed, affirming, affirms, assist, assistance, assistant, assistants, assisted, assisting, back, backed, backs, brooks, champion, champion', champions, 'champions', champions', confirm, confirmation, confirmed, confirms, defend, digest, document, documentation, documented, documented', documents, encourage, encouraged, encouragement, encourages, encouraging, endure, enduring, friendly, funding, help, helped, helpful, helping, helps, hold, holding, holds, keep, keeping, keeps, live, lived, lives, reinforce, reinforces, sponsor, sponsored, sponsors, stand, standing, subscribers, substantiated, suffer, suffered, suffering, suffers, support, supported, supporting, supportive, supports, sustain, sustainability, sustainable, sustained, sustaining, sustainment, tolerance, tolerances, tolerating, underpin, underpinning, underpins

ascertain, assurance, assure, assured, check, check', checked, checked', checking, checks, control, controlled, controllers, controlling, controls, ensure, ensured, ensures, ensuring, guarantee, guaranteed, guaranteeing, insurance, secure, securely, secures, securing, security, see, seeing, sees

case, cases, consequence, consequences, consequent, consequently, effect, effect', effective, effectively, effectiveness, effects, event, events, events', issue, issues, issuing, outcome, outcomes, result, resulted, resulting, results, upshot

account, accountability, accountable, accounted, accounting, accounts, cover, coverage, covered, covering, covers, describe, described, describes, describing, paper, papers, report, reportable, reported, reporting, reports,
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reputation, stories, story, studied, studies, study, studying, theme, themes

ask, asked, asking, asks, demand, demanding, demands, inevitable, inevitably, involve, involved, involvement, involves, involving, motivate, motivated, motivation, motivator, motive, motives, necessarily, need, need’, needed, needing, needs, require, required, requirement, requirements, requirements’, requires, requiring, take, takes, taking, ’taking, want, wanted, wanting, wants

lead, leader, leaders, leadership, leading, leads

appraisal, appraisals, appraise, appraised, appraises, appreciable, appreciate, appreciated, assess, assessed, assessing, assessment, assessments, evaluate, evaluated, evaluates, evaluating, evaluation, evaluations, evaluator, measurable, measure, measured, measurement, measurements, measures, measuring, precious, rate, rated, rates, rating, ratings, respect, respected, respectful, respecting, respects, valuations, value, ’value, valued, values

allow, allowed, allowing, allows, furnish, furnishings, leave, leaves, leaving, offer, offered, offering, offerings, offers, provide, provided, providence, provider, providers, providers’, provides, providing, supplied, supplier, suppliers, supplies, supply, supplying

act, act’, acted, acting, acts, ’do, execute, executed, execution, executive, executives, function, functional, functional’, functionality, functionally, functioned, functioning, functions, operate, operated, operates, operating, operation, operational, operations, operations’, operative, operator, operators, perform, performance, performances, performed, performer, performers, performing, performs, play, played, playing, plays
| 37 | training | 480 | 0.39 | aim, aimed, aiming, aims, check, check', checked, checked', checking, checks, coach, coached, coaches, coaching, condition, conditions, develop, developed, developer, developing, development, developments, develops, direct, directed, direction, directions, directives, directly, discipline, disciplined, educating, education, preparation, prepare, prepared, prepares, preparing, school, schools, take, takes, taking, 'taking, trail, train, trained, training, training', trains |
| 38 | medical | 218 | 0.38 | medical, medically, medication, medications, medicine, medicine', medicine', medicines, medicines' |
| 39 | change | 261 | 0.37 | alterations, change, changed, changes, changing, convert, exchange, exchanges, interchangeable, modification, modified, modify, shift, shifted, shifting, shifts, switch, transfer, transferred, transfers, varied, varies, variety, vary, varying |
| 40 | flow | 295 | 0.37 | course, courses, current, currently, fall, ‘fall, falling, falls, feed, feeding, flow, ‘flow, flow’, flowing’, flows, hanging, period, periodic, periodically, periods, run, running, runs, stream, stream', streaming, streamline, streamlined, streams, streams' |
| 41 | reduce | 235 | 0.37 | abridged, concentrate, concentrating, contract, contracted, cut, cuts, cutting, decrease, decreased, decreases, decreasing, reduce, reduced, reduces, reducing, reduction, reductions, shortening, tightened, trim |
| 42 | found | 423 | 0.36 | base, based, constitute, constitutes, creation, establish, established, establishes, establishing, establishment, establishments, found, foundation, founded, ground, initial, initially, initiated, initiates, initiative, initiatives, innovate, innovation, innovative, innovatively, innovator, institute, instituted, institutes, instituting, institution, institutionally, institutions, introduction, launch, launched, |
| 43 | problem | 224 | 0.36 | job, jobs, problem, problem', problems, trouble |
| 44 | physicians | 237 | 0.36 | doctor, doctoral, doctors, doctors', physician, physicians, physicians', physicians' |
| 45 | example | 339 | 0.35 | case, cases, example, examples, exercise, exercises, exercising, illustrate, illustrated, illustrates, illustrating, instance, instanced, lesson, lessons, model, modelled, modelling, models, represent, representative, representatives, represented, representing, represents |
| 46 | safety | 240 | 0.35 | guard, safe, safely, safety |
| 47 | good | 625 | 0.35 | beneficial, depend, dependable, dependencies, dependency, dependent, depending, depends, effect, effect', effective, effectively, effectiveness, effects, estimate, estimated, full, good, goode, goods, healthy, honest, just, near, nearly, respect, respected, respectful, respecting, respects, right, rightfully, safe, safely, salutary, secure, securely, secures, securing, security, serious, seriously, sounding, sounds, thorough, thoroughly, tidying |
| 48 | take | 815 | 0.34 | accept, acceptable, acceptance, accepted, accepting, acquire, acquired, acquiring, admit, admits, admitted, adopt, adopted, adopting, adoption, adopts, assume, assumed, assuming, bring, bringing, brings, carried, carries, carry, carrying, charter', choose, chooses, choosing, claim, claimed, claiming, claims, conduct, conducted, conducting, consider, considered, considering, consumables, consumed, consumer, consumers, consuming, contain, contained, container, containers, containing, containment, contains, deal, dealing, direct, directed, direction, directions, directives, directly, drive, drives, driving, engage, engaged, engagement, engages, engaging, exactly, fill, filled, filling, |
**Research and Clinical Imagery**

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<th><strong>Research</strong></th>
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<td>clinic, clinical, clinical', clinically, clinics</td>
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**How Can NHS Hospitals Manage Processes to Reduce Risk and to Improve Learning?**
Further grounded coding employing Gioia Data-Structure forms

**Figure 15 The Gioia templates**

<table>
<thead>
<tr>
<th>1st order RISK concepts: inadequate hospitals</th>
<th>2nd order themes</th>
<th>Aggregate dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There was no review procedure of clinical guidelines, which were not up to date; (CQC assessments)</td>
<td>Preventative procedures not respected</td>
<td>Respect and follow procedure (a)</td>
</tr>
<tr>
<td>• Better service performance measures were needed, which had to be reported and monitored; (CQC assessments)</td>
<td>• No confirmations were possible of an audit trail because a seal broken on a trolley and a tag label were not numbered; (CQC assessments)</td>
<td>Risk of infection and sepsis poorly controlled</td>
</tr>
<tr>
<td>• No confirmation was possible of an audit trail because a seal broken on a trolley and a tag label were not numbered; (CQC assessments)</td>
<td>• In times of Covid, one Trust was advised to ensure that all staff comply with guidelines for the safe use of personal protective equipment, particularly with regards to the use of gloves and aprons. (CQC assessments)</td>
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<th>2nd order themes</th>
<th>Aggregate dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Trust did not ensure that proper rooms were allocated for use with psychiatric patients to meet requirements to keep patients safe; (CQC assessments)</td>
<td>Mental-health guidelines not respected</td>
<td>Respect and follow procedure (c)</td>
</tr>
<tr>
<td>• Staff did not always follow the principles of the mental capacity act and best interest decisions were not always undertaken or documented; (CQC assessments)</td>
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<td></td>
</tr>
<tr>
<td>• The care provided was not always in line with best practice and some aspects were based on the judgment of staff. Staff did not always follow the principles of the Mental Capacity Act. (CQC assessments)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Trust staff did not always follow national guidance to gain patients’ consent. They did not always know how to support patients who lacked capacity to make their own decisions or were experiencing mental ill health. They did not always use agreed personal measures that limit patients’ liberty. (CQC assessments)</td>
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<tr>
<td>• The unit did not have a compliant mental health room, in line with guidance in the Royal College of Emergency Medicine toolkit, Mental Health in Emergency Departments 2013. (CQC assessments)</td>
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</tr>
<tr>
<td>• Most staff had not received training in the Mental Capacity Act 2005 (MCA) and Deprivation of Liberty Safeguards. Staff needed training to understand deprivation-of-liberty safeguards and regulations and to ensure consent to care and treatment guidelines. (CQC assessments)</td>
<td></td>
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<tr>
<td>• Clinical support workers (CSWs) providing 1:1 observation to patients experiencing acute mental health problems did not have mental health competencies to give them the confidence to carry out this role. (CQC assessments)</td>
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</table>
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order RISK concepts: inadequate hospitals

2nd order themes

Aggregate dimensions

<table>
<thead>
<tr>
<th>2nd order themes</th>
<th>1st order RISK concepts: inadequate hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect and follow procedure (d)</td>
<td>• Resuscitation equipment was not visually checked daily and comprehensively checked weekly respecting Trust and manufacturer guidelines; (CQC assessments)</td>
</tr>
<tr>
<td>Respect and follow procedure (f)</td>
<td>• Arrangements for ensuring the availability, integrity and confidentiality of identifiable data, records and data management systems were not always in line with data-security standards. (CQC assessments)</td>
</tr>
<tr>
<td>Respect and follow procedure (e)</td>
<td>• No procedures existed for recording, storing or destroying medicines; (CQC assessments)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd order themes</th>
<th>1st order RISK concepts: inadequate hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine related risks not managed</td>
<td>• No procedure was found for administering medicines in the right quantity at the right times; (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• Processes to monitor the safe storage of medicines were not always followed; (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• Medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol was not undertaken (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• Systems and processes used to prescribe, administer, record and store medicines were not always robust; (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• The Trust must ensure the risks associated with storing out of date-controlled drugs are removed; (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• The Trust must ensure appropriate checks are in place for all medicines, including emollients and creams, so they are within their expiration date. (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• Room and fridge temperatures were not routinely monitored. (CQC assessments)</td>
</tr>
<tr>
<td>Medicine related risks not managed</td>
<td>• In one surgical service, theatre-controlled drug checks were observed as not completed daily (CQC assessments)</td>
</tr>
</tbody>
</table>
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

### 1st order RISK concepts: *inadequate hospitals*

<table>
<thead>
<tr>
<th>2nd order themes</th>
<th>Aggregate dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor cleaning and clutter</td>
<td>Respect and follow procedure (g)</td>
</tr>
</tbody>
</table>

- Some ward and theatre areas were visibly clean although cluttered with patient equipment and visitor chairs in front of fire exits.

- Fixtures and fittings were not well maintained (CQC assessments).
- The temporary environment of one unit was unfit for purpose in that it was cramped, with five services working alongside each other within a small area posing a fire risk and infection control problems (CQC assessments).
- Access was by either stairs and lifts and signage did not clearly identify the right route. This meant patients may take the stairs and be delayed or at risk: monitoring of the stairs was not consistently maintained to ensure patients were not delayed there (CQC assessments).
- Recommendations were made to improve signage and access by stairs and lifts to clearly identify the right route (CQC assessments).

### Facilities risks

- The systems and processes for identifying, reviewing and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation (CQC assessments).
- In many cases incidents including serious incidents were not reviewed or investigated in a timely manner, and there was no effective senior level oversight (CQC assessments).
- Staff had not been provided with the correct list of incidents that should be categorised as a Never event and had not acted on them accordingly (CQC assessments).

### Incidents poorly identified or reported

- There were inconsistencies in staff being able to recognise and report incidents (CQC assessments).

### Poor recognition of incidents

**Recognise and feedback error (h)**
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order RISK concepts: inadequate hospitals

2nd order themes

Aggregate dimensions

• Patient outcomes were not routinely collected and monitored. (CQC assessments)
• The service did not always collect reliable data and analyse it. Staff could not always find the data they needed in easily accessible formats to understand performance, and to make decisions and improvements. (CQC assessments)
• Staff were unable to use information to improve care, treatment and patient outcomes. (CQC assessments)
• Information was not always collected, analysed, managed and used well to support activity. (CQC assessments)
• The commissioners cited cases of, ‘no formal clinical audit plan’ and ‘the trust should ensure the minor injuries unit has a systematic programme of clinical audit and local audit and processes in place to review what action should be taken’. (CQC assessments)
• Mortality and morbidity remained an area of concern during the previous inspection and had not improved; the trust should ensure mortality and morbidity reviews have adequate detail and evidence of actions or learning as a result. (CQC assessments)
• Theatre staff told CQC inspectors that the audit process was not embedded; the submitted theatre-safety action plan had no completed actions identified, and indeed trauma and orthopaedics patients had a higher expected risk of readmission for elective admissions when compared to the England average. (CQC assessments)
• The theatre risk register showed a risk for more than two years that remained unresolved. (CQC assessments)

Data not collected or adapted

Monitor, diagnose and feed back (i)

1st order RISK concepts: inadequate hospitals

2nd order themes

Aggregate dimensions

• Incidents went unrecognised and thus unreported. (CQC assessments)
• There were no clean-zone access procedures to operating theatres or dedicated changing areas. (CQC assessments)
• Risk assessment of patients prior to surgery did not provide a clear audit trail of the decisions, of theatre confirmation, of staffing or of required equipment. (CQC assessments)
• The air change rate of 18 changes per hour was less than stipulated for a theatre environment at 25 changes per hour. (CQC assessments)
• There was no surgeon’s control panel or full specification theatre light, with back up in case of a power cut. (CQC assessments)
• An operating room was 21 square metres, but to meet theatre standards, it should be a minimum of 50 square metres. (CQC assessments)

Surgical processes poor

Monitor, improve, respect procedure (j)

Follow-up action not taken; Improvement not occurring

Act to improve procedure and/or inputs (m)

• The information systems were not integrated. Staff did not always report safety incidents and did not always learn lessons from them. (CQC assessments)

• Services monitored the effectiveness of care and treatment but did not consistently use the findings to improve patient outcomes. (CQC assessments)
• The service used monitoring results; but it was not clear how this was used to improve safety. (CQC assessments)

Monitoring without improvement
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order RISK concepts: inadequate hospitals

Staff collected safety information but did not always use this to improve the service. (CQC assessments)
Staff did not always complete or update risk assessments for each patient in medical care and did not always identify clear actions to remove or minimise risks. (CQC assessments)
The CQC was not assured that one of the services was always meeting the requirements to provide safe care in all areas. (CQC assessments)
The systems and processes for identifying, reviewing and grading of harm and impact from incidents were not effective and incidents were not assigned the correct categorisation. The Trust did not have effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. (CQC assessments)
Inspectors saw a number of records with a sepsis pathway in a child’s records, however, the documentation was incomplete, and it was unclear what action had been taken and the outcome. (CQC assessments)
Inspectors saw a number of records with a sepsis pathway in a child’s records, however, the documentation was incomplete, and it was unclear what action had been taken and the outcome. (CQC assessments)

Act to improve procedure and/or inputs (k)

Action not taken to correct and improve

Staff not learning to prevent or to improve

Never Events not followed by learning

1st order RISK concepts: inadequate hospitals

In the wards, arrangements for the round did not always include multidisciplinary input and hospital-at-night teams could not always ensure a safe service; units needed to ensure multidisciplinary team (MDT) working joined up across critical care to ensure there was coordinated MDT patient review and management. (CQC assessments)
A need existed to improve patients’ care experience, especially in protecting their dignity and comfort. (CQC assessments)
Care provided was not always in line with best practice and some aspects were based on the judgment of staff. (CQC assessments)
Records showed that patients with additional nutrition and hydration needs were not always assessed or commenced on special feeding and hydration techniques when necessary. (CQC assessments)
One Trust Quality Account stated: ‘We have stopped the practice of patients being placed in areas inappropriate for delivering safe, high quality and dignified care’.
The CQC found dietary risks to renal patients and that antibiotics were not always administered within an hour of identifying patients with suspected sepsis. (CQC assessments)
CQC inspectors required that end-of-life plans must be completed, and risk data measured and registered. (CQC assessments)
Best practice was not always being followed as not all staff were in attendance at the safety briefing.
The effectiveness of the service was not always monitored. (CQC assessments)

Improve, respect and follow procedure (n)

Patient assessment not always completed or acted upon
There was no procedure to assess, monitor and review safety and quality performance; (CQC assessments)

There were concerns about the systems and processes for ensuring patients were risk assessed prior to surgery. (CQC assessments)

There were no systems and processes to ensure lone working community midwives were able to respond to emergency situations. (CQC assessments)

CQC inspectors also noted that clinical guidelines were not regularly reviewed and were not up-to-date. (CQC assessments)

Staff reported anaesthetists who discarded controlled drug waste without a witness present: all controlled drugs must be checked daily and evidence documented. (CQC assessments)

Not all chemicals were stored safely. (CQC assessments)
### 1st order RISK concepts: outstanding hospitals

| Patients had individual risk assessments which were comprehensive, reviewed regularly and shared between any teams working with the same patient. (CQC assessments) |
| Staff completed risk assessments for each patient swiftly. (CQC assessments) |
| Care plans reflected the assessed needs, were personalised, holistic and recovery oriented. (CQC assessments) |
| Patients' care and treatment records were clear, up-to-date, stored securely and easily available to all staff providing care. Patient notes were comprehensive, and all staff could access them easily. (CQC assessments) |
| Staff kept detailed records of patients' care and treatment. Records were clear, up-to-date, stored securely and easily available to all staff providing care. Patient notes were comprehensive, and all staff could access them easily. (CQC assessments) |
| Safety information was collected and used. (CQC assessments) |
| Staff collected safety information and used it to improve the service. (CQC assessments) |
| The service used safety monitoring results well. (CQC assessments) |

### 2nd order themes

- **Good patient record keeping**
  - Managers were aware of the key risks in their services and these were reflected in local risk registers. Risk registers were used effectively to escalate risks and ensure they were addressed. Risk registers were used in each department, at divisional and Trust level to review and monitor risk. (CQC assessments)
  - Staff collected safety information and shared it with staff, patients and visitors. (CQC assessments)

- **Maintain essential records**
  - Staff collected safety information and shared it with staff, patients and visitors. (CQC assessments)
  - Staff collected safety information and used it to improve the service. (CQC assessments)
  - The service used safety monitoring results well. (CQC assessments)

### Aggregate dimensions

| 1st order RISK concepts: outstanding hospitals |
| 2nd order themes |
| Aggregate dimensions |

- Recorded risks were generally aligned with what staff stated were the key risks. (CQC assessments)
  - Staff assessed risks to patients, acted on them and kept good care records. (CQC assessments)
  - Staff collected safety information and shared it with staff, patients and visitors. (CQC assessments)

- Risk assessment done and acted on. (CQC assessments)
  - Staff assessed risks to patients, acted on them and kept good care records. (CQC assessments)
  - Staff completed risk assessments for each patient swiftly. They removed or minimised risks and updated the assessments. (CQC assessments)
  - Staff identified and quickly acted upon patients at risk of deterioration. (CQC assessments)
  - They removed or minimised risks and updated the assessments. (CQC assessments)
  - Services had effective systems for identifying risks, planning to eliminate or reduce them, and coping with both the expected and unexpected. (CQC assessments)
  - Risk registers good and acted on. (CQC assessments)

- Records as a tool
  - Records as a vector of communication
  - Records acted on to limit risk
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order RISK concepts: outstanding hospitals

2nd order themes

Aggregate dimensions

- Monitor that all medicines, including controlled drugs, are stored correctly and that disposals records are accurate. (CQC assessments)
- Another service mostly prescribed, gave, recorded and stored medicines well, patients getting the right medication at the right dose at the right time. (CQC assessments)
- The service prescribed, gave, recorded and stored medicines well, patients getting the right medication at the right dose at the right time. (CQC assessments)
- Staff generally followed systems and processes when safely prescribing, administering, recording and storing medicines. (CQC assessments)
- The service used systems and processes to safely prescribe, administer, record and store medicines. (CQC assessments)
- Medicines were appropriately prescribed and administered to people in line with the relevant legislation and current national guidance such as the transition between inpatient hospital settings and community or care home settings for adults with social care needs. (CQC assessments)

An Electronic Prescribing and Medicines Administration System (ePMA) exists across the Medical Care Group wards and Emergency Department; this means that appropriate medication is given, reducing unnecessary life-threatening exposure to adverse drug related accidents, and delayed and missed doses. For clinicians, this means decision support at the point of prescription, improved legibility, a reduction in transcription errors and improved and effective communication. (CQC assessments)

- Daily handovers by the medical team were found to be informative, with detailed multidisciplinary discussions of current cases and the actions taken. (CQC assessments)

1st order RISK concepts: outstanding hospitals

Effective medicine management

Manage medicines

Effective prescription

Manage administration of medicines

Communicate clinical information well

Shift handovers well performed

Maintain essential records

Managing confidentiality

Ensure confidentiality
1st order RISK concepts:

- They kept equipment and the premises visibly clean. (CQC assessments)
- The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. (CQC assessments)
- Patient moving and handling equipment was available on the ward and in theatres. (CQC assessments)
- This had been maintained and serviced appropriately, maintenance records were seen. (CQC assessments)
- Equipment is checked systematically and available for use. (CQC assessments)
- Staff understood how to protect patients from abuse and managed safety well. (CQC assessments)
- Individual wards had completed quality improvement initiatives to reduce the number of patient-on-staff assaults and self-harming behaviour on the inpatient wards. (CQC assessments)
- When providing care for patients, staff took precautions and actions to protect themselves and patients. (CQC assessments)
- The trust must ensure that patients are kept safe... (CQC assessments)
- In acute wards for adults of working age and psychiatric intensive care units a positive risk panel was held weekly, staff could discuss particularly complex, high risk patients with senior clinicians in order to agree an effective care plan and to review risk. (CQC assessments)
- A positive risk panel was held weekly, staff could discuss particularly complex, high risk patients with senior clinicians in order to agree an effective care plan and to review risk. The panel supported staff to implement evidence-based care in line with trust policy. (CQC assessments)

2nd order themes

Aggregate dimensions

- Effective infection control
- Separating sterile, elective theatres from A&E theatres
- Feedback on safety to control risk
- Monitor and act on patient safety
- Good equipment availability
- Protecting from assault and abuse
- Effective staff meetings to discuss risk
- Communicate clinical information well
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order RISK concepts: outstanding hospitals

2nd order themes

Aggregate dimensions

- Staff generally understood their roles and responsibilities under the Mental Health Act 1983 and the MCA. (CQC assessments)
- Staff regularly reviewed the effects of medications on each patient’s physical and mental health. (CQC assessments)
- Mental health guidelines respected
- Provide clean and safe facilities
- Respect and apply procedure
- Communicate clinical information well
- Safe facilities
- Good information management
- Mental health guidelines respected
- Action taken on risk
- Act on feedback

- The design, maintenance, and use of facilities, premises, and equipment kept people safe. (CQC assessments)
- All areas were clean and had suitable furnishings which were well-maintained. The design, maintenance, and use of facilities and premises kept people safe. (CQC assessments)
- They kept equipment and the premises tidy and clean. All areas were clean and had suitable furnishings which were well-maintained. (CQC assessments)
- The trust should ensure that cleaning schedules displayed are completed to show areas that have been cleaned. (CQC assessments)

- The CQC found that the trust collected, analysed, managed, and used information well to support all its activities, using secure electronic systems with security safeguards. Information needed to deliver effective care and treatment was well organised and accessible. (CQC assessments)
- In A&E, patient clinical information is displayed on a TV screen at the A&E coordinator hub and zone. (CQC assessments)
- The trust should ensure that cleaning schedules displayed are completed to show areas that have been cleaned. (CQC assessments)
- The trust should ensure that cleaning schedules displayed are completed to show areas that have been cleaned. (CQC assessments)
- They kept equipment and the premises tidy and clean. All areas were clean and had suitable furnishings which were well-maintained. (CQC assessments)
- Staff kept themselves, equipment, and the premises clean. (CQC assessments)
**1st order RISK concepts: outstanding hospitals**

<table>
<thead>
<tr>
<th>Aggregate dimensions</th>
<th>2nd order themes</th>
<th>Surgical processes good</th>
<th>NHS guidance (Best practices) respected</th>
<th>Good waste and chemicals management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The theatre scheduling policy included risk assessment, criteria on allocation of theatre lists, management of emergency situations, authorisation process, last minute changes and allowances to the operating theatre lists’ schedule. The key objectives were to ensure information was as visible as possible and theatre teams took ownership to ensure the right specialty was in the right place. A theatre pro-forma ensured appropriate theatre allocations. We saw an example of the completed session form (theatre pro-forma): this included the specialty, primary surgeon, planned procedure, patient acuity, surgical class, and known comorbidities. (CQC assessments)</td>
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<tr>
<td>• In a surgical zone, theatre access was secure, with a reception area where staff were greeted and shown to changing areas. The storage of surgical equipment and instruments was well organised and appropriate stock levels maintained. (CQC assessments)</td>
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<tr>
<td>• Staff assessed and managed risks to patients well and followed best practice in anticipating and de-escalating volatile situations. (CQC assessments)</td>
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<tr>
<td>• Emergency trolleys, which include resuscitation equipment, are available on each ward and department. The trolleys are tamper-evident to reduce the risk of equipment being removed and unavailable in case of an emergency. Staff carries out daily and weekly checks of this equipment to ensure it is ready for use in an emergency. CQC controllers checked three trolleys across the wards and saw all were in line with policy and that no dates had been missed for the month so far. They saw information located with or above the trolleys, providing guidance for staff about the emergency procedures and action to take. Additionally, surgeons have been nominated for specific procedures as for example, cemented hip replacement, which have been standardised. (CQC assessments)</td>
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<tr>
<td>• Staff managed clinical waste well. (CQC assessments)</td>
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<tr>
<td>• CQC inspectors checked that all chemicals are stored safely.</td>
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**2nd order themes**

- **Ensure safe surgical procedure and facilities**
- **Respect and apply procedure**
- **Good waste and chemicals management**

**1st order RISK concepts:**

**outstanding hospitals**

- • Two extreme risks were escalated to the corporate risk register. The medical devices group was now being provided with the responsibility to ensure medical device governance and review risks and were now named the medical devices oversight group. The purpose of this group was to provide assurance to the trust regarding safety, suitability, availability and safe use of all medical devices in use across the trust: the current form did not have a clear auditable trail of the decision made. (CQC assessments)

- • Concerns around delayed transfer of care into an acute setting were raised as part of the warning notice. We were told by the trust that a new standard operating procedure (SOP) was in place, and we saw this was the case. The SOP gives clear guidance for midwives as to how to ensure that an ambulance was not diverted in a life-threatening situation, to another priority incident. (CQC assessments)
### 1st order RISK concepts: outstanding hospitals

<table>
<thead>
<tr>
<th>Theme</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure all staff from the theatre list team attend the safety briefing and safety debriefing. (CQC assessments)</td>
<td><strong>Insistence on attending safety meetings</strong></td>
</tr>
<tr>
<td>Consider the timings of the morning emergency theatre list meeting and the theatre morning huddle to ensure the theatre nurses can attend both in full. (CQC assessments)</td>
<td><strong>Communicate clinical information well</strong></td>
</tr>
<tr>
<td>The trust had enough staff to care for patients and keep them safe. (CQC assessments)</td>
<td><strong>Outstanding hospitals do manage staffing</strong></td>
</tr>
<tr>
<td>The hospital had enough staff to care for patients and keep them safe. Staff had training in key skills, understood how to protect patients from abuse, and managed safety well. (CQC assessments)</td>
<td>Focus governance on resources (p)</td>
</tr>
<tr>
<td>The service had enough nursing staff with the right qualifications, skills, training and experience to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix. (CQC assessments)</td>
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<tr>
<td>The service had enough medical staff with the right qualifications, skills, training and experience to keep patients safe from avoidable harm and to provide the right care and treatment. Managers regularly reviewed staffing levels and skill mix and gave locum staff a full induction. (CQC assessments)</td>
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<tr>
<td>The service had enough medical and nursing staff with the right qualifications, skills, training and experience to keep people safe from avoidable harm and to provide the right care and treatment. (CQC assessments)</td>
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<tr>
<td>Staff managed risk in a positive way and helped to facilitate timely and safe discharge. The service had enough staff to care for patients and keep them safe. Staff had training in key skills, understood how to protect patients from abuse, and managed safety well. (CQC assessments)</td>
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**HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?**
### 1st order LEARNING concepts: inadequate hospitals

1. The trust should ensure patient outcomes are collected, monitored, analysed and used to drive service improvements. (CQC assessments)

2. Managers investigated incidents and made recommendations, however, effective action to prevent future incidents was not always taken. (CQC assessments)

3. Although managers investigated incidents, lessons learned were not always shared with the whole team and the wider service and there were risks that incidents could recur. (CQC assessments)

4. The information systems were not integrated. Staff did not always report safety incidents and did not always learn lessons from them. (CQC assessments)

5. Generally staff recognised incidents but did not always report them. (CQC assessments)

6. In general, all incidents had to be reviewed and closed in a timely manner. (CQC assessments)

7. Staff did not always recognise and report incidents appropriately: managers investigated incidents and made recommendations, however, effective action to prevent future incidents was not always taken. (CQC assessments)

### 2nd order themes

<table>
<thead>
<tr>
<th>2nd order themes</th>
<th>Aggregate dimensions</th>
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</thead>
<tbody>
<tr>
<td>Patient outcomes not driving improvement</td>
<td>Act on feedback</td>
</tr>
<tr>
<td>Preventative action not taken</td>
<td>Act to prevent risk</td>
</tr>
<tr>
<td>Lessons not shared and incidents reoccurring</td>
<td>Share and apply learning</td>
</tr>
<tr>
<td>Incidents not well reported or acted on</td>
<td>Feedback error and act on it</td>
</tr>
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### Aggregate dimensions

<table>
<thead>
<tr>
<th>Aggregate dimensions</th>
<th>Focus on resources (p)</th>
<th>Communicate clinical information well</th>
<th>Respect and follow procedure</th>
<th>Respect and apply procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance framework not adapted to learning</td>
<td></td>
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<tr>
<td>Staff ignorance of complaints or of changes made</td>
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<tr>
<td>Safe surgery debriefing not compliant</td>
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<tr>
<td>Workarounds</td>
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</table>
### 1st order LEARNING concepts: inadequate hospitals

- Availability of the correctly qualified staff is a recurring problem including in maternity units where the concern is keeping patients safe. CQC evaluations include:
  - There were insufficient motivates with the relevant training, skills, experience or competency to care for high dependency women, and there was a lack of guidance for staff. (CQC assessments)
  - There were no formal arrangements to ensure there were suitable numbers of staff available to provide cover for a second obstetric operating theatre. (CQC assessments)
  - There were not always sufficient numbers of staff with the skills, knowledge and experience to meet patients' needs. There were no formal or long-term systems and processes to ensure there were sufficient numbers of registered nurses (Child Branch) deployed to meet the needs of children and young people in the emergency department at all times. (CQC assessments)
  - The service did not have enough staff to keep patients safe from avoidable harm and to provide the right care and treatment. (CQC assessments)
  - Some areas did not have enough nursing staff with the right qualifications, skills, training and experience to keep people safe from avoidable harm and abuse and to provide the right care and treatment. (CQC assessments)
  - Sufficient permanent staff were required but unavailable to keep people safe from avoidable harm and abuse, and not all staff had received safeguarding training on how to recognise and report abuse. (CQC assessments)
  - Both medical and nurse staffing was not adequate to keep patients safe: one hospital was understaffed with regular reliance on agency and locum staff. This meant that not all staff were equipped with the right qualifications, training and experience to keep people safe from avoidable harm and abuse, particularly overnight, when staffing numbers were reduced. Also, the lone working policy was not adhered to ensure staff safety. In particular, out of hours, doctors had to have the capability and confidence to review end-of-life patients. (CQC assessments)

- During this inspection we found that reviews lacked detail and there was little evidence of actions or learning as a result. (CQC assessments)
- During this inspection we were not assured sufficient learning had taken place around serious incidents we were aware of in theatre, because not all staff were aware of the learning that had taken place, or of any changes resulting from the serious incidents. (CQC assessments)
- Staff did not have regular opportunities to meet, discuss and learn from the performance of the service. (CQC assessments)
- Not all staff received supervision to provide support and monitor the effectiveness of the service. (CQC assessments)
- The service had not always improved its commitment to developing services by learning from when things go well and when they go wrong. (CQC assessments)

### Aggregate dimensions

<table>
<thead>
<tr>
<th>Staff qualifications and numbers insufficient</th>
<th>Focus governance on resources (p)</th>
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<tr>
<td>Focus on governance to resources (p)</td>
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<tr>
<td>Act on feedback</td>
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<tr>
<td>Communicate clinical information well</td>
<td></td>
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<tr>
<td>Inform and implicate staff</td>
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<tr>
<td>Focus governance on supervision quality</td>
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<tr>
<td>Inform and implicate staff</td>
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<tr>
<td>Poor learning mechanisms</td>
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HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

### 1st order LEARNING concepts:

<table>
<thead>
<tr>
<th>inadequate hospitals</th>
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<tbody>
<tr>
<td>Focus governance on process quality</td>
</tr>
<tr>
<td>Inform and implicate staff</td>
</tr>
<tr>
<td>Focus governance on skills development</td>
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<tr>
<td>Respect and apply procedure</td>
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### 2nd order themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Aggregate dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No quality improvement planning</td>
<td>Feedback to staff poor</td>
</tr>
<tr>
<td>Missing skills</td>
<td>Patient outcomes not collected</td>
</tr>
</tbody>
</table>

### Examples of issues identified:

- **Inadequate Hospitals**
  - **Focus governance on process quality**
  - **Inform and implicate staff**
  - **Focus governance on skills development**
  - **Respect and apply procedure**

#### Staff Training Issues:

- **Staff told us not all of the theatre team attended all briefings as one member of the team would often be collecting the patient. (CQC assessments)**
- **Although the service provided mandatory training in key skills, systems in place did not ensure all staff accessed mandatory training. The trust did not meet its own target for compliance for nursing staff. We found that medical staff had not undertaken mandatory training, and did not always follow recommendations for medicines management, for example medicine reconciliation within 24 hours, and a four-hour window between doses of paracetamol. (CQC assessments)**
- **The trust did not ensure everyone completed mandatory training. (CQC assessments)**
- **The trust should review the processes for assessing and recording staff competencies, including the use of medical devices. (CQC assessments)**
- **The trust should ensure that eligible staff receive sepsis training. (CQC assessments)**
- **While staff understood the need to protect patients from abuse, not all staff had completed training at the required level to ensure they had the appropriate level of knowledge to do so. (CQC assessments)**
- **The service did not have robust processes in place to ensure staff were competent for their roles. (CQC assessments)**
- **Staff needed to complete mandatory safeguarding training in time with the trust target.**
- **The service provided mandatory training in key skills to all staff but not everyone had completed it. (CQC assessments)**
- **Not all staff were up to date with annual refresher training. (CQC assessments)**
- **The service did not have robust processes in place to ensure staff were competent for their roles. The service provided mandatory training in key skills to all staff but did not ensure all staff completed it. (CQC assessments)**
**1st order LEARNING concepts: outstanding hospitals**

<table>
<thead>
<tr>
<th>2nd order themes</th>
<th>Aggregate dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning rooted in feedback</td>
<td>Learning as a continuous process of feedback and risk prevention</td>
</tr>
<tr>
<td>Training can be technical</td>
<td>Focus governance on skills development</td>
</tr>
<tr>
<td>Using information systems to learn</td>
<td>Focus governance on skills development</td>
</tr>
<tr>
<td>Learning from both good and bad</td>
<td>Recognise and feedback success and error</td>
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- Staff monitored the effectiveness of care and treatment. They used the findings to make improvements and achieved good outcomes for patients. (CQC assessments)
- Staff collected safety information and shared it with staff, patients and visitors. (CQC assessments)
- Band four nursing assistants had undergone extra training to increase their skill levels. This included training to change patients' catheters, provide pressure area care and to order specialist equipment. Band four staff had also been trained to support diabetic patients with blood glucose monitoring and administering insulin. The service had also rolled out projects to increase nursing staff capacity. For example, a review of diabetic patients' treatment plans was completed by district nurses and the diabetic specialist nurses and this had resulted in changes to patients' treatment plans, which saved approximately 57 trained nurse hours per month. (CQC assessments)
- The trust collected reliable data and analysed it. Staff could find the data they needed, in easily accessible formats, to understand performance, make decisions and improvements. The information systems were integrated and secure. All staff were fully committed to continually learning and improving services. They had a well-developed understanding of quality improvement methods and the skills to use them. Leaders proactively encouraged innovation and participation in research and actively celebrated staff successes. (CQC assessments)
- The trust was fully committed to improving services by learning from when things go well and when they go wrong. (CQC assessments)
- The trust collected reliable data and analysed it. Staff could find the date they needed, in easily accessible formats, to understand performance, make decisions and improvements. The information systems were integrated and secure. All staff were fully committed to continually learning and improving services. They had a well-developed understanding of quality improvement methods and the skills to use them. Leaders proactively encouraged innovation and participation in research and actively celebrated staff successes. (CQC assessments)
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**2nd order LEARNING concepts: outstanding hospitals**

<table>
<thead>
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<th>2nd order themes</th>
<th>Aggregate dimensions</th>
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<tbody>
<tr>
<td>Organising learning events</td>
<td>Focus governance on skills development</td>
</tr>
<tr>
<td>Learning includes staff sensitivity to distress</td>
<td>Focus governance on 'soft' skills development</td>
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<tr>
<td>Learning at all hierarchical levels</td>
<td>Train those who govern</td>
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- We attended the first of the surgical services sharing learning events during our inspection. These events were planned to be held monthly, and a 70% attendance from staff was expected. There were five specialty presentations to review three Never Events, one downgraded never event, and one serious incident from 2017. (CQC assessments)
- Learning from previous Never Events, although some time after the incidents, had been delivered as part of a surgical services shared learning event. (CQC assessments)
- The (Trust) introduced Swan lanyards for staff to wear to signal they were carrying out a bereavement visit. The end-of-life care (EoLC) team and bereavement service had introduced a bereavement visit lanyard for staff to wear when accompanying relatives on bereavement visits. This was implemented as learning from an incident in which a member of staff accompanying a bereaved parent was approached by a colleague inappropriately because they had not identified the nature of the situation. The new lanyard was discreet and branded with the Swan logo, which indicated to staff that they should not interrupt the visit. (CQC assessments)
- A standard operating procedure had been developed centrally to address the changes in policy and oversight. This had been shared with divisional senior management teams and cascaded through their governance arrangements. (CQC assessments)
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

1st order LEARNING concepts:

- The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients and visitors. The service continually monitored safety performance; it participated in all relevant national clinical audits and generally performed well in national clinical outcome audits. Managers used the results to improve services further within a comprehensive audit programme. (CQC assessments)
- All staff were fully committed to continually learning and improving services. They had a strong and clear understanding of quality improvement methods and the skills to use them. Leaders encouraged innovation and participation in research. The service managed patient safety incidents well.
- Staff recognised and reported incidents and near misses. Managers investigated incidents and sometimes shared lessons learned with the whole team and the wider service. (CQC assessments)
- Staff are proactively supported and encouraged to acquire new skills and share best practice. They compared local results with those of other services to learn from them. (CQC assessments)
- The approach to learning from deaths was exemplary with a clear focus on areas other than clinical needs such as dignity, end of life care and the experiences of those close to patients. (CQC assessments)
- CQC findings at this Trust are that: services use a systematic approach to continually improve the quality of their processes and they safeguard high standards of care by creating an environment in which excellence in clinical care flourishes; they have effective systems for identifying and reporting risks, for planning to eliminate or mitigate them, and coping with both the expected and unexpected; they have procedures to ensure that lessons learned are shared with the team and wider service; they use information well to support all the activities and secure electronic systems with security safeguards. Incidents are investigated and a process for sharing lessons learnt with all staff is well embedded by various methods such as team meetings, clinical simulation, generic emails and noticeboards. (CQC assessments)
- Staff demonstrated a clear understanding of the requirement to, and reason for reporting incidents. They heard that feedback was given to those reporting incidents, so they could be assured the issues had been acted upon. (CQC assessments)

2nd order themes

- Management with clinical audits improves monitoring
- Learning engages the entire organisation
- Incidents present a key source of learning
- Mortality presents a key basis for learning

Aggregate dimensions

- Governance to ensure clinical safety audit
- Governance to convey a vision of process quality
- Focus governance on ‘soft’ skills development
- Feedback error and act on it
- The synergy of process quality, feedback, risk control and learning
- Learning as a continuous process of feedback and risk prevention
- Feedback is an essential component of learning
- Report error and get feedback on corrective action
### 1st order LEARNING concepts:

**Outstanding hospitals**

- The service managed patient safety incidents well. Staff recognised and reported incidents and near misses and reported them appropriately. Managers investigated incidents and shared lessons learned with the whole team, the wider service and other divisions. (CQC assessments)
- The service used monitoring results well to improve safety. Staff collected safety information and shared it with staff, patients and visitors. The service continuously monitored safety performance, it participated in all relevant national clinical audits and generally performed well in national clinical outcome audits. Managers used the results to improve services further within a comprehensive audit programme. (CQC assessments)
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- In the matter of learning, ‘The Trust is committed to becoming the safest and kindest Trust and as part of that, it is important that each complaint is seen as an opportunity to reflect, learn and make improvements in the areas that matter most to our patients and their carers and families. To assist with this, all staff asked to comment on a complaint, are asked to consider what learning has arisen from the complaint and what actions are needed to implement that learning. Individual staff are asked to reflect on complaints that they have been involved in and learning from complaints is also discussed at Care Board meetings, and at ward and departmental meetings. (Trust Quality Account)

### 2nd order themes

- Collaborative staff management learning
- Governance to encourage staff management teamwork
- Complaints form essential feedback for learning
- Recognise error and learn by acting on feedback

### Aggregate dimensions

- Training includes community work
- Contribute to the community
- Training engages governance
- Governance oversees applying procedure

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**Outstanding hospitals**

- The community health service for adults implemented new models of care, for example, a diabetes model of care had been written by the diabetic team. This enabled the place-based team staff, as well as residential and nursing home staff to obtain the skills and knowledge required to manage diabetic patients within the community. Staff were trained to check blood glucose levels, how to respond to hypos and how to administer insulin. There was a fully embedded culture of continuous learning, improvement and innovation throughout the community service for children and young people. (Trust Quality Account)
- For example, health visitors had introduced ‘Outcome Stars’ to help identify and assess parents who may need extra support. Physiotherapists had introduced free training courses to early years providers to support staff in helping children to be fit for learning. Occupational therapists had initiated equipment days which enabled families to try out a range of suitable equipment in a one stop approach. Speech and language therapists had introduced ‘babbling groups’, for children born with cleft lip and palate. Further examples included the introduction of ‘Chat Health’ text services for mothers and young people, school nurse parent drop-ins, the use of video interactive guidance to promote positive parenting, and the ‘Bump and Buggy’ programme, for which the service was awarded ‘Innovator of the Year 2019’ at the city council’s Health and Wellbeing awards. Continue to monitor that all staff receive an annual appraisal of their performance. (Trust Quality Account)
- The introduction of a band 4 ward coordinator role to support ward managers in monitoring staff mandatory training and appraisals. The role had demonstrated an increase in governance compliance, monitoring that all staff are up to date with mandatory training. (CQC assessments)
Pilot Interviews

Two pilot interviews with senior physicians follow in this section; the second is a transcript of a recording. Both are necessarily anonymous.

Pilot Interview 1

INTERVIEW BY RESEARCHER

Date: 7th December 2018
Position: Physician; University lecturer

Summary of points made

75% of doctors will cut down their work or leave/emigrate because of dissatisfaction.

50% of new NHS doctors come from abroad.

Physicians are suspicious of management; there is no trust; management make doctors miserable. Doctors don’t like feeling like mechanical parts in a system; they don’t like being monitored; they don’t like being dictated to. They find that management initiatives dehumanise them. Doctors roll their eyes when one talks of management initiatives. All management intervention is seen as intrusive.

Six Sigma for error prevention does interest physicians, but Lean performance is seen as being about making money.

Hospitals are currently underfunded.

Sussex NHS trust is seen as a poor trust. Rebuilding the current hospital was a poor decision. Doctors work while building is on-going creating disruption. The hospital siting is bad; there is not enough land around the hospital to build properly-cost is high.
Pilot Interview 2

INTERVIEW BY RESEARCHER

Date: 15th September 2019
Position: Senior hospital physician, USA

Transcription of recording

Q What can you say about burnout among physicians.

R In the minds of the people who make the decisions on how this is going to be set up, I don’t make the decision on how many patients I will see in a particular day or how long I will see them or whatever: that’s made by somebody else and that other person is using information that is based on something. I don’t know where they get it or how they decided that 15 minutes or 20 minutes is enough to see a follow up patient and maybe 30 minutes is enough to see a new patient because it isn’t, and everybody complains about it who I work with. And they’re trying to find ways to get it done without having to spend so much extra time, because, for every patient I see in the clinic for 15 or 20 minutes, I have to spend an extra half hour or more at another time of the day or night, finishing the computer based note, entering all the information, coming to a conclusion about with patient has, and what they’re going to do I can’t do that and most of my colleagues can’t do it, so it leads in a way to falsification of data because you have to fill in all the blanks and if you didn’t ask every single question that you have to ask in that short period of time where you have to maximize the period of time that you have so that you get what’s essential done of what the computer tells me I’m supposed to say or do. Then, you end up falsifying; you check off boxes without having asked that particular question, because otherwise you can’t complete the note. Even if that’s a completely irrelevant thing, it has to be checked off. So, the efficiency part of this, and this of course is capitalism. If this was to be done in a way that was better for me the doctor, maybe for the patient and for the whole system they would have a scribe in the room with me, so I don’t have to type anything. I can ask the questions, the scribe types it out, fills in the blanks does everything that I would normally have to do myself at a later time because
I have to get to see the next patient and that would take care of a lot of the so-called paperwork.

Q Would the scribe have the know-how to fill in what the physician would fill in?

R The scribe is just going to enter whatever I say and whatever the patient responds to certain questions: so if I said OK, well you’re here today; tell me about what’s going and what’s bothering you how long it’s been bothering you and how severe it is and anything else which you believe related to that, and then I would listen and describe and take down everything the patient said. Then I would ask some more questions and they would type that out and then, in the end, I would go back and review the note at a later time, but I would just have to go in and maybe make some minor corrections and then signoff on it. That would be great. The people in charge, the people deciding that I can only have 15 or 20 minutes with a patient, and then I have to see the next one, they’re saying, “well, you know we’re not going to make any money here unless you see more patients”. This is true where I work in a medical school, this is true in private practice as well. If you were in private practice and you’re in the office and you do hospital work as well, they divide up the work so someone spends a couple of days in the hospital and the other days in the office. Let’s say you work 3 days in the office. You come in in the morning, and you have 20 or 25 patients scheduled to see that day? That would not be out of the question by any means. So, you have to see 25 patients and you have 15 or 20 minutes to see each patient, you have to fly through that; you can’t waste any time. It’s situations like that which contribute to the burnout we see. The burnout comes from many different directions: not feeling supported, it comes from marital problems when you’re working like crazy. You treat a patient and the patient died; you’re going back and thinking, what did I do? All of those things can contribute, and then, not sleeping well and not having enough time off to get yourself together again. All those things contribute to that burn out. The burn out is a plague right now. There are live people affected by it. It turns out that not many people seek help. It’s an embarrassment to say, “I’m not able to do this”. It’s like failure. The powers that be are aware of this now. If you’re doing that every day, 25 patients three days in a row, 75 patients come in, most of them are not
going to have serious problems, but you are going to have to be able to go through that
group and then the other group that does have a serious problem that you have to spend a
half hour to 45 minutes with: everything backs up and then things got crazy. It’s a problem
nobody has solved yet. If you leave it up to physicians, they don’t know how to solve it; their
inclination is to spend the time regardless and just drive themselves take the extra time and
work to one o’clock in the morning doing your notes; get up in the morning at six and go to
work again. And that’s not working for a lot of people. I don’t feel it that badly because I only
go to the office once a week. The rest of the time I’m in the hospital seeing patients, but
even then I’ll work all day seeing patients in the hospital with people that work with me
training: they will type it out, most of the note, but then I have to go back and read their note
that night and make my own comment and I have to add something to that note; that will
take me usually to about 10:30 sometimes 11 o’clock. When you’re not sleeping well to
begin with, that can be a real problem. Nobody likes this but everybody has to do it to some
extent. Some people just don’t do it. The surgeons for example: their notes are generally
very skimpy; they have their junior physicians doing them most of the time. They will
obviously do a full operative note because they have to: they have asked to be very
thorough and well described. They may have one or two operations a day and that’s not
such a big deal. They don’t write it out or type it; they dictate it. So that’s the other way to
deal with some of this; but the dictation system that some practices/ physicians will use are
very expensive to use. They have one in the hospital, but it doesn’t help us because we
have to make sure that our notes are in the chart at a certain time, in the electronic medical
record, so we have to do it right then and there; we can’t dictate and then wait for the note to
actually appear, so that’s not a solution. But it is a real problem and it is a frustrating
problem: in my case it forces me to fall behind with the notes so that I’ll try to get everything
done on a weekly basis, but I never do that; I’m always behind; then you get further and
further behind, and then they get on your back because they can’t send a bill to the
insurance company: that’s the big deal because then they don’t get paid. So, unless I finish
everything, they can’t put a bill into the insurance company.
Q What happens if you go back to the managerial staff and say, “this is not working?”

R We have meetings of our department, which has around 100 to 150 physicians. We have meetings once a month with the head of the department. He’s a very bright guy, a well-known medical scientist who has done some very important research. He says, first of all when he came about 45 years ago from another institution, from Johns Hopkins to take over that job, he found out when he came that our department was about $8 million in debt; that the departmental budget was such that the number of people in the department at that time were getting paid a regular salary that was going well beyond what the budget was for the department and this had been developing over a couple of years and was actually evaluated at $8-9 million: he said, “we have to fix this and the only way to fix this is to see more patients”. So that they came up with this system gradually where we were only allowed a certain amount of time with the patient and that they were going to book patients accordingly so when I was in the office it wasn’t me who was booking the patient or telling them to come in; they would call in for an appointment; they were put in a slot; if there were three or four slots open for a particular hour, they would fill each one of those slots, and these were people who were not medical people who were answering the phone and making these decisions. They didn’t know what was wrong with the patient; they had no idea how long I would need to see the and that’s the way he wanted the system to work; he said that’s the only way we will make up this deficit and get above it. He was right in the sense that we’re seeing more patients, but the process for doing that has been an added stress on a lot of the physicians. A lot of them I work with complain about it, but they just go on doing their own thing. The end result is that the note that is written for a patient – I keep saying written, but these are all electronic now – the electronic generated note sometimes is very limited and what would seem to be essential information is just left out because it’s the only way for some people to get these things done. The hell with it, I’m going to sign off on this and if the federal government, if it’s Medicare or Medicaid, comes after me, so be it, or if the insurance companies complain that my notes are not adequate, I’ll worry about that later. People say, “you know, you want me to do this? OK I’ll do it, but it’s not going to be pretty, it’s just going
to be whatever I can do; I’m not going to be working every night until midnight doing electronic medical record information, but it’s that kind of pressure which contributes to this burn out problem and makes more and more physicians feel like leaving the practice and leaving medicine altogether at a certain age just to get away from it.

Q Is that 15 to 20 minutes a blanket time for all specialties in the hospital?

R It is modulated somewhat: I think the rheumatologist would have 45 minutes allotted to them for a new patient and maybe 30 minutes for an old patient, because again every time they see that patient, they’ve got to go through this long, detailed exam for all the things that are important to them; whereas my physical exam might take in some cases if it’s an old patient just coming in for a check-up, the exam itself, five minutes; I’ll talk to them for 10 or 15 minutes and then I’ll take care of the other stuff, but examining them is not so critical for me. For a rheumatologist, it would be. The same goes for a cardiologist: most of the time they don’t need to do too much examining as they have all this other data from all the things they do.

Q That would mean that somewhere along the line somebody analysed data and came up with the 15 to 20 minutes.

R I don’t know exactly what it’s based on but it’s not something they just pulled up out of the air.

Q Is it nationwide; is it imposed by the insurance companies?

R I should know this came from; it is modulated according to where you are and according to the specialty, you’re in. But not so specifically, for example, there isn’t data saying that a surgeon who is seeing a patient after an operation can only spend 15 minutes with that patient. The chances are that they will spend 15 minutes or no more, because their exam is going to be very limited. “Are you feeling OK? Let me look at your incision – it looks fine. You’re eating, OK? Very good – you’re doing well. Goodbye. “Whereas somebody in internal medicine or in rheumatology or gastro-enterology, asks, “what medicines are you taking?” “Well, I’m on ten different medicines“. “Let me look at each none of those and see if you’re on the right dosage.” That’s number one, then, “OK so, how are you feeling today.
Have things improved since the last visit?” “Well maybe they have a little bit. I have this problem and I have that problem. I saw this doctor and I saw that doctor” Oh my gosh! Here we go! This is a patient I’ve seen three times before and every time she comes in, she’s got a million questions or a million new complaints that I have to figure out and put in. You can’t get by that; you can’t walk out of the room and say, “OK. I think you’ll have to come back another time.” That’s not the right thing to do. You have to you have to figure out why I have this next patient in the room, and patients get angry: they’re sitting in a room; they have an appointment at 10:30 and you don’t show up until 10:45 or 11 because you’re in a room with another patient, whom you just can’t leave. And the patient gets angry, and they complain; they write letters, so you can’t win sometimes. You’re dealing with profession that involves very intimate contact with people and that contact can take many different forms: it can be brief and very supportive; it can be contentious sometimes; it can be very complicated; you just can’t predict from patient to patient. There’s no way to streamline this other than just ignoring a lot of the limitations of the electronic medical record and just trying to get through it as quickly as you can without missing anything.

Q Is it possible there’s been a process change? Let me explain what I mean. Supposing these 15 to 20 minutes had been calculated at a time when these procedures of reporting back to the insurance companies in order to be paid didn’t exist. That you didn’t have to give so much information. Is it possible that that has happened, and that the onus really should be on the insurance company now to understand that they can’t expect to go on that way, and probably to compensate by saying, “we calculated the sum years ago; we know now the conditions have changed; the time necessary is slightly longer”. Has such a possible process change been compensated?

R The main problem with that part of this business: in the US there’s Medicare coverage for people above the age of 65 which is automatic insurance for most people and then there’s Medicaid which is the same thing for poor people but it’s not as well covered. There are a lot of people on both Medicare and Medicaid and many of my patients are. Those two organizations contribute to or participate in a monitoring body that continually re-
evaluates physician payments for seeing patients; they’re always very low, these federal programmes; they also legislate for things we need to do to complete an evaluation; they’re really the police for my notes and if they just randomly pull out some of my notes from their database and come after me and say, “we’re not going to pay these, because you didn’t complete this; you didn’t do this or that.” How often does that happen? Not often, but it’s a threat that’s always hanging over you when you’re doing these things. That’s the biggest concern; the major non-governmental insurance companies don’t really get involved in that, so we don’t worry too much about that, but you know, once you’re doing it for one group you’re in tendency is, I’d better do it for everybody; I can’t be selectively doing things one way or the other.
NHS Never Events

*Never Events are serious incidents that are entirely preventable because guidance or safety recommendations providing strong systemic protective barriers are available at a national level and should have been implemented by all healthcare providers.*

For the period 2018-19, a trust reported one Never Event, relating to a retained foreign object post-surgical procedure. In this case, learning appears to have occurred with follow-up actions by staff: the trust undertook a list of significant improvement actions to mitigate the risk of reoccurrence of similar incidents, including: improved surgery safety checklists; improvements in theatre environment enabling recording of clinical equipment used; development of human factors awareness rolled out for theatre staff alongside the introduction of Local Safety Standards for Invasive Procedures (LocSSIPs); staff empowered to challenge areas of concern; regular communication to staff through the learning events to share lessons, trend analysis and to share areas of good practice.

The independent Healthcare Safety Investigation Branch\(^4\) states that Never Events should not be defined as such if they don’t have strong enough barriers in place to stop them happening. The patient safety incidents in their investigations cover seven areas which account for 96% of the total Never Events recorded in 2018/19. Their challenge of the definition of ‘Never Events’ identifies that the current barriers for these events do not make them ‘wholly preventable.’ They are therefore not Never Events according to the NHS definition. They suggest revising the Never Events list to remove events, such as those presented in the national learning report, which do not have strong and systemic safety barriers. They recommend developing programmes to find strong and systemic barriers for specific incidents where barriers are felt to be possible but are not currently available. They claim a disconnect between saying an event should ‘never’ happen and not having effective barriers to prevent it happening.

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The most common themes that contribute to the occurrence of Never Events include variability in task performance, design of technology, design of workplaces, coordination, and variability in organisational responses, the key theme being the ineffective barriers to Never Events. They claim evidence that barriers for such events are either limited or do not exist; many are administrative in nature, for example use of checklists or second checking of a task. They thus wish to remove such Never Events from the current list based on the idea that human elements and human interactions within the system are not capable to prevent them happening.

This may rather surprise aircraft pilots, who always use checklists in the strong belief that they are indeed effective in preventing accidents. This organisation states that Never Event scrutiny of this kind ‘affects the wellbeing of staff and reinforces the perception of a blame culture’. Such comment leads the analyst to speculate whether patient safety is the primary consideration in the claims of this group. There seems little doubt that the focus on Never Events has been very beneficial in the past in improving patient safety; it would be possibly unwise to lose some of this focus.

This represents a significant departure from the intentions presented in the 2011 document (quoted below) and published 2 years following the establishment of the CQC; in 2011, the document referred to ‘commissioners’ rather than to inspectors. In the earlier document the intention was to surface ‘serious, largely preventable patient-safety incidents that should not occur’, encouraging the reporting of patient safety incidents and ensuring that lessons are learned and implemented: the overriding concern for the NHS in implementing the “never event” policy was to report these events when they occur and to learn from the mistakes that were made. The clinical staff collective opposed that the NHS wished to blame and to punish individuals and individual organisations and that the initiative was not in keeping with a ‘blame-free’ culture. It threatened that any sort of punitive approach would have a big risk of ‘discouraging accident reporting and openness’.
The “Never Events” list 2011/12 was published by the Department of Health, and the following section including the definition of 25 Never Events presents various quote from this NHS document.

Never event – a serious, largely preventable patient safety incident that should not occur if the available preventive measures have been implemented by healthcare providers.

Severe harm – Any patient safety incident that appears to have resulted in permanent harm to one or more persons receiving NHS-funded care. Permanent harm is directly related to the incident and not related to the natural course of the patient’s illness or underlying condition, is defined as permanent lessening of bodily functions, sensory, motor, physiologic or intellectual, including removal of the wrong limb or organ, or brain damage.

Never events are thus serious, largely preventable patient-safety incidents that should not occur if the available preventive measures have been implemented by healthcare providers.

.To be a “never event”, an incident must fulfil the following criteria:

• The incident has clear potential for or has caused severe harm/death.
• There is evidence of occurrence in the past (i.e. it is a known source of risk).
• There is existing national guidance and/or national safety recommendations on how the event can be prevented and support for implementation.
• The event is largely preventable if the guidance is implemented.
• Occurrence can be easily defined, identified, and continually measured.

Their occurrence is an indication that an organisation may have not put in place the right systems and processes to prevent the incidents from happening and thereby prevent harmful outcomes. It is also an indicator of how safe the organisation is and the patient safety culture within that setting.

The Government wishes to maintain and increase the focus on safety in the NHS, especially through encouraging the reporting of patient safety incidents and ensuring that lessons are learned and implemented. However, it is also clear that serious failure will not be tolerated especially where there are clear guidelines and procedures in place to support organisations in preventing serious incidents.

Some organisations and individuals have deep-seated concerns about the use of a “never events” framework. Concerns included the following:

• the impression for many reading this list is that the NHS seems to be aiming to blame and punish individuals and individual organisations for defects for which the NHS itself may be in part responsible
the approach is not in keeping with a blame-free culture. Any sort of punitive approach has a big risk of discouraging accident reporting and openness. Concerns about whether particular events are truly preventable were repeated a number of times.

“Never” is obviously an aspiration. Some questioned the use of the word “never” when, demonstrably, these events do happen. The point is that they should not happen. Efforts must be made to prevent the mistakes that led to one “never event” being repeated. This means that the overriding concern for the NHS in implementing the “never event” policy is to report these events when they occur and to learn from the mistakes that were made. If, in individual cases, it can be shown that completely unanticipated or unpreventable circumstances led to an event occurring, we would suggest the commissioner and provider should agree not to classify it as a “never event”. The key consideration is that commissioners and providers should discuss fully the circumstances of the event and whatever the decision, ensure lessons are learned and implemented.

The principle is that the “never event” policy is not primarily about punishment; it is firstly, about reporting and learning to strengthen the systems for prevention, and only secondarily about not paying for poor quality. Some errors are so preventable and have such potential for harm, that even if harm is avoided, their incidence should still be classified as a “never event”. “Never” means avoiding incidents that cause death, serious long-term disability, significantly prolonged stays in hospital, further intrusive and unpleasant treatments and interventions, significant emotional and mental trauma, and wider consequences for quality of life, ability to work, family life and long-term wellbeing.

As discussed earlier “never” is an aspiration. These errors should not happen, and all efforts must be made to prevent these mistakes from being repeated. This means that the overriding concern for the NHS in implementing the “never event” policy is to discuss these events when they occur and to learn from the mistakes that were made. The CQC may use information on “never events” to inform its regulatory processes in conjunction with other indicators and, following a “never event”, may take any enforcement action it deems appropriate. This action could include imposing additional financial penalties such as fines, where a review of compliance following a ‘never event’ provides evidence of non-compliance with Essential Standards of Quality and Safety.

The ‘resistance’ has had considerable success in reducing the number of Never Events from the list chipping away at the interpretation of the word, preventable. From the 25 Never Events counted in 2011, the 2018 list now contains only 15.
The Never Events list published January 2018 (updated February 2021) by NHS Improvement is:-

**Surgical**
- Wrong site surgery
- Wrong implant/prosthesis
- Retained foreign object post procedure

**Medication**
- Mis-selection of a strong potassium solution
- Administration of medication by the wrong route
- Overdose of insulin due to abbreviations or incorrect device
- Overdose of methotrexate for non-cancer treatment
- Mis-selection of high strength midazolam during conscious sedation

**Mental health**
- Failure to install functional collapsible shower or curtain rails

**General**
- Falls from poorly restricted windows
- Chest or neck entrapment in bed rails
- Transfusion or transplantation of ABO-incompatible blood components or organs

**Organs**
- Misplaced naso- or oro-gastric tubes
- Scalding of patients
- Unintentional connection of a patient requiring oxygen to an air flowmeter

The 2011/12 list counted 25 Never Events

- Wrong site surgery
- Wrong implant/prosthesis
- Retained foreign object post-operation
- Wrongly prepared high-risk injectable medication
- Maladministration of potassium-containing solutions
- Wrong route administration of chemotherapy
- Wrong route administration of oral/enteral treatment Intravenous administration of epidural medication
- Maladministration of Insulin
• Overdose of midazolam during conscious sedation
• Opioid overdose of an opioid-naïve patient
• Inappropriate administration of daily oral methotrexate
• Suicide using non-collapsible rails
• Escape of a transferred prisoner
• Falls from unrestricted windows
• Entrapment in bedrails
• Transfusion of ABO-incompatible blood components
• Transplantation of ABO or HLA-incompatible organs
• Misplaced naso- or oro-gastric tubes
• Wrong gas administered
• Failure to monitor and respond to oxygen saturation
• Air embolism
• Misidentification of patients
• Severe scalding of patients
• Maternal death due to post-partum haemorrhage after elective caesarean section
Care-Quality Commission Regulations

This document outlines the structure and regulations of CQC audits.

<table>
<thead>
<tr>
<th>CQC Regulations for Service Providers and Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Quality Commission (Registration) Regulations 2009</td>
</tr>
<tr>
<td>Regulation 12: Statement of purpose</td>
</tr>
<tr>
<td>Regulation 13: Financial position</td>
</tr>
<tr>
<td>Regulation 14: Notice of absence</td>
</tr>
<tr>
<td>Regulation 15: Notice of changes</td>
</tr>
<tr>
<td>Regulation 16: Notification of death of service user</td>
</tr>
<tr>
<td>Regulation 17: Notification of death or unauthorised absence of a service user who is detained or liable to be detained under the Mental Health Act 1983</td>
</tr>
<tr>
<td>Regulation 18: Notification of other incidents</td>
</tr>
<tr>
<td>Regulation 19: Fees</td>
</tr>
<tr>
<td>Regulation 20: Requirements relating to termination of pregnancies</td>
</tr>
<tr>
<td>Regulation 22A: Form of notifications to the Commission</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health and Social Care Act 2008 (Regulated Activities) Regulations 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation 4: Requirements where the service provider is an individual or partnership</td>
</tr>
<tr>
<td>Regulation 5: Fit and proper persons: directors</td>
</tr>
<tr>
<td>Regulation 6: Requirement where the service provider is a body other than a partnership</td>
</tr>
<tr>
<td>Regulation 7: Requirements relating to registered managers</td>
</tr>
<tr>
<td>Regulation 8: General</td>
</tr>
<tr>
<td>Regulation 9: Person-centred care</td>
</tr>
<tr>
<td>Regulation 10: Dignity and respect</td>
</tr>
<tr>
<td>Regulation 11: Need for consent</td>
</tr>
<tr>
<td>Regulation 12: Safe care and treatment</td>
</tr>
<tr>
<td>Regulation 13: Safeguarding service users from abuse and improper treatment</td>
</tr>
<tr>
<td>Regulation 14: Meeting nutritional and hydration needs</td>
</tr>
<tr>
<td>Regulation 15: Premises and equipment</td>
</tr>
<tr>
<td>Regulation 16: Receiving and acting on complaints</td>
</tr>
<tr>
<td>Regulation 17: Good governance</td>
</tr>
<tr>
<td>Regulation 18: Staffing</td>
</tr>
<tr>
<td>Regulation 19: Fit and proper persons employed</td>
</tr>
<tr>
<td>Regulation 20: Duty of candour</td>
</tr>
<tr>
<td>Regulation 20A: Requirement as to display of performance assessments</td>
</tr>
</tbody>
</table>

CQC How Trusts and Services are rated

| Are services safe? |
| Are services effective? |
| Are services caring? |
| Are services responsive? |
| Are services well-led? |
| Are resources used productively? |

Rating

Inadequate
Requires improvement
Good
Outstanding
Viewpoint
September 30, 2019

The Risk and Cost of Limited Clinician and Patient Accountability in Health Care

S. Claiborne Johnston, MD, PhD

Are Healthcare Key Performance Indicators Harmful?
Robert Gillespie of Blackhall, OBE, BSc, MA, MBA | University of Sussex

Are healthcare Key Performance Indicators harmful?
It's possibly not people who stress hospital clinicians, but numbers. A list of numeric Key Performance Indicators (KPIs), established by a consulting firm to install Balanced Scorecard reporting in healthcare, places a heavy load of worry on clinicians about mistakes and satisfying others.

Many of these numbers focus on dysfunction: number of patient complaints filed; percentage of electronic health records completed; discharge time; number of mistake events; patient wait times; patient satisfaction; emergency-code response time; medication errors; post-procedural death rate: the list goes on and on. Among 109 indicators in the long list, 42 survey clinician activity and 30 report purely on clinician dysfunction.

Among the 70-or-so common complaints which foreground the distress clinicians report, are:
I suffer from time pressure; I have scarce resources; different groups at work demand different things from me that are hard to combine; I have little support from my colleagues; I have a feeling of wrongdoing; I'm exhausted; I have to work too fast; I am not recognised for the job I really do, etc. (Cécile Decroix, 2018; Lancaster & Ward, 2002; Sussexpartnership clinical strategy.pdf; Tomei, Ricci, & Fidanza, 2016).

Such performance indicators and clinician-stress drivers in healthcare appear correlated: I have discovered such distress among physicians in the USA, France and the UK. Once Key Performance Indicators have recoded the DNA of healthcare reporting, they lose personality, and their cold data relentlessly exhibits dysfunction month after month without embarrassment. Is it any surprise that, in such a ‘litigious and punitive climate’, as Van Kooy et al. claim, ‘care providers hesitate to report medical errors’ and ‘peer protection and internal hierarchies tend to prevail’ (Van Kooy & Pexton, 2018). In the case of gross dysfunction, management knows about it and takes action but, in the majority of reporting, action is not taken because not necessary. The question is whether this mountain of unused data merits what it costs to administer, and the cost of clinician exhaustion.

Excessive focus on clinician error in a Balanced Scorecard appears pernicious: the saying that ‘what gets measured gets done’, no doubt has merit, but if management uses such indicators then management may wish to focus on that word Balanced.

45 https://www.clearpointstrategy.com/
Much error reporting is claimed necessary to ensure payment by insurance organisations and as a documentary measure providing legal protection against malpractice suits. But who reads the vast bulk of detailed, innocent, reports which clinicians are now bullied to write? The useless part of this work keeps them away from their families, writing in their surgeries until 11 at night, or paying extra staff to type it up? How much of this ocean of paperwork serves patient wellbeing? And, assuming payors do identify slips, what do they do about it except not pay, which helps their cash flow rather than the patient. Don’t we need to avoid embarrassing those whose vocation is dedicated to improving and to saving lives? Such pressures on clinicians did not exist just a few decades ago: they have changed the work and destroyed the motivation felt by clinicians in the past. Do we wonder why fewer and fewer young people are entering healthcare? Should medicine not be run once more like a learned society, which is what it is, than a business? The analytical tools do exist to understand what is essential about their work and to throw out all the ‘portly’ work they do which has no value? We can get rid of the waste in these predatory processes. Good management means focusing on unseating the superfluous and not on poring compulsively over Balanced Scorecards.

### Glossary: Technical and Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5S</td>
<td>A repetitive method of cleaning and tidying up the workplace (especially before and after projects) based on five steps: Sort, Set in order, Shine, Standardize and Sustain.</td>
</tr>
<tr>
<td>A3</td>
<td>A3 is a structured problem-solving approach, first employed at Toyota and used by lean manufacturing practitioners: it provides a simple and structured procedure which guides problem solving using a single sheet of ISO A3-size paper.</td>
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<tr>
<td>A&amp;E</td>
<td>ACCIDENT AND EMERGENCY</td>
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<td></td>
<td>A term referring to a system which alerts management, maintenance, and other workers to a quality or a process problem. The medium is typically a signalling light showing which workstation ‘has the problem’.</td>
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<tr>
<td>Autonomation</td>
<td>‘Intelligent automation’ or ‘automation with a human touch’.</td>
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<tr>
<td>BPR</td>
<td>BUSINESS PROCESS RE-ENGINEERING</td>
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<tr>
<td>CANDO</td>
<td>In their article, Massey &amp; Williams, (2005) present a programme called ‘CANDO’ representing clean-up, arranging, neatness, discipline and ongoing improvement: it is claimed that this acronym was invented by Henry Ford. The NHS team they describe is externally coached: as a pilot programme, cando is undertaken by the training and development department within an NHS trust (Massey &amp; Williams, 2005). The method is otherwise known as 5s (sort, set in order, shine, standardize and sustain) in Lean.</td>
</tr>
<tr>
<td>Capability/Stability</td>
<td>The concept of Process Capability was developed in the tradition of the TQM movement which adopted statistical instruments to compute a number giving the relation between the ‘control limits’ of what a process is capable of outputting and the ‘specification limits’ of what the process customer requires. The movement also established the concept of ‘process stability’ over time, another statistical technique able to show, among other process movements, whether a process is jumping outside ±3σ ‘control limits’, typically signifying process instability. These views of capability and of stability may take a short term or a longer-term view of the data, which in the latter case, includes drift of the process mean.</td>
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<tr>
<td>Common cause</td>
<td>Common cause variation is random variation conventionally limited within ±3σ around the process mean.</td>
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<tr>
<td>Cont. Improvement</td>
<td>Continuous improvement is getting long term progressive increase in the efficiency and effectiveness of existing processes and in the quality of their output in a culture of permanent investigation, teamwork and individual responsibility.</td>
</tr>
<tr>
<td>Control Theory</td>
<td>(Closed-Loop Negative Feedback Control Theory) The theory behind a control system in which process output is sampled and a correcting instruction looped back to the process input as an an error signal to return the process output to the specified value.</td>
</tr>
<tr>
<td>CQC</td>
<td>CARE-QUALITY COMMISSION</td>
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<td>CSVSM</td>
<td>CURRENT-STATE VALUE-STREAM MAP</td>
</tr>
<tr>
<td>DMAIC</td>
<td>DEFINE. MEASURE; ANALYSE; IMPROVE; CONTROL stages in Six Sigma problem solving</td>
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<tr>
<td>Double loop learning</td>
<td>(Single-loop and) Double-loop learning can be understood by the approach of a thermostat. Single loop learning leads to achieving an objective temperature by turning the heating on or off. Double loop learning questions how to approach the objective: for this example of a thermostat, a temperature controller might first compute the rate of temperature change, then the quantity of heat already supplied, and...</td>
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</tbody>
</table>
then vary the rate of heat input proportionally over time to attain effective control.

**ED** | **EMERGENCY DEPARTMENT**
---|---
**EVA** | **ECONOMIC VALUE ADDED**
**FIFO** | **FIRST-IN, FIRST-OUT**
**FMEA** | **FAILURE MODE EFFECTS ANALYSIS: a structured team approach to risk assessment, targeted on prevention.**
**FSVSM** | **FUTURE-STATE VALUE-STREAM MAP**
**FTE** | **FULL TIME EQUIVALENT is a unit that indicates the workload of one employed person in a way that makes workloads comparable**
**gemba** | *(Also spelt less commonly as genba) is a term meaning ‘the real place’.*
**genchi genbutsu** | In order to truly understand, one needs to go to gemba or to the ‘real place’ - where work is done.
**GIRFT** | **Get It Right First Time**
**GP** | **GENERAL PRACTITIONER**
**hansei** | A profound, personal culture of ‘reflection’ or of ‘self-reflection’ learned by Japanese as children; to acknowledge mistakes and to pledge improvement; insight into the self.
**heijunka** | This means ‘levelling’.
**jidoka** | This provokes analysis of the causes of problems because work stops immediately when a problem occurs to provide space and time for immediate correction.
**jishuken** | Management directed *kaizen* that includes learning and which can be extended to external suppliers.
**kaizen** | At Toyota, a permanent, vertical team-based, participatory, problem-solving philosophy applied to incrementally accomplish highly scoped process improvements. Performed over the course of a week Lean parlance uses the terms "*kaizen blitz" or "*kaizen event."
**kanban** | A visual or audible signal shown by a card, an empty container, a flashing light, heard as a horn, seen as an empty space to be filled or other perceptible sign, sent by a downstream process to its upstream supplying process and authorising the upstream to produce a standard batch to send downstream.

**Learning**

The process by which hospital staff gain, record and apply knowledge over time to improve procedures, and hence processes: learning entails studying events and errors to continually improve performance by focussing on procedural discipline, formal training and repetition; learning is thus a cyclic process.

**LOS** | **LENGTH OF STAY**
**LSS** | **LEAN SIX SIGMA**
**muda** | Process time wasted in the form of non-value-added transport, inventory, motion, waiting, over-production, over-processing and defects.
**mura** | Waste as stressed production assets through irregular, uneven production loading.
**muri** | Waste as stressed operators resulting from unreasonable, excessive, unstable workloads.
**nemawashi** | Consensus decision making.
**NHS** | **NATIONAL HEALTH SERVICE (U.K.)**
**NVA** | **NON-VALUE ADDED**
**OEE** | **OVERALL EQUIPMENT EFFICIENCY METRIC**
**One-piece Flow** | Obtaining ‘flowing’ production one piece at a time, producing from start to finish with as little WIP and as little operator lost time between operations as possible.
HOW CAN NHS HOSPITALS MANAGE PROCESSES TO REDUCE RISK AND TO IMPROVE LEARNING?

PDCA
PLAN; DO; CHECK; ACT: DEMING’S IMPROVEMENT WHEEL

PLT
PROCESS LEAD TIME

poka yoke
Mistake proofing using a mechanism helping an operator to avoid (yokeru) mistakes (poka) or to eliminate defects by preventing, correcting, or drawing his or her attention to errors as they occur.

Procedure
An established or official way of operating a process which records the manner and order of conducting the series of actions required by the process: as Standard Operating Procedure (SOP) it is a record which instructs operators on these actions.

Process
A series of linked activities which use the resources at their disposal, to add value to inputs and produce outputs useful to a process customer.

Pull
Components consumed in a downstream manufacturing process step are immediately re-supplied by the upstream process step as and when they are ‘called’ by the downstream process step; the upstream stops producing to avoid creating WIP as long as downstream demand is fully met on time.

QFD
QUALITY FUNCTION DEPLOYMENT

QUALITY
Efficiently processing input without waste to produce output fully compliant with the process customer’s specification

RFO
RETAINED FOREIGN OBJECT

Risk
A perceived threat of damage, injury, loss, or of any other unfavourable event involving patients, staff, equipment and hospital resources and facilities resulting from a dysfunction in a process: it is evaluated by probability of occurrence and magnitude of impact and may be avoided through preventive action. Risk can be looked upon as a property of processes.

ROI
RETURN ON INVESTMENT

ROIC
RETURN ON INVESTED CAPITAL

SMED
‘SINGLE MINUTE EXCHANGE OF DIE’: Shigeo Shingo’s method of reducing press-tooling changeover times to 9 minutes or less, with an ultimate objective of meeting Takt time with one-piece flow and machine-tooling changeover. The inability to do so leads inevitably to batch production and to excess WIP. The technique is to convert changeover-process steps to as many ‘external’ operations as possible (steps taken while the equipment is running), and to simplify and to streamline all remaining ‘internal’ steps.

S.O.P.
Standard Operating Procedure is continually updated written procedure defining how a process must be run to ensure maximum efficiency, effectiveness, and safety. Operators are instructed to apply it as the best way to work and in the spirit of andon and jidoka to improve it as and when necessary.

SPC
STATISTICAL PROCESS CONTROL

Special cause
Special cause appears as a process disturbance with an origin outside the process itself, as opposed to common cause variation, which is random variation conventionally limited within ±3σ around the process mean.

Takt Time
The average time between the start of production of one unit and the start of production of the next unit, when this rhythm matches the rate of customer demand; the reciprocal of demand expressed in units of time.

TPS
TOYOTA PRODUCTION SYSTEM: A structured, Japanese socio-technical system embodying numerous theories and management philosophies developed by the Toyota corporation to continually reduce all forms of
waste, while delegating responsibility to operators within a standardised work environment.

**TQM**  
TOTAL QUALITY MANAGEMENT

**Triage**  
(In medical use) the assignment of degrees of urgency to wounds or illnesses to decide the order of treatment of a large number of patients or casualties. "A triage nurse"

**VA**  
VALUE ADDED

**VMHS**  
VIRGINIA MASON HOSPITAL OF SEATTLE

**VMMC**  
VIRGINIA MASON MEDICAL CENTRE

**VMPS**  
VIRGINIA MASON PRODUCTION SYSTEM based on TPS

**Value Stream**  
A value stream is a set of, at times sequential, acts in a hospital process which bring utility to a patient: it is an end-to-end collection of activities which produce overall benefit for a patient.

**VSM**  
VALUE-STREAM MAP developed by Toyota management to introduce time-based measurements into process-function maps providing critical data for end-to-end process-cycle efficiency improvement. It is presented as current state or as future state after Lean improvements.
Bibliography


Carroll & Fahlbruch. (2010). *The gift of failure: New approaches to analyzing and learning from events and near-misses.* © Honoring the contributions of Bernhard Wilpert | Elsevier Enhanced Reader. https://doi.org/10.1016/j.ssci.2010.03.005


Histogram of published dates in the bibliography

Figure 16 Histogram of publication years in the bibliography
Researcher Bio

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Between 1970 and 2014, Bob held international positions as a consultant with McKinsey & Co., manager and chief executive of industrial divisions and subsidiaries in Europe and in the United States of the Air Liquide Group, Péchiney Group and ITT Industries Inc. He was chairman and a board member of certain international subsidiaries.

At ITT Industries from 2000, Bob deployed the corporate Lean Six Sigma continuous-process-improvement programme in Europe and in China as deployment Champion. From 2004 to 2014, as 'Master Black Belt' in Lean and Six Sigma with U.S. consultants, The George Group, and then with Rath & Strong, and later as Chief Executive in France of the Lean Six Sigma Institute, Bob wrote extensively, authored training material and trained and certified over one thousand Green, Black and Master Black Belts in Europe, the U.S.A., Middle East and China. During this time, he implemented complex improvement deployments on behalf of his clients.

Between 1991 and 1995, he was Vice Chairman of the British Non-Ferrous Metals Federation and Chairman of the French Federation of Non-Ferrous Foundry Owners (STCA FEDEM). From 2004 to 2007, and, again, from 2013 to 2014, he was chairman of the French Branch of the British Institution of Mechanical Engineers of which he is a Fellow and Gold Medalist. In 2013, he became a Freeman of the City of London and a Liveryman of the Worshipful Company of Engineers.


Bob was awarded the O.B.E. in the 2005 Birthday Honours for services to British Engineering in France and is a court member of the Convention of the Baronage of Scotland.

Research interests

My current domain of interest is the implementation and deployment of ongoing efficiency and effectiveness improvement in NHS processes.


Publications

Understanding Lean Six Sigma as a Waste Square
Academia Letters July 2022

The Six Sigma approach to capability and understanding the 1.5 sigma shift of the process mean
ResearchGate Article August 2020
Baudelaire and Moréas’s Symbolisme in TS Eliot’s The Waste Land
Journal of the English TS Eliot Society Article January 2020

Cixous CriCoeurCrdeGuerreCriFemne
ResearchGate Article October 2018

How French Symbolisme modernised the English Elegy
ResearchGate Article October 2018

Without Septimus, Clarissa is not Virginia
ResearchGate Article May 2018

Utopian ethics and semantics Looking Backward 2017-1516
ResearchGate Article December 2017

Imagism, Vorticism and Modernism in The Waste Land
ResearchGate Article May 2017

Machiavelli and The Mayflower REFORMISM
Book chapter: La Remige Publishers 2009

Machiavelli and The Mayflower MONARCHISM
Book chapter La Remige Publishers 2009

Machiavelli and The Mayflower REPUBLICANISM
Book Chapter La Remige Publishers 2009

Machiavelli and The Mayflower ROMANISM
Book Chapter La Remige Publishers 2009

Brutes for Kin
Novel La Remige Publishers 2012

Gas cutting of steel
Production Engineer Journal Article London January 1976

Oxy-fuel gases and the working of steel
Production Engineer Journal Article London June 1976