



Patient Safety and Healthcare Improvement at a Glance

Edited by
Sukhmeet S. Panesar
Andrew Carson-Stevens
Sarah A. Salvilla
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and Healthcare
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Preface



Healthcare improvement remains the bedrock of any adaptive, learning and high-quality healthcare system. The engagement of frontline clinical staff in advancing this agenda is central to ensuring improvements and safety in care delivery, thereby providing the best possible care for the patient. Since the 1990s, there have been concerted efforts to empower and equip healthcare professionals, carers, students and patients with the knowledge, skills and tools to execute and achieve safer, high-quality, patient-centred care. This book is an attempt to synthesise the key lessons learnt and distil these into practical recommendations.

Influential reports have raised awareness of healthcare quality and safety in the professional and public conscience. Seminal amongst these have been *To Err Is Human*, produced by the US Institute of Medicine (IOM), and *An Organisation with a Memory*, produced by the UK Government's Chief Medical Officer. These reports highlighted that error was routine during the delivery of healthcare and pointed to steps that should be taken to minimise their occurrence and the adverse consequences resulting from these system failures. The IOM advises six aims for quality – safety, effectiveness, efficiency, timeliness, patient-centredness and equity. A focus on patient safety has served as a 'Trojan horse' to create urgency for change and highlight the major underlying problems in healthcare, and in doing so it has galvanised the importance of seeking all the aims of quality. More recently, the Institute of Healthcare Improvement (IHI) launched *The Triple Aim* that challenges healthcare organisations

to improve patient experience, improve population health and reduce the per capita cost of healthcare in order to optimise health system performance. Building on this approach, many of our contributors have used the lens of patient safety to highlight concerns about and approaches to enhancing the quality of care provision.

Our hope is that this text – which includes contributions from leading international scholars and clinicians in training – will meet the needs of healthcare students and professionals at all stages of their training: from students and junior doctors who have yet to be introduced to the disciplines of healthcare improvement and patient safety to those who want a quick refresher of core concepts and in areas that would be relevant for healthcare professionals in training. This reflects our core belief that all those serving at the 'coal face' of healthcare delivery have the capacity to be the barometers of the quality and safety of healthcare provision.

Finally, we are optimistic that all those who read this book will in some way – whether by initiating, leading or contributing to collective efforts – be inspired to move forward the agenda of safe, high-quality, patient-centred care. It is, after all, these enduring values that ensure we are fitting members of 'the noble profession' and that we, like every other generation before us, have fulfilled the charge of ensuring we take stock of preceding efforts, enrich them and then hand on these quintessential values.

*Sukhmeet S. Panesar, Andrew Carson-Stevens,
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We would also like to take this opportunity to thank our families for their support throughout the conception, gestation and delivery of this book. This work is therefore very much also a fruit of their labours, and we hope that they too will take pride in seeing the ideas contained in this book flourish.

*The Institute for Healthcare Improvement (IHI) (www.IHI.org) is an independent not-for-profit organization which hosts the IHI Open School (www.ihl.org/openschool). The School exists to advance quality improvement and patient safety competencies in the next generation of health professionals.

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12 Chapter 9 Root cause analysis

9 Root cause analysis

Figure 9.1 Steps to an effective root cause analysis (RCA) investigation

Figure 9.2 RCA investigation: fishbone diagram – tool

What is root cause analysis?
Root cause analysis (RCA) is a method of incident investigation. As such, it is a diagnostic tool rather than a safety solution in itself. RCA allows a systems approach (Chapter 26) to investigation and was selected as the methodology of choice by the National Patient Safety Agency when developing a framework for patient safety investigation in the NHS. The NHS approach aligns well with investigation methods used in healthcare and other high-risk industries across the globe.

Why investigate?
The primary aim of patient safety investigation is to learn from incidents and to determine what can be done to significantly reduce the likelihood of recurrence; the aim is not to apportion blame. It, during an investigation, concerns of capability, recklessness or maliciousness arise, the Incident Decision Tree (IDT) should be used to provide guidance on whether and to whom these issues should be referred. Investigation and planned management of these particular concerns should not form part of the patient safety investigation process.

RCA process
An investigation can be comprehensive or concise but must always include the basic elements to help ensure they are thorough, credible and actionable, and represent value for money.
• Set clear terms of reference and follow them. Secure adequate time and skills, or record and report the impact of constraints.
• Avoid loss of concise investigations. They can prove false economy.

1 Gathering and mapping the information
• You have to understand exactly what happened leading up to an incident before you can fully understand why it happened.
• Investigative interviewing should focus more on listening than on asking questions.
• Consult the patient and family as part of the investigation; they have a unique perspective and valuable information to share.

2 Identifying care and service delivery problems (CDPs and SDPs) – this stage involves identifying all the points at which:
• something happened that should not have happened; or
• something that should have happened did not.

3 Analysing problems
• Using a fishbone diagram (or Ishikawa diagram or cause-and-effect diagram) as shown in Figure 9.2, place one CDP or SDP in the head of each fish (not the whole incident), then analyse why that course of action seemed the right thing to do at that time.
• A few carefully analysed 'fishbones' focusing on key CDPs and SDPs will deliver more benefit than many completed quickly.
• Training in systems thinking and human factors (including error types and biases) will aid impartiality and quality analysis.
• The root causes are the most significant contributory factors.

4 Generating recommendations and solutions
• Problems will rarely be resolved for the long term by applying discipline, training and updated procedures alone.
• Training in improvement science will assist with more effective selection and implementation of solutions.

5 Implementing solutions
• An integrated action plan from investigations. This encourages trend analysis and a more cohesive, high-level approach to resolving common issues.
• Avoid conducting more and more investigations with similar outcomes. Time must be allocated to implementing solutions and monitoring their efficacy.

6 Writing the Investigation Report
• Use an RCA investigation report template to facilitate trend analysis, audit and shared learning.

Effective RCA investigation
The components for success in patient safety investigations are the same as those required for successful clinical investigations (Figure 9.1).
1 To avoid the extremes of delayed problem 'diagnosis' and resource wastage, triggers or indicators for conducting an investigation must be correctly identified.
2 To obtain a good-quality, accurate picture of the problem, data gathering must be conducted by those skilled in the process.
3 The findings from the collection of data must be robustly interpreted and credible conclusions drawn by someone with analytical skills and an understanding of the anatomy, physiology and pathology of the issue.
4 To ensure that improvement is achieved and measurable, expert selection, application and monitoring of effective treatment and remedial action are required.
5 If meaningful learning and improvement are expected from incident investigation, there must be organisation-wide support for this process.
Chapter 27 gives an example of a fishbone diagram in use.

12 Chapter 9 Root cause analysis

Your textbook is full of illustrations and tables.

12 Chapter 23 Model for improvement

23 Model for improvement

Figure 23.1 Model for improvement

Figure 23.2 Definition of improvement

Table 23.1 How will we know a change is an improvement?

Goals	Measures	Type of measure
Decrease CAUTI rate	• Time between CAUTI events	Outcome
Decrease inappropriate catheter use	• Catheter days/100 patient days	Process
Increase nurses' knowledge on criteria for catheter use	• Score of the pre and post test	Process
Increase nurses' compliance to new process on review of catheter use	• % nurse compliant to new process on review of catheter use	Process
Maximize or increase staff satisfaction	• Nurse satisfaction score • Physician satisfaction score	Balancing

Figure 23.3 The plan–do–study–act cycle

Table 23.1 How will we know a change is an improvement?

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12 Chapter 23 Model for improvement