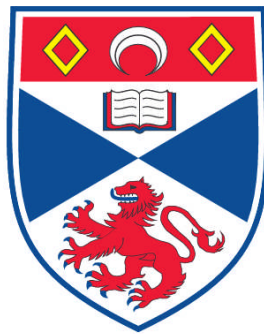


**LOOKING FOR HARM IN HEALTHCARE:
CAN PATIENT SAFETY LEADERSHIP WALK ROUNDS HELP TO
DETECT AND PREVENT HARM IN NHS HOSPITALS?
A CASE STUDY OF NHS TAYSIDE**

Patricia O'Connor

**A Thesis Submitted for the Degree of PhD
at the
University of St. Andrews**



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Looking for Harm in Healthcare:
Can Patient Safety Leadership Walk Rounds help to
detect and prevent harm in NHS hospitals?
A Case Study of NHS Tayside



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September 2011

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Declaration

I, Patricia O'Connor hereby certify that this thesis, which is approximately 100,000 words in length, has been written by me, that it is the record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

I was admitted as a research student in November 2001 as a candidate for the degree of PhD; the higher study for which this is a record was carried out in the University of St Andrews between 2001 and 2011.

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Abstract

Today, in 21st century healthcare at least 10% of hospitalised patients are subjected to some degree of unintended harm as a result of the treatment they receive. Despite the growing patient safety agenda there is little empirical evidence to demonstrate that patient safety is improving. Patient Safety Leadership Walk Rounds (PSLWR) were introduced to the UK, in March 2005, as a component of the Safer Patients Initiative (SPI), the first dedicated, hospital wide programme to reduce harm in hospital care. PSLWR are designed, to create a dedicated ‘conversation’ about patient safety, between frontline staff, middle level managers and senior executives.

This thesis, explored the use of PSLWR, as a proactive mechanism to engage staff in patient safety discussion and detect patient harm within a Scottish healthcare system-NHS Tayside. From May 2005 to June 2006, PSLWR were held on a weekly basis within the hospital departments. A purposive sample, (n=38) of PSLWR discussions were analysed to determine: staff engagement in the process, patient safety issues disclosed; recognition of unsafe systems (latent conditions) and actions agreed for improvement. As a follow-up, 42 semi-structured interviews were undertaken to determine staff perceptions of the PSLWR system. A wide range of clinical and non-clinical staff took part (n=218) including medical staff, staff in training, porters and cleaners, nurses, ward assistants and pharmacists. Participants shared new information, not formally recorded within the hospital incident system. From the participants perspectives, PSLWR, were non threatening; were easy to take part in; demonstrated a team commitment, from the Board to the ward for patient safety and action was taken quickly as a result of the ‘conversations’.

Although detecting all patient harm remains a challenge, this study demonstrates PSLWR can be a useful tool in the patient safety arsenal for NHS healthcare organisations.

*To Derek you are always there for me,
to Samuel my best 'Boy',
and Vi my other mother,
in deepest gratitude.*

Acknowledgments

There are so many people who have offered encouragement, to help me to complete this thesis and thanking them here seems inadequate, for their persistent belief that the task would one day, be finished. This thesis is all about people, so it is fitting that, I begin with thanks to those whose support was critical. All the way through my research studies, I have maintained several different roles: a wife and mother, a researcher, a healthcare professional and an NHS manager.

As a Wife and Mother

I must thank my family who coped admirably without me, as I ‘disappeared’ for weeks and months writing daily into the wee small hours in a PhD haze, only emerging to visit family life for half an hour or so, now and then. This is for you. To Derek my husband of 24 years your never ending cups of tea were much appreciated and I probably never said thank you enough. Thank you. To Sam after this your Mum will be ‘back’.

As a Researcher

Maintaining a full time job working in the NHS (at regional and National level) alongside a major piece of research was a constant battle, as I struggled to ‘prioritise’ all the priorities. As a result, everything took a lot longer than I anticipated. So much so, two of my supervisors moved on to new jobs, but still stuck by me. In all honesty, at times I never thought they would, your tolerance around my slow progress was admirable.

To Rob Gray; I know behind the scenes you have been secretly willing me to get this done, thank you for your support.

To Dr Anne Fearfull; without you, this thesis simply would not have happened. Words seem inadequate to thank you, specifically, for supporting me on this journey. Your patience, guidance and encouragement made my thesis come to life. I hope at least a little of your wonderful command of the English language has rubbed off on me, along with your deep love of punctuation!

As a Healthcare Professional and Manager

To my colleagues within NHS Tayside, particular thanks to Diane Campbell, Hilary Walker and Lesley Wilson, your tolerance and support to let me focus on the thesis to the exclusion of everything else, was much appreciated. I will return the favours some day, in full. To my colleagues, staff at all levels within NHS Tayside, your candour regarding the difficulties you face and your honesty around sharing your experiences and deepest thoughts about patient safety was astounding. Without you all, there would be no thesis.

Finally, to the patients and families who lie behind patient safety stories, you must believe that, NHS staff provide world class healthcare and yet, harm happens. I apologise to you on their behalf and promise, I will work tirelessly beyond this thesis to improve patient safety for every family.

Chapter Overview

Chapter 1	The problem of Harm in healthcare NHS Tayside overview Thesis Chapter précis	1
Chapter 2	Literature review Part I Patient Safety Policy and Practice History of Patient safety Methods of Detecting Harm in Healthcare	17
Chapter 3	Literature review Part II Theoretical models applied to safety Risk Management Human factors How we make mistakes	57
Chapter 4	Literature review Part III Safety Culture Organisational management theory Trust and Blame Chaos and complexity	99
Chapter 5	Overview and history of the NHS Increasing demand on services Changing roles of the NHS workforce NHS Scotland	134
Chapter 6	Overview of the Case Study Organisation NHS Tayside Current systems for Patient safety The Safer Patients Initiative Patient Safety Walk Rounds	155
Chapter 7	Methodology and Methods Research Objectives Qualitative approach Case study method	188
Chapter 8	Results part 1 The PSLWS discussions Participation Disclosure of Safety Issues Action taken as a result	221

Chapter 9	Results Part II Participant views of PSLWR	260
	Utility	
	Feasibility	
	Changes and challenges	
Chapter 10	Discussion and Conclusions	288
	Participation and disclosure	
	Design and methods	
	Implications	
Chapter 11	Contributions	313
	Policy	
	Theory	
	Practice	
Chapter 12	Recommendations and Reflections	321
	Recommendations for future research	
	Limitations	
	Personal reflections	

References

Appendices

Table of Contents

<i>Declarations</i>	<i>i</i>
<i>Abstract</i>	<i>iii</i>
<i>Dedication</i>	<i>iv</i>
<i>Acknowledgements</i>	<i>v</i>
<i>Chapter Overview</i>	<i>vii</i>
<i>Table of Contents</i>	<i>ix</i>
<i>List of Boxes</i>	<i>xviii</i>
<i>List of Tables</i>	<i>xix</i>
<i>List of Figures</i>	<i>xxi</i>
<i>List of Appendices</i>	<i>xxiii</i>
<i>List of Acronyms</i>	<i>xxiv</i>
Chapter 1 -The Problem of Harm in Healthcare	1
1.1. Introduction	1
1.2. The Problem of Keeping Patients Safe in Hospital	2
1.3. What is Patient Safety?	3
1.4. How ‘Big’ is the Patient Safety Problem?	4
1.5. Improving Patient Safety in the UK – The Safer Patients Initiative (SPI)	6
1.6. Research Design	7
1.7. My role	9
1.7.1.Chapters 2,3,4 –The Literature Review	11
1.7.2.Chapter 5 The Background and Context of the NHS	12
1.7.3.Chapter 6 NHS Tayside	12
1.7.4.Chapter 7 Methodology and Methods	12
1.7.5.Chapter 8 and 9 Results Part I and II	13
1.7.6.Chapter 10 Discussion and Conclusions	14
1.7.7.Chapter 11 Contributions	14
1.7.8.Chapter 12 Recommendations and Reflections	15
1.7.9.Chapter Summary	16

Chapter 2 Literature Review Part I	17
What do we know about harm in healthcare? Policy and Practice	
2.1. Introduction	17
2.2. Planning the Literature Review	18
2.3. The Problem with Patient Safety	20
2.4. Attempting to find harm	21
2.5. The Harvard Medical Practice Study	22
2.6. The Institute of Medicine	24
2.6.1. To Err is Human Building a Safer Health System	24
2.6.2. Crossing the Quality Chasm	25
2.7 An Organisation with a Memory	28
2.8. Building a Safer NHS: An Emphasis on Counting	32
2.9. Reporting in Practice	34
2.10. Methods of Identifying Adverse Incidents	35
2.10.1. Patient Case Note Reviews	35
2.10.2. Learning from Complaints	38
2.10.3. Mortality and Morbidity Reviews	40
2.10.4. Litigation –Clinical Claims	44
2.11. The Media on Litigation	47
2.12. Media Frenzy to Blame and Shame	48
2.13. Summary	52
Chapter 3 Literature Part II Why is healthcare still unsafe?	57
3.1. Introduction	57
3.2. Drifting into Error	58
3.3. Managing the Risks	60
3.4. Defining Risk Management	61
3.5. The Inevitability of Risk	63
3.6. The Origins of Risk Management in Healthcare	67
3.7. The Role of Risk Management within Corporate Governance	68
3.8. Risk Management within the NHS	69
3.8.1. Standards Australia	69
3.8.2. Implementing Risk Management in the NHS	70
3.9. Clinical Governance	71

3.10. Professional Regulation	73
3.11. Safer Systems	75
3.11.1 Pathological	76
3.11.2. Bureaucratic	76
3.11.3. Generative	76
3.11.4. Parker’s Findings	78
3.12. Human Factors	79
3.13. Harm and Error	80
3.14. Human Error	82
3.14.1. Intended Actions	83
3.14.2. Unintended actions	84
3.14.3. Slips	84
3.14.4. Lapses	84
3.14.5. Mistakes	85
3.14.6. Latent Conditions	86
3.15. Systems and People	89
3.15.1. Person Approach	90
3.16. Error Wisdom	90
3.16.1. Self	91
3.14.2. Context	92
3.14.3. Task	92
3.17. Short cuts and Rule Violations	93
3.18. Drifting into Error	95
3.19. Summary	97
Chapter 4 Literature review Part III	
What influences patient safety in the NHS?	99
4.1. Introduction	99
4.2. Chapter Plan	100
4.3. Organisational Culture	101
4.3.1. Safety Culture	102
4.4. Teamwork	103
4.4.1 Team Training	104
4.5. Managerialism	105

4.5.1. New Public Management	106
4.5.2. Management and Performance Targets	109
4.6. Systems Theory	109
4.6.1. Socio-Technical Systems	110
4.6.2. History and Impact of Systems Theory	111
4.6.3. Health Care as a Social System	112
4.7. Chaos and Complexity in the NHS System	114
4.7.1. Chaos Theory	114
4.7.2. Complexity	116
4.8. The Rising Tide of Evidence Based Practice	118
4.9. Complex Adaptive Systems	118
4.10. Trust and Blame	121
4.10.1. Blame	122
4.10.2 .Trust	124
4.11. Leadership for Safety	126
4.12. Conclusions from the Literature Review	129
4.13. Research Objectives	130
4.14 Research Questions	132
Chapter 5 The NHS Background and Context	134
5.1. Introduction	134
5.2. NHS History-the new NHS	135
5.3. Scotland was different	136
5.4. The NHS in the UK Today	137
5.4.1. England	138
5.4.2. Northern Ireland (NI)	138
5.4.3. Wales	138
5.5. Scotland	139
5.5.1. The Size of the NHS in Scotland	140
5.6. Increasing Demand and the Demographic Time Bomb	141
5.7 Life Expectancy	144
5.8. Changing Roles	146
5.8.1. The European Working Time Directive	146
5.8.2. Team Working	147

5.8.3. Modernising Medical Careers	148
5.9. Going Faster with Performance Management	150
5.10. Patient Journeys through the Healthcare System	152
5.11. Summary	154
Chapter 6 NHS Tayside -The Case Study Organisation	155
6.1. Introduction	155
6.2. NHS Tayside History and Structure	157
6.3. Demographics of the Organisation	158
6.4. Organisational Structure	159
6.5. Troubled Times for Tayside- The Fall and Rise of Good Governance	160
6.6. The Way Forward for NHS Tayside	162
6.7 Patient Safety Systems in NHS Tayside	163
6.7.1. Adverse Incidents	163
6.7.2. Adverse Incident Reports	163
6.7.3. Which Incidents Need to be Reported?	165
6.7.4. Numbers of Adverse Incidents Reported	167
6.7.5. Who Reports Adverse Incidents?	169
6.7.6. Medical Staff Reports	171
6.7.7. Manager Reports	173
6.7.8. Other Staff Groups Reporting	173
6.8. Type of incidents reported in the incident management system	173
6.8.1. Falls	174
6.8.2. Mis-Communication/In-Complete Information Issues	175
6.8.3. Medication Errors	175
6.8.4. Infection Control Issues	177
6.8.5. Medical Equipment	177
6.8.6. Near Misses	178
6.9. Summary of NHS Tayside Adverse Incidents Reports	178
6.10. Complaints	179
6.11. Claims	180
6.12. Summary of the Organisation and the Patient Safety Systems	181
6.13. The Safer Patient Initiative (SPI)	182
6.14. Patient Safety Leadership Walk Rounds	183

6.14.1. The PSLWR Process in the Context of NHS Tayside	184
6.15. Summary	186
Chapter 7 Methodology and Methods:	188
Exploration of Patient Safety Leadership Walkrounds in NHS Tayside 2005-2006	
7.1. Part One: Methodology	188
7.2. Research Objectives of the Study	189
7.3. Methodology	191
7.4. Ontology and Epistemology	193
7.5. Research in Healthcare	198
7.6. Separating the “What to do?” from the “How to do it?”	199
7.7. The Notion of Social Phenomena	200
7.8. Part Two: Methods-Case Study	202
7.9. Types of Case Study	203
7.10. Selection of the Case	204
7.11. Levels of Context within The Case Study	205
7.11.1. Elements of Case Analysis Rejected	207
7.12. Using Multiple Methods within a Case Study	208
7.13. Obtaining Ethical Approval	209
7.14. Method 1: Participant Observation and Discussion	210
7.15. Testing the Research Instruments	212
7.16. Sampling	213
7.17. Method 2: Semi Structured Interviews	214
7.18. Using Semi Structured Interviews	216
7.19. Semi Structured Interview Sample	216
7.20. Method 3: Record Review	217
7.21. Measures Taken for Accuracy of Data Capture and Entry	217
7.22. My Role	218
7.23 Summary	219
Chapter 8 Results Part I	221
8.1. Introduction	221
8.2. Who took part in PSLWR?	223
8.2.1. Executives	225

8.2.2. Managers	226
8.2.3. Nurses	227
8.2.4. Doctors	228
8.2.5. Non-Clinical Staff	230
8.2.6. Pharmacists and Physiotherapists	232
8.2.7. Participation in PSLWR	233
8.3. Participants views on patient safety	235
8.3.1. Actual Disclosure of Adverse incidents	236
8.3.2. Medication Errors	237
8.3.3. Infection Control	242
8.3.4. Environmental Issues	246
8.3.5. Communication issues	248
8.4. Recognition of Drifting into Error	250
8.5. General Understanding of Reporting	253
8.5.1. Time Taken to Make a Report	253
8.5.2. Lack of Feedback	254
8.5.3. Detail Recorded in the System	255
8.5.4. Good Practice	255
8.6. Actions Taken as a Result of PSWR Discussions	255
8.7. PSLWR Discussion Analysis	257
8.8 Summary	259
Chapter 9 Results Part II: Participant Reflections of the PSLWR Process	260
9.1. Introduction	260
9.2. Interviewees	261
9.3. Understanding Purpose and Acceptance of PSLWR	263
9.4. Leadership for Patient Safety in PSLWR	264
9.5. Staff Participation and Inclusion in the PSLWR Process	268
9.5.1. The Nurses' Views	269
9.5.2. The Medical Staff	270
9.5.3. Inclusion of Others	272
9.6. Feasibility- Did the PSLWR Process Work?	277
9.7. Utility - Was the PSLWR Process Useful?	278
9.8. Opportunity to Disclose	281

9.9. Challenges and Changes to the PSLWR Process	284
9.10. Summary	286
Chapter 10 Discussion and Conclusions	288
10.1. Introduction	288
10.2. Summary of the Research Objectives	289
10.3. Keeping Patients Safe in Hospital	290
10.4. PSLWR in the NHS	292
10.4.1 Developing Safer Systems	294
10.4.2 Harmful Events are People	295
10.5. Design and Method	297
10.6. Participation and Disclosure	298
10.6.1. Involving local Managers	300
10.6.2. Involvement of Staff in Training and Non Clinical Staff	302
10.6.3. Disclosure	303
10.6.4. Drifting into Error	304
10.6.5 New Issues Identified	307
10.7. Conclusions and Implications	308
10.8. Summary	309
Chapter 11 Contributions	313
11.1. Introduction	313
11.2. Practice Contributions	315
11.3 Policy Contributions	318
11.4 Theoretical Contributions	319
11.5. Summary	320
Chapter 12 Recommendations and Reflections	321
12.1. Introduction	321
12.2. Recommendations	322
12.2.1. Repeat the study in NHS Tayside	322
12.2.2. Repeat the study in all acute hospitals in Scotland	322
12.2.3. Repeat the study in the NHS within the four countries of the UK	323
12.2.4. Inclusion of all staff groups	323

12.2.5. Capture patients and family perspective	324
12.2.6. Triangulation of PSLWR data with other patient safety information	324
12.3. Limitations	325
12.3.1. Methods	325
12.3.2. PSLWR design	326
12.4. Reflections	327
12.4.1. The Research Topic	327
12.4.2. The Research Process	328
12.4.3. The PSLWR design	329
12.5. In Summary	330

List of Boxes

Box 2.1	Institute of Medicine- Dimensions of Health	27
Box 2.2	OWAM Recommendations	31
Box 2.3	Kerstin Parkin Case Study	44
Box 2.4	Wayne Jowett Case Study	49
Box 2.5	Lisa Norris Case Study	51
Box 2.6	Josie King Case Study	51
Box 4.1	Adapting to Complex Systems Example	120
Box 4.2	What makes mistakes in healthcare hard to cope with?	123
Box 4.3	Research Questions	132
Box 5.1	The NHS in Scotland	137
Box 6.1	NHS Tayside Strategic Objectives 2006	158
Box 6.2	Key information required to record an adverse incident	164
Box 7.1	Research Objectives	189
Box 7.2	Research Questions	190
Box 11.1	Summary Conclusions	296

List of Tables

Table 1.1	Research Timetable	8
Table 2.1	International Case Note Reviews	36
Table 2.2	Methods of Detecting Adverse Events and Errors in Healthcare	54
Table 3.1	Westrum's Safety Systems	75
Table 3.2	Differences in Harm and Error	81
Table 4.1	Literature Conclusions and Research Objectives	131
Table 5.1	Summary of NHS Scotland's Statistics	141
Table 6.1	NHS Tayside Staff Profile 2006	159
Table 6.2	Consequence Scoring of Adverse Incidents	165
Table 6.3	Likelihood of Recurrence of Adverse Incidents	166
Table 6.4	Patient Adverse Incidents Reported June 2005 – June 2006	168
Table 6.5	Medical Staff Patient Adverse Incident Reports 2006	172
Table 7.1	The Main Research Paradigms	192
Table 7.2	Features of Qualitative and Quantitative Research	196
Table 7.3	Case Study Design	204
Table 7.4	PSLWR March 2005 – December 2006	214
Table 7.5	Numbers and Role of Interviewees	215
Table 8.1	Participants by Designation	224
Table 8.2	Executive Roles and Responsibilities	225
Table 8.3	Examples of PSLWR actions	256

Table 9.1	Number and Roles of Interviewees	262
Table 11.1	PSLWR Contribution to Thomas and Peterson's Work	319

List of Figures

Figure 2.1	Literature Review Framework for Chapters 2, 3 and 4	19
Figure 2.2	Chapter 2 Discussion Themes	20
Figure 2.3	Claim Settlements in NHS Scotland 2005/06	45
Figure 2.4	NHS Scotland Compensation Payouts 2008-09	46
Figure 3.1	Chapter 3 Discussion Themes	58
Figure 3.2	Parker’s Stages of Maturity in Safety	77
Figure 3.3	Harm and Error in Healthcare	80
Figure 3.4	Reason’s Unsafe Acts Model 1990	82
Figure 3.5	Reason’s Swiss Cheese Model	87
Figure 3.6	Reason’s 3 Buckets	91
Figure 3.7	Systemic Migration to Boundaries	95
Figure 3.8	Rasmussen’s “Illegal Normal” for Speeding	96
Figure 4.1	Chapter 4 Discussion Themes	100
Figure 4.2	Complex Adaptive Behaviour	119
Figure 5.1	Chapter 5 Discussion Themes	135
Figure 5.2	Scotland’s Health Board Regions	140
Figure 5.3	Scotland’s Trends in All Cause Deaths 1980 – 2008	142
Figure 5.4	Population Pyramid Male/Female 1951	143
Figure 5.5	Population Pyramid Male/Female 2011	143
Figure 5.6	Life Expectancy 1980 – 2008	144
Figure 5.7	Predicted Readmission Rate in Elderly Patients	153

Figure 6.1	Chapter 6 Discussion Themes	156
Figure 6.2	Tayside Region	157
Figure 6.3	Directorate Structure	160
Figure 6.4	NHS Tayside Incident Reports 2005/06	168
Figure 6.5	NHS Tayside Patient Incident Reports May 2005 – June 2006	174
Figure 7.1	Chapter 7 Discussion Themes	189
Figure 7.2	Framework of Case Study	206
Figure 8.1	Results Part 1 Key Themes from Data Analysis in PSLWR	222
Figure 9.1	Results Part II Semi Structured Interview Themes	261
Figure 10.1	Chapter 10 Discussion Areas	290
Figure 10.2	Systemic Migrations to Boundaries	305
Figure 11.1	Chapter 11 Discussion Themes	313
Figure 11.2	NHS Tayside Number of complete PSLWR July 2011	316

List of Appendices

Appendix 2.2	Literature Search Method Map
Appendix 4.1	Staff Groups
Appendix 6.1	Organisational Structure
Appendix 6.2	SPI Patient Safety Interventions
Appendix 6.3	Research Protocol
Appendix 6.4	Key PSLWR Questions
Appendix 7.1	PSLWR Report
Appendix 7.2	Ethical Approval Letter
Appendix 7.3	PSLWR Leaflet
Appendix 7.4	Interview Questions
Appendix 7.5	E-Walk Screen Example Schedule
Appendix 10.1	Introductory PSLWR Letters

List of Acronyms

AIM	Adverse Incident Management
ADE	Adverse Drug Event
CEO	Chief Executive Officer
CHP	Community Health Partnership
CLO	Central Legal Office
CNORIS	Clinical Negligence and Other Risks Indemnity Scheme
COO	Chief Operating Officer
COREC	Central Office for Research Ethics Committee
DIY	Do It Yourself
DoH	Department of Health
EU	European Union
EWTD	European Working Time Directive
FAI	Fatal Accident Inquiry
GP	General Practitioner
HEAT	Health, Efficiency, Access and Treatment Targets
HF	Health Foundation
HIMS	Highland and Islands Medical Service
HMPS	Harvard Medical Practice Study
HSC	Health and Safety Commission
HSWA	Health and Safety at Work Act
IHI	Institute of Healthcare Improvement

IOM	Institute of Management
ISD	Information and Statistics Department
IT	Information Technology
IV	Intravenous
JCAHO	Joint Commission on Accreditation of Healthcare Organisation
MHRA	Medicines and Healthcare Products Regulatory Agency
MMC	Modernising Medical Careers
MPH	Miles per Hour
NAO	National Audit Office
NHS	National Health Service
NI	Northern Ireland
NPSA	National Patient Safety Agency
NRLS	National Reporting and Learning System
OWAM	Organisation with a Memory
PAF	Performance Assessment Framework
PF	Procurator Fiscal
PSLWR	Patient Safety Leadership Walkrounds
PVC	Peripheral Venous Catheter
RCA	Root Cause Analysis
RCT	Randomised Control Trial
RCN	Royal College of Nursing
R&D	Research and Development
RM	Risk Management
SHO	Senior House Officer

SIC	Statement on Internal Control
SG	Scottish Government
SGHD	Scottish Government Health Department
SPI	Safer Patient Initiative
UK	United Kingdom
USA	United States of America

Chapter 1

Introduction:

The Problem of Harm in Healthcare

1.1 Introduction

“It may seem a strange principle to enunciate as the very first requirement in a hospital is that it should do no harm.”

(Nightingale, 1863)

As can be seen from the quote above, patient safety is not a new concept. Since Hippocrates in the 4th Century BC, the phrase, “*First, do no harm*” from the Latin “*primum non nocere*”, is recognised around the world as the promise doctors make to their patients. Healthcare systems are designed to heal, support and comfort people in their time of need. Therefore, it may seem surprising that, decades later, in 2010, around one in ten patients experience a level of unintended harm in hospital (Jha, *et al*, 2010). As a clinician for over 30 years, I have witnessed firsthand the fear, pain and anxiety when individuals are harmed by the systems designed to cure. These events can have devastating consequences for everyone involved, staff, patients and their families (Wu, 2000; Vincent, 2004; Thomas, 2004; Gallagher *et al*, 2009).

Too often, in the ‘hurried, harried’ environment of the hospital system, healthcare staff make mistakes or ‘drift into error’ (Amalberti *et al*, 2006), some of which they will disclose and discuss, but most remain undiscovered (Wu, 2000; Cantor, 2002; Libmann and Hyman, 2004; McDonald *et al*, 2010). Surprisingly, most patients do not want compensation or to see individual healthcare staff punished (Towell, 2010). Those harmed by healthcare, usually, only want the system to learn from failure and prevent a recurrence of the mistake (Scottish Public Service Ombudsman 2010).

As Sorell King (the mother of 2 year old Josie, who died of dehydration in an American hospital in 1999) explains, patients and families want those responsible to prevent it happening to someone else:

"Families ... want three things: They want an answer, they want an apology, and they want this problem to be fixed ... It's not about lawsuits and settlements. It's not about the money. It's about those three things."

(Sorrel King, IHI National Forum for Quality Improvement, 2002)

1.2 The Problem of Keeping Patients Safe in Hospital

Most of the policy guidance on patient safety interventions has targeted activity in the acute hospital setting (Kohn 2001; House of Commons, 2009 and SGHD, 2010). However, the largest proportion of healthcare (around 75%) takes place in primary care within the patients' local community (SGHD, 2005). From my experience and knowledge of the National Health Service (NHS) systems, I accept that, there is also a great deal of harm taking place in primary care settings (Sanders, 2003). For example, harm from medications is regularly cited as a patient safety issue, affecting large numbers of patients in primary care (Royal, 2006; Gaal and Wesling 2010). However, my study will not address patient safety in primary care, as there are few empirical studies in this area and the PSLWR are not yet introduced to the primary care setting.

My empirical work focuses on patient safety in the hospital setting and explores the introduction, design and application of PSLWR in NHS Tayside, as a new and additional method to detect patient harm. The PSLWR process is intended to bring executives, middle-level managers and frontline staff together to talk about their patient safety concerns, then, take action as a result of those discussions to improve care. As a starting point, it is important to define what patient safety means.

1.3 What is Patient Safety?

The Institute of Medicine provides a simple definition of patient safety as:

“The freedom from accidental injury due to medical care or from medical error.”
(Kohn, Institute of Medicine Report 2001:26)

An alternative definition of patient safety is offered by the UK National Patient Safety Agency (NPSA) as:

“...any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care.”
(NPSA, 2000:5)

Regardless of the definition used, harm is not meant to happen in healthcare. The general public have an underlying trust and expectation that, any hospital treatment they receive will improve health, alleviate pain, or even rid them completely of their illness or problem (Taylor–Gooby, 2009). In the early days of medicine, these beliefs were not as strong, as many treatments had a ‘kill’ or ‘cure’ outcome. In the 1920s and 1940s, the application of poisonous substances like mercury, arsenic; of radical invasive procedures such as the use of leeches and other bleeding cures, and heroic surgery including lobotomies (operating and removing parts of the brain) were common practice. These ‘cures’ frequently had disastrous consequences causing horrific injuries and high mortality (Sharpe and Fadden, 1998). Thankfully, treatments today are relatively safe, especially the manner in which they are administered (SGHD, 2010; ISD, 2010).

Before considering the factors that may influence patient safety in hospital I will explore current empirical evidence of the level of patient harm occurring in hospitals. Is patient safety something we should all be concerned about?

1.4 How ‘Big’ is the Patient Safety Problem?

Within the literature on patient safety, there is great debate on the levels and measurement of estimated harm (Classen, *et al* 2008). Many of the tensions relate to the methods used to measure adverse incidents (Brennan *et al*, 1991, Vincent *et al*, 2001; Thomas *et al*, 2002). The measurement systems often rely upon everyone understanding and using the local reporting system. However, this seems problematic as Lilleyman (2008) points out:

“Another reason hampering measurement of the patient safety problem is the fact that, historically, apart from nurses faithfully recording the slips trips and falls of hospital patients, the systematic reporting of other safety events, at least in the UK, has been at best patchy and at worst non-existent.”

(Lilleyman, 2008:14)

When the scale of harm to a patient is extensive, it is evident to both healthcare staff and the patient that something has gone drastically wrong (Sari *et al*, 2007). In the UK, policy guidance has focused on reactive methods of addressing harm, on reporting and counting harmful events after the fact (DoH, 2006b; House of Commons, 2009). This is too late for patients and their families, and for us, you and me, as members of the public, for we are patients too. In the 21st Century, the extraordinary advances in technology, the life saving treatments, and repeated stories of remarkable recoveries from life threatening injuries and disease are breaking news (Singer and Endreny, 1993). Yet, despite the policy guidance, theoretical advances and changes in healthcare practice detailed in the next three chapters there are limited solutions to the detection and prevention of harm in healthcare (Vincent, 2010). How hard can it be? How does this friendly fire occur?

Pausing a moment for personal reflection on questions such as these, I can provide insight. My personal, as well as professional frustrations within the hospital care systems were the starting point of my desire to undertake this study. As a nurse, a midwife and a senior manager over the years, I have been responsible for caring for patients and their families in a variety of healthcare settings. As a midwife, I have saved lives on a daily basis and with complete autonomy when bringing a new life

into the world (one of the most satisfying jobs in my whole career). I have designed, delivered and implemented systems that were meant to protect and prevent risks and harm, but they have not always been successful. As a risk manager, I counted diligently and repeatedly the incidents that caused harm to the very individuals those healthcare professionals are paid to care for and protect. As a consequence of these failures, I met in my day-to-day job with clinicians, families and executive leaders to explain the limitations of the reactive patient safety systems and to discuss the repetition of the events taking place. On reflection, I can recall the words of my colleagues, spoken over the years to the effect of: *“These are system problems... The clinicians are good people and they come to work to do a good job ...It’s hard to detect when something goes wrong...It was a simple mistake and we don’t know why it happened.”*

In spite, or regardless, of our knowledge and experience of past events, and our best efforts to avoid their repetition, the same things keep happening over and over again (SGHD, 2010). However, we do now know more empirically about patient harm and patient safety. A breakthrough was made in 1999, when the (American) Institute of Medicine’s *‘To Err is Human’* report (Kohn, 2001) tried to determine the size of patient safety problem. This seminal publication identified that approximately 98,000 Americans die per year as a result of the healthcare that they had received in hospital. The consequence was the beginning of a worldwide patient safety movement to address this alarming trend. The IOM report suggested; and has not yet been contradicted in the thinking, that other countries had a similar problem.

From a public perspective, this situation was unacceptable. Nevertheless, years later, authors continue to express dismay that patient harm in hospitals continues at around 30 percent (Elwyn, 2005; Donaldson, 2007; Berwick, 2008; Resar, 2008). This is in spite of large UK and American patient safety improvement programmes with interventions to measure, record and prevent harm (NPSA, 2003; IHI, 2005; SGHD, 2010). The first UK patient safety programme began in October 2004, in support of government policy efforts to improve hospital safety.

1.5 Improving Patient Safety in the UK – The Safer Patients Initiative (SPI)

The Health Foundation (HF), a not for profit organisation, launched the UK's first hospital patient safety program with the aim of reducing patient harm. Following a competitive process, NHS Tayside was the only Scottish Hospital system to be selected to take part in the Safer Patient Initiative (SPI) programme. The award, a £1 million grant, was designed for healthcare staff to implement reliable processes to improve patient safety.

The SPI programme introduced 5 areas in which the introduction of new tools and systems of working were seen as important to improving patient safety in hospital:

- In the General Ward
 - to improve communication between healthcare staff introducing formal communication tools and techniques
 - to record patient vital signs reliably and intervene quickly when patients condition deteriorates with the introduction of revised documents and escalation and interventional practices
 - to improve the reliability of hand washing when moving between patients
- In Medicines Management systems
 - to ensure all patients receive the correct medicine by improving and measuring the ways in which medicines are prescribed and dispensed with emphasis on correct dose and correct route
- In Intensive Care clinical practice
 - to reduce the number of patients acquiring ventilator associated pneumonia by applying and measuring evidence care and practice
 - to reduce the number of patients acquiring infections from intravenous (IV) and central line access into the veins and major vessels
 - to produce and implement daily goals for each patient with associated documentation

- to implement multidisciplinary meetings throughout the day to improve communication and progress of patient care
- In Perioperative Care
 - to ensure every patient requiring a blood clotting assessment and treatment is carried out (DVT prophylaxis)
 - to introduce safety briefing conversations to the surgical theatre environment to check correct procedures and potential patient safety issues are understood by all team members prior to the operations beginning
 - to measure the reliability of Surgical infection control procedures by staff
- In Leadership
 - To introduce Patient Safety Leadership Walk Rounds (PSLWR)

My research concerns an exploratory case study of NHS Tayside's implementation of PSLWR, a new proactive method of detecting and addressing patient harm. Prior to my study, the design and application of the operational elements of setting up a PSLWR system were not available. This may be due to the trade mark name of Walkrounds™ and the for-profit nature of Dr Frankel operationalisation of the Walkrounds™ system in America. As a result, the implementation within NHS Tayside was not one of simply implementing a pre-existent process. I had to design and adapt all the internal processes as components of the research design.

1.6 Research Design

We all make mistakes, and the means by which that happens in hospital care, and staff's knowledge of those errors, is the central topic of my research. As detailed in my research timetable below (Table 1.1), I began with an extensive review of the literature to identify progress so far, and consider why patient safety is still an issue. Healthcare is a vast and complex system therefore, the literature review method (detailed in Appendix 2.2) includes: policy guidance; theoretical developments, and the application of tools and techniques in practice to reduce harm.

Table 1.1	
Research Timetable	
Literature Review	2004-2005, updated annually -2011
Literature Chapters draft write up	Oct 2004 – June 2006
Case study design	Oct 2004-Jan 2005
Ethical approval	May 2005
Data collection PSLWR Focus groups	May 2005-June 2006
Data collection semi-structured interviews	April 2006-June 2006
Data analysis	June 2006- February 2008
Final write up of all Chapters	October 2008-July 2010

Given that my research sought to examine the extent to which hospital staff ‘drift into error’ when dealing with patients (Amalberti *et al*, 2003, Dekker, 2008), my literature search centred round that notion and informed the development of the following research objectives:

- To collect preliminary data on the introduction of a new method to address patient safety within one Scottish NHS healthcare system.
- To update and extend the limited existing data on the use and implementation of the PSLWR processes
- To update and extend the methods of detecting error and harm in healthcare
- To use this information as a means of informing both local and national policy and practice

To achieve the research objectives above, 4 research questions were designed:

- To what extent would staff engage in the PSLWR process and discuss patient safety issues?
- To what extent could the PSLWR generate discussions:
 - to identify new or additional information regarding patient safety?
 - related to staff taking shortcuts underpinned by Amalberti *et al*, (2006) theory of ‘drifting into error’?
- To what degree would/could the actions agreed during PSLWR discussions be implemented and/or completed?
- What were the perceptions and reflections of the participants within NHS Tayside of the PSWR process?

At the time of my study, May 2005-June 2006, I was employed by NHS Tayside as the as the Head of Safety Governance and Risk. It is essential to this thesis to spell out the details of my role in the context of conducting the PSLWR, and the potential influence my position could have on my empirical work.

1.7 My role

In all research programmes there is the potential for research bias (Poggenpoel and Myburgh, 2005). It could be argued that, in my study, my presence at PSLWR could have hindered conversations, as a result of my organisational role and responsibilities (Mehra and Schenkel, 2008). Some may suggest that, my being there may create research bias or contamination of the results (Denzin and Lincoln, 2005). I contest that view. My research design was intended to reveal the complex, cultural context of the NHS, within which the participants are positioned as having an authoritative voice (Spector-Mersel, 2010). I had the opportunity to bring together the institutional knowledge of participants and access the social interactions, to explore first hand staff views on patient safety (Gummesson, 2000). I concur with Gummesson’s theoretical argument when he suggests that in such environments ‘pre knowledge’ and ‘pre-understanding’ are essential to offer unique and positive opportunities in case study

research. My pre-knowledge influences my views on patient safety. First, as member of the public I am a potentially a patient. When I need treatment or care, I want the healthcare for myself and my family to be as safe and effective as possible. Secondly, my motivation was a personal one. Let me make it clear. The harm I caused was not intentional, nor was I deeply aware of the consequences for patients, but I have personally experienced the ‘second victim’ Wu (2000) describes, of deep regret for providing care that was intended to help and heal the patients, but actually and physically caused harm.

My experience, as a junior nurse and midwife, over 20 years ago, is that, I had little opportunity to talk about or share my patient safety concerns; as a consequence little changed as a result. Today, as a researcher, the new process of PSLWR offered, a unique opportunity to study the dialogue regarding local patient safety concerns, with the intention of liberating powerful data from clinicians, managers and frontline staff.

I will critically review my role in greater detail in Chapter 7, on methods and methodology. In addition to the theoretical approaches of my research design there were a number of practical considerations worthy of note. At the time of the empirical work (2005-2006), I had responsibility for the NHS Tayside organisational systems; such as incident reporting and the claims and complaints systems to mitigate risk and improve safety. As a result, I believe the frontline staff saw my attendance as an opportunity to tell me face to face where the patients’ safety problems and failing system issues were and ask me directly: what I was going to do about it!

This thesis is centred on the broad theme of ‘drifting into error’ (Amalberti *et al*, 2003, Dekker, 2011). In conducting my research, I have examined the opportunities staff have to discuss this phenomenon, alongside the influence of leadership, work patterns and organisational management systems. As I explore the different aspects, the issues of patient safety and patient harm will become clearer. As a guide to the thesis structure the remainder of this chapter will outline the thesis layout, providing details of the following chapters with a summary of the content.

1.7.1 Chapters 2, 3 and 4 - The Literature Review

My literature review in Chapters 2, 3 and 4 is framed around the question of: What do we know about harm in healthcare? As the starting point of my study, I have critically engaged with key policy guidance and the empirical works on patient safety to review current thinking and identify the gaps in existing knowledge.

- **Chapter 2** considers the problem of patient safety by examining the history of unintended harm in healthcare, in the UK and America, and in the context of policy and practice. Seminal, empirical and policy works are critically examined related to attempts made to halt the ‘drift into error’. Finally, a critical review of the current methods to detect harm in hospital is discussed including the complex nature of healthcare practice.
- **Chapter 3** considers why healthcare remains unsafe given the policy guidance and practical system highlighted in Chapter 2. Theoretical models, as applied to patient safety in healthcare, are examined with the aim of understanding some of the reasons why practitioners continue to ‘drift into error’ (Amalberti *et al*, 2003). With the aim of deepening the understanding of ‘drift’, I have also critically reviewed the work of Beck (1992) and (Reason, 2000) who suggest that risk, and therefore error, is inevitable in everything we do. Some of the key theoretical models help to explain not only why harm happens but also why it is difficult to address.
- **Chapter 4** concludes the literature review by examining how organisational leadership and management theories and practice might explain and or influence a ‘culture’ of patient safety in hospital. As detailed in the preceding chapters the disclosure of harm and error is fraught with difficulty (Vincent, 2004). The ways in which management and leadership practices encourage or discourage disclosure of patient safety issues is discussed. In addition, the issues of trust and blame as critical components of improving or hindering progress in patient safety are reviewed.

These three Chapters conclude with a summary of the gaps in the literature and empirical work so far and propose research objectives and research questions for this thesis.

1.7.2 Chapter 5 - The Background and Context of the NHS

Chapter 5 is primarily descriptive/informative, presenting the history and current challenges within the NHS today. The differences in approach to healthcare each of the UK's devolved Governments are described and reviewed. The impact of the increasing demand for services and the national changes to the NHS workforce are included to demonstrate the potential influence on patient safety.

1.7.3 Chapter 6 - NHS Tayside

Chapter 6 considers the detail of the case study organisation- NHS Tayside to give insight into the organisational systems and processes. The history of risk management and patient safety is discussed including a critical review of the unique features present. In addition, an overview of the methods currently used by practitioners and managers to detect and address patient harm is included.

1.7.4 Chapter 7 - Methodology and Methods

Chapter 7 is presented in 2 parts. Part 1 details the methodology and rationale for my empirical work. My justification around the choice of a qualitative case study (Flick, 2009; Yin, 2003; Collins and Hussey, 2003) is discussed including the influence of my role followed by the methods used to carry out the case study presented in Part 2. This involved the detailed description and analysis of case study research, an approach that is not without its critics (Becker, 1986), and such criticisms are also considered. Nevertheless, I selected qualitative methods to achieve my research objectives including focus group discussions and semi structured interviews. My methodological choices are supported by Gummesson's (2000) idea that pre-knowledge is essential in case study research. In addition, due to the collective nature of the PSLWR, along with my occupational understanding of the research context, I used participant observation to collect the data. Denzin and Lincoln, (2005) suggest

that a significant advantage in participant observation is that the most experienced person is directly involved in collecting the data.

I carried out four pilot PSLWR to test the limited USA literature available from Dr Frankel, the originator of PSLWR. The pilot testing included an initial UK, adaptation of the documents as draft questions for the executives. It became clear from the pilots that a complete redesign was required to suit the context of the local health systems. For example: the language and tone of the questions were changed, questions order, decisions on who would ask them and how the actions would be agreed to take forward safety improvements were all amended.

1.7.5 Chapters 8 and 9 Results Part I and II

Chapter 8 presents my results of the 38 PSLWR discussions (focus groups) which are critically reviewed to answer the three research questions detailed above in section 1.6. I selected participant observation and discussion as the primary method within the PSLWR in a focus group setting to investigate the disclosure of safety issues and analyse the narrative themes and clusters of key safety topics. Using thematic coding (Crabtree and Miller, 1999) the dialogue between participants is examined to reveal what individual staff said about patient safety. Key groups of staff are highlighted particularly those with limited access to other organisational systems to report patient safety issues. The engagement of learners, porters, ancillary and laboratory staff in PSLWR is of particular note as they are often the ‘unheard voices’ within hospitals systems to detect harm.

In **Chapter 9**, Part II of the results, I will build on the PSLWR discussions and present my findings of the 42 semi-structured interviews carried out after the PSLWR to understand participants’ construction of meanings in the context being studied (Green, 2000). The purpose of the interview process, in my study, was to encourage participants to reflect on their involvement in the PSLWR process and consider sharing their views on the use and function of this activity, as a means to improve patient safety and reduce harm. The interviews enabled me to take a ‘deep dive’ into

the data revealing executive, professional, clinical and ancillary staff views of how the PSLWRs were carried out. Staff discussed the contribution of the PSLWR system to overall patient safety within the hospital and commented on the patient safety topics that were raised.

1.7.6 Chapter 10 - Discussion and Conclusions

Chapter 10 pulls the threads of the thesis together considering the findings of my empirical work. The research design and methods used within the case study are critically reviewed alongside, key theoretical links (Amalberti *et al*, 2003, Vincent, 2006) concluding with a summary of the implications of my research for policy and practice.

1.7.7 Chapter 11 - Contributions

Chapter 11 elucidates the original contribution of my study, by highlighting new knowledge and different perspectives on the use of PSLWR. The discussion here highlights the unique contribution my thesis makes through the achievement of the research objectives detailed above in section 1.6. Contributions include:

- The design of a simplified PSLWR system as proactive method to go looking for harm in healthcare. My design provides a new system for widespread use in practice and can involve everyone in a discussion about patient safety.
- Highlighting contributions from otherwise ‘unheard voices’ in healthcare to talk about ‘drifting into error’ to reveal latent conditions by exploring the socially shared silence of patient harm.
- Presented a critical review of the implementation of PSLWR; providing a deep understanding of the contextual and conceptual realities of safety and harm through conversations about patient safety creating new levels of engagement including learners and senior executives.

- the presentation of ‘Thick descriptive’ data with regards to design and application of PSLWR as a method of detecting harm system including participants views of the PSLWR system
- Influenced local and national policy for patient safety in Scotland and the UK
- Methodology and methods encouraged ‘difficult conversations’ about safety
- Cast a new light on a model for application in practice building a rigorous method for implementation in other settings
- Developed a patient safety tool to include learners for the first time in patient safety improvement in NHS Tayside
- Created opportunities for team discussion new opinions on local patient safety for improvement in safety with inclusivity from the board to the floor

My contribution details the levels of participation and disclosure revealed through the use of this method. In particular the impact of my design of the PSLWR process has as applied to the wider context of policy and practice beyond NHS Tayside is considered.

1.7.8 Chapter 12 - Recommendations and Reflections

Finally in **Chapter 12**, as is typical of much research, more questions are raised that would benefit from further research. Suggested routes for a future expansion of the study area are offered together with some personal reflections regarding the research process and the final thesis. I have done this ‘in the manner of the reflexive practitioner’ (Argyris and Schon, 1978, Greenwood *et al*, 2008) and included suggestions as to how, given the opportunity, I would do things differently.

1.7.9 Chapter Summary

In summary, this chapter has introduced the problem of patient safety; the nature of patient harm and my rationale for having chosen this research topic. The chapter concludes with an overview of the thesis structure. Overall, my empirical work presents a lens, through which, when focused by virtue of my theoretical framework of ‘drifting into error’ (Amalberti, 2001) the reader can have a ‘virtual view’ of patient safety and reasons for patient harm in practice. Each of the following chapters goes into depth on the pertinent issues as indicated above this building into my contribution to patient safety.

Chapter 2

Literature Review Part I:

What do we know about patient harm in healthcare?

Policy and Practice

“To improve patient safety, we have many good ideas and concepts, some solid evidence and many promising avenues to explore, but we are never the less still at the beginning.”

(Vincent, 2006:236)

2.1 Introduction

Over recent years, Healthcare organisations have been inundated with policy guidance and empirical evidence aimed at improving patient care: patient safety is no exception (Leape *et al*, 2002). Yet, progress in both patient safety and empirical terms, seems hard to find.

“Despite growing awareness of quality and safety risks, and significant efforts to improve, progress is difficult to measure.”

(Goeschel *et al*, 2010:171)

In Vincent’s recent book (2010:ix) he suggests that, *“there is still no straight forward overview of the field”*. In the next three chapters, I will critically engage with the literature through which I will aim to enhance understanding of why keeping patients’ safe in healthcare is so difficult. This chapter examines the literature published in this field to understand what is known about patient harm in healthcare. As framework for this chapter the key theoretical and empirical evidence on patient safety is presented in Figure 2.1 below.

2.2 Planning the Literature Review

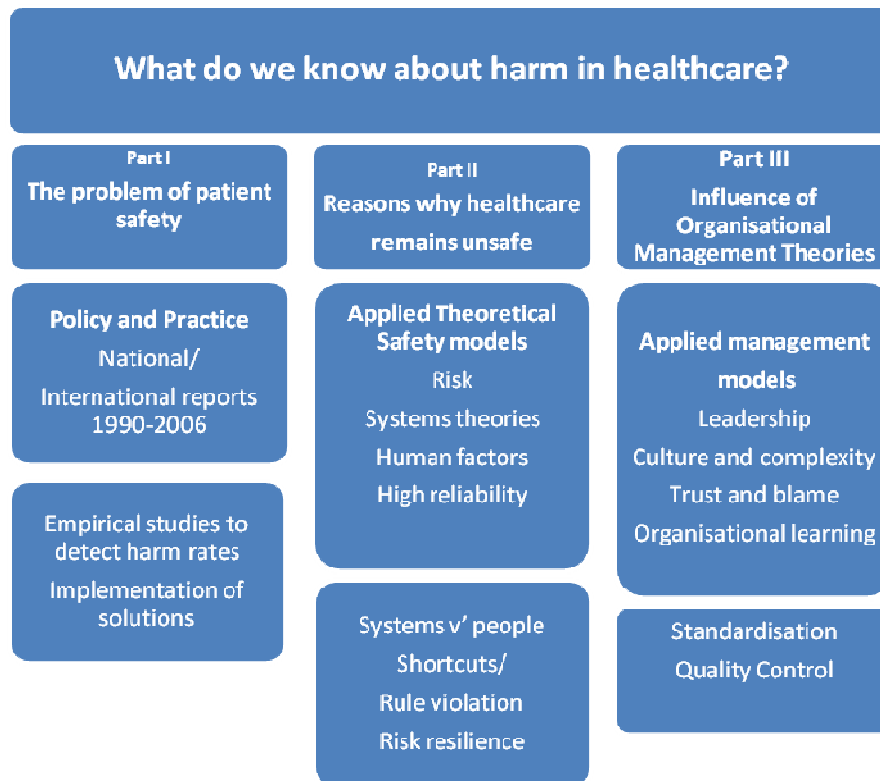
Healthcare is a vast and complex system. Therefore, the literature review method (detailed in Appendix 2.2) focused on; policy guidance; theoretical developments and the application of tools and techniques applied in practice to reduce harm in hospital. I have used a descriptive approach to examine the empirical and theoretical evidence that has informed patient safety, as a way to analyse how, and in what way, policy has developed in accordance with research in this area.

It could be argued that any study addressing patient harm in healthcare environments might be relevant. They might reveal potential patient safety issues between hospital and primary care transfers; explore complex medication issues and reveal gaps in inter-professional communication. However, the inclusion of all such studies would distract from the main focus of my empirical work as it relates to patient safety in hospital and the conditions under which staff ‘drift into error’. Therefore, my review of literature, set out in the framework below (Figure 2.1 below) focused on progress to date in hospital patient safety within 3 interrelated themes:

- The patient safety problem as defined by publications in theory, policy and practice
- Why healthcare remains unsafe. The theoretical safety research models applied to healthcare to date to address the issue of harm detection and prevention in hospital
- The influence of organisational management theories on hospital patient safety practice.

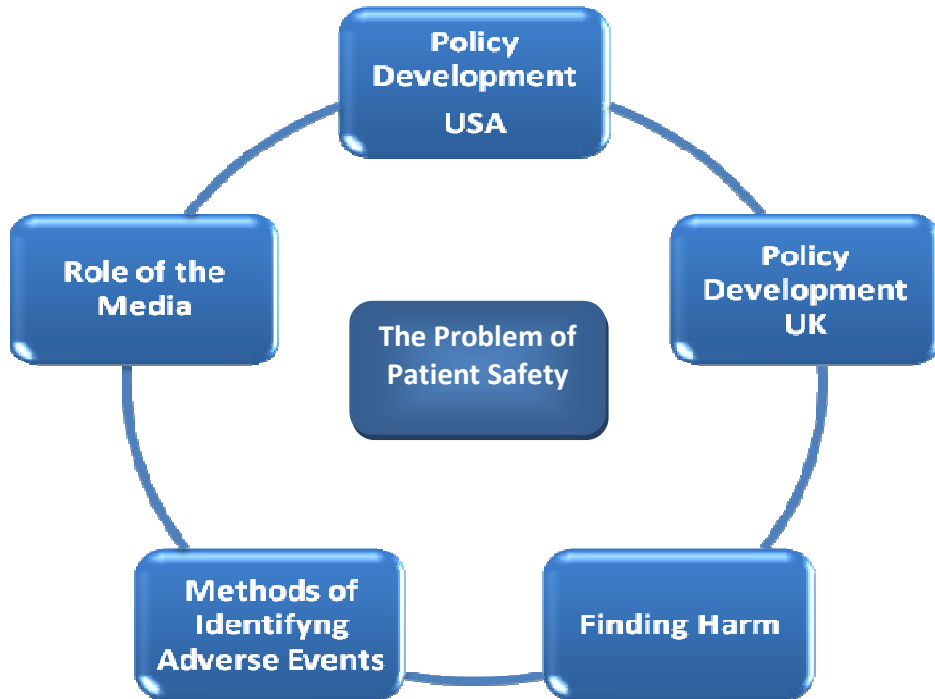
The first step was to understand the problem of patient safety.

Figure 2.1 The Literature Review Framework for Chapters 2, 3 and 4



In Part I of the literature review, (Chapter 2), I will identify the problem of patient safety by looking the international empirical evidence alongside the impact of American and United Kingdom (UK) policy on safer clinical practices. In Part II, (Chapter 3), I will explore the theoretical advances made to detect and prevent patient harm and the relevance of these theories to clinical hospital care. Finally, in Part III, (Chapter 4), I will reflect on the ‘culture’ and practice that currently exists in healthcare organisations reviewing some of the organisational management theories that influence patient safety. Collectively, the literature review considers progress to date on patient safety in hospital and concludes with the research questions for my empirical work. To continue, Part I of the literature review will focus on themes detailed in Figure 2.2 below.

Figure 2.2 Chapter 2: Discussion Themes



2.3 The Problem with Patient Safety

Patient safety and harm in healthcare is a difficult subject to address. Identifying every patient who has or who might have been ‘harmed’ by their care is problematic because of the varying ways in which harm is defined. Therefore, the precise number of patients harmed by healthcare remains elusive. Although the debate continues over ‘accurate’ estimates of the amount of preventable medical harm that occurs in health care, there seems to be a consensus, that health care is not as safe or reliable as it might, indeed ought to, be (Wanzel *et al*, 2000; Thomas and Brennan, 2001; Vincent *et al*, 2011). The level of harm in many studies worldwide has a large margin of around 10-30% of all hospital patients (Runciman *et al*, 1995; Neale *et al*, 2001; Forster *et al*, 2003; Vincent, 2004). Depending on the argument you want to support and the particular areas of patient safety that you wish to analyse, these statistics can vary from 5-95% (Barach and Small, 2000; Vincent, 2006).

Since the late 1990s, many studies and policy reports have concluded that patient safety is ‘the big issue’ in healthcare, despite our best efforts to prevent harm (Kohn, 2000; NPSA, 2000; DoH, 2009). To assist in structuring this part of the review, the methodological approaches used to measure the levels of harm within several key studies will be considered first.

2.4 Attempting to find harm

Looking for harm in healthcare is not new. As early as 1916, Ernest Codman, a Boston surgeon, established one of the first systems to look at patient safety in hospital (Sharpe and Fadden, 1998). The aim of Codman’s work was to follow up surgical patients to determine if their treatment was successful or not. He introduced mortality and morbidity reviews (essentially peer reviews of mistakes occurring during the care of patients) to examine what he called ‘unsuccessful treatments’. For his efforts, he was shunned by his colleagues essentially for what might be regarded as ‘whistle blowing’, inherently eroding their status as knowledgeable professionals. The escalating ridicule from his peers, eventually hounded him out of Harvard. Yet, his proposals would lay the foundations for minimum standards in American hospitals and is cited as a major influence in establishment of the Joint Commission on Accreditation of Healthcare Organisation (JCAHO), one of the largest regulatory healthcare bodies in the world today. The role of regulation in patient safety will be discussed in Chapter 3, section 3.8.2.

Over fifty years later in 1977, Illich an industrial psychologist also argued that medicine was causing harm. He collated a body of statistics to show, what he considered to be, the shocking extent of post-operative harm and drug-induced illness in advanced industrial society. At that time, he suggested what may be considered today as a 21st Century solution; a plea to the public to resist unnecessary treatments and interventions. Illich identified a list of ineffective treatments, adverse incidents with drugs and medical interventions that could cause harm to patients.

He used the data to try and quantify the harm suggesting that:

“Pain, dysfunction, disability and anguish resulting from technical medical intervention now rival the morbidity due to traffic and industrial accidents and even war related activities, and make the impact of medicine one of the most rapidly spreading epidemics of our time. Amongst murderous institutional torts, only malnutrition injures more people than iatrogenic disease in its various forms.”

(Illich, 1977:35)

Both Codman and Illich’s work was considered outrageous and inflammatory to the medical experts because they were attempting to prove harmful things could happen to any patient and be caused by the doctors. This work challenged the very core of medical practice in the Hippocratic Oath to “*first do no harm*”. They attempted to show, through small studies, that harm could be categorised and counted. Collectively, their empirical work acknowledged that, while lives could be saved and suffering reduced through treatments, it was inevitable that some patients would be harmed and might die in the process. These early efforts brought out into the open discussions that treating patients did not come without risk. The main difficulty was in establishing how many patients were harmed. It would be another ten years before a prominent report with ground breaking news on the level of harm in healthcare systems would tackle this issue.

2.5 The Harvard Medical Practice Study

The Harvard Medical Practice Study (HMPS) (Hiatt 1989) attempted to measure or estimate how many people are harmed within hospitals in the United States of America (USA). The HMPS was a landmark study (Haite, 1989) using ‘medical error’ or ‘unintended actions’ as the means by which harm could be defined. However, concern with harm was not the original intention of the HMPS empirical work. The rising costs of litigation were the drivers of the study. The main aim was to try to identify the number of potential cases that could seek legal compensation for harm in New York State Hospitals. Litigation will be addressed as a patient safety issue later in this chapter in Section 2.12. The HMPS caused shock waves around the world and created great debate about the methods used and the results.

The HMPS reviewed 30,121 randomly selected records from 51 randomly selected acute care hospitals in New York State. The analysis provided, for the first time, population estimates of injury rates according to the age and sex of the patients, as well as the specialties of the physicians. Using weighted totals it was estimated that among the 2,671,863 patients discharged from New York hospitals in 1984, there were a total of 98,609 adverse incidents. Although 56,042 of the total (56.8%) led to minimal disability and recovered in one month: another 13,521 (13.7%) experienced moderate disability taking over 6 months to recover; 2,550 (2.6%) had a permanent total disability, and 13,451 (13.6%) led to death. Around 27,179 events (27.6%) of the adverse incidents involved negligence. The burden of iatrogenic injury (caused by medical care) was described as ‘huge’ and reported in the press, throughout the world, as the equivalent of a jumbo jet crashing every week with 250 people onboard (Kohn, 2000). A later publication by Leape *et al*, (2000) examined in more detail the clinical aspects of the HMPS to identify adverse incidents within the data including:

- Medication errors
- Improper blood transfusions
- Surgical injuries and
- Wrong-site surgery
- Death
- Falls
- Burns
- Pressure ulcers
- Treating the wrong patient

In summary, Leape *et al*'s, (2000) study found that almost 4% of all New York admissions were harmed unintentionally by their treatment, 1% of those seriously. The injuries and deaths identified were attributed to the care provided in hospital treatments and not a result of the patients' conditions. Debates followed the publication, many criticising the study's research methods, accuracy and reproducibility. Nevertheless, authors challenging the findings acknowledged their significance overall and agreed with the priority to reduce harm in hospital (MacDonald *et al*, 2000; Hayward and Hofer, 2001).

2.6 The Institute of Medicine

The next big step in patient safety terms emerged in America 1998. A Committee for Quality was established by the Institute of Medicine (IOM) to improve the standard of American healthcare over the next ten year period. The IOM is an independent, non-profit organisation working outside of Government to provide unbiased and authoritative advice to decision makers and the public about healthcare.

The Committee commissioned two reports that are probably the most referenced documents on patient safety to date: '*To Err is Human: Building a Safer Health system*' (Kohn, 1999) and '*Crossing the Quality Chasm*' (Kohn, 2001). I will address each of these reports and their contribution to the development of approaches to patient safety in the following two sub-sections.

2.6.1 To Err is Human: Building a Safer Health System

The first report, issued in September 1999, '*To Err is human: Building a Safer Health System*' changed the nature of the patient safety dialogue from focusing on blame to improving systems. This is an important point as it may be a way of addressing the 'protectionist' retaliation of doctors addressed earlier. In the report, the committee laid out a comprehensive strategy by which Government, healthcare providers, industry, and consumers could reduce preventable medical errors. Looking at the international literature on patient safety; error; pharmaceutical safety; aviation safety and worker safety, the report concluded that knowledge already existed to prevent many of these mistakes. As a minimum, a 50% reduction in healthcare error over the next five years was recommended. In addition to setting that goal, the committee suggested regulatory and market-based initiatives, and strengthening the roles of professionals and organisations. It is unclear from subsequent reports if this goal was ever achieved across the American healthcare system (Mathews and Provonost, 2008).

One of the report's main conclusions was that the majority of medical errors did not result from individual recklessness. More commonly, errors were caused by faulty

systems, processes, and conditions that lead people to make mistakes or failed to prevent them from doing so. Thus, mistakes can best be prevented by designing the health system at all levels to make it safer; to make it harder for people to do the wrong thing and easier for them to do it right. The *'To Err is Human'* report was part of a larger programme of work to examine the quality of healthcare.

2.6.2 Crossing the Quality Chasm

"Quality problems are everywhere, affecting many patients. Between the health care we have and the care we could have, lies not just a gap, but a chasm."

(Kohn, IOM 2001:1)

The second of the IOM reports, published in 2001, focused on the wider dimensions of quality in healthcare by examining the gaps between the care people should receive and the care they did receive. Of particular note, is the view the authors took on omissions in medical care. These were considered harmful, or at least could potentially cause harm. For example, a diabetic patient missing an eye-screening appointment can lead to relatively rapid deterioration in sight and ultimately blindness. In the terms of this Report such an omission would be regarded as harmful. The report summarised:

"The American health care delivery system is in need of fundamental change. The current care systems cannot do the job. Trying harder will not work. Changing systems of care will."

(Kohn, IOM 2001:1)

The committee commissioned a detailed review of the literature on the quality of care; convened a communications workshop to identify strategies for raising the awareness of the general public and key stakeholders of quality concerns; identified environmental forces that encourage or impede efforts to improve safety and quality; developed strategies for fostering greater accountability for safety and quality and identified important areas of research that should be pursued to facilitate improvements in safety and quality. Their review of the literature considered over 70 studies that documented shortcomings in quality of patient care.

The report concluded that there were two main threats to the quality and safety of care:

- The rapidly expanding knowledge base, and
- The increasing demand for healthcare by those with long term conditions (such as diabetes, heart disease etc)

To put these two issues into perspective we can examine the empirical evidence. In 1966, about 100 articles were published each year from randomised control trials (RCT); since 1995, over 10,000 have been published annually (Chassin, 1998). The abundance of literature creates a paradox that makes it difficult for practitioners to keep up, both with the reading and the application of the evidence to their practice (Mulrow *et al*, 1997; Shojania *et al*, 2007; Shuval *et al*, 2009). It may be assumed that this greater knowledge base would improve the quality of care and make things safer. On the contrary however, empirical studies by Leatherman and Sutherland, (2003) and McGlynn *et al*, (2004) found the opposite. In two large, separate, RCTs, they examined the application of simple evidenced based care for long term conditions (e.g. diabetes and heart disease) and found that, less than 50% of patients had received the screening tests and the treatments planned for them.

Relating to point two, at the time of the report, around 100 million people; 40% of the American population, had one or more chronic condition. The ever increasing demand for services by patients requiring more care outweighs the supply of hospital care available. The '*Crossing the Quality Chasm*' report used these two fundamental issues to design a new framework for healthcare quality. Within the 2001 report, six dimensions of health were proposed to define healthcare quality (Box 2.1 below). The six dimensions are referenced throughout the world, particularly for the emphasis they brought to bear on patient safety (DoH, 2001a; SGHD, 2008a). Regulatory systems were established to measure organisational achievements against the dimensions. For the first time efforts to improve safety would be measured.

Box 2.1 The Institute of Medicine - Dimensions of Health

- *Safe*— avoiding injuries to patients from the care that is intended to help them.
- *Effective*— providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding under use and overuse, respectively).
- *Patient-centred*—providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- *Timely*—reducing waits and sometimes harmful delays for both those who receive and those who give care.
- *Efficient*—avoiding waste, including waste of equipment, supplies, ideas and energy.
- *Equitable*—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

(Adapted from Kohn, IOM, 2001)

It is unlikely that any healthcare system would argue against the six dimensions of quality as the principles by which every patient should be treated. However, providing healthcare is complex and keeping all elements in balance is a delicate process. Often a push to improve one area can inadvertently cause deterioration in another. For example, in the aim to be efficient and timely with the allocation of hospital beds, patients may frequently be moved around to different wards in the hospital. This system can cause major issues of safety as patients with medical conditions can end up in a surgical unit, cared for by teams that are unfamiliar with the complex needs of medical patients. This issue of dealing with safety in complex adaptive systems will be explored in Chapter 4.

Nevertheless, a decade later the IOM's dimensions of health are still held as the virtues by which every healthcare system should live by. The IOM's report has raised awareness of the importance of patient safety. The safety element is referenced from this source in national strategic quality and patient safety policies (DoH, 2005;

SGHD, 2008; Scottish Government, 2010). The recommendations focused American healthcare on patient safety by establishing mandatory visits by the Joint Commission to hospitals and measuring improvement in practice within the hospital systems.

Despite the bold aspirations of the report, over the next few years' improvements in practice were limited. Several authors cite a lack of investment (Leape, 2002), little evaluation of the interventions (Leatherman and Sutherland, 2004), poor staffing levels (Aitken *et al*, 2002), limited learning from reporting systems and poor business cases for safety (Wachter and Goldman, 2002), as inadequate for the size of the task. Wachter's (2004) review of progress 4 years later criticised the four main elements of change. From his analysis, he concluded that: the error reporting systems; information technology; the malpractice system, and workforce and training, were hindering the improvements anticipated.

Given that this part of my literature review examines national policy guidance to improve patient safety, the lack of progress after four years is important. The challenges identified in the implementation of systems to improve safety are central to the analysis of my empirical work. As a result, I will revisit the criticism of the lack of learning from reporting systems in the next section.

2.7 An Organisation with a Memory

Although the context of healthcare provision in the USA (paid for directly by 'the customer' through Insurance agreements or by cash/credit) is very different from that in the UK (where it is free at the point of delivery), interest in the patient safety movement from America was mounting. In the beguilingly titled, "*An Organisation with a Memory*" (OWaM), the UK Department of Health (DoH, 2000a,) set out for the first time a framework to improve patient safety within the NHS. The evidence from the large American studies persuaded the UK Government to take a similar view and thus, the scene was set for national plans to improve patient safety. The strategy intended to establish systems to enable organisations to learn from patient harm with the assumption that this would prevent future harm. The National policy focused on 3

main interventions: setting up incident reporting systems; implementing additional technology to collect data on these events and introducing further regulation. This strategy sounds alarmingly similar to the American model described in section 2.3.2; the cause for alarm, being rooted in the lack of success of those systems when they were introduced in the USA.

In my experience as a manager in the NHS, the use of regulation and the introduction of new rules are often mechanisms that policy leaders believe will be catalysts for change. Yet, those on the frontline are the least likely to have knowledge of the ‘new rules’ let alone to have the will to make changes in practice (Wennberg, 2002). There is no doubt that regulation plays a role in changing practice. The empirical data from the early American work had demonstrated, at the very least, that regulation had instigated activity around safety (Wachter, 2004). However, the ‘top down’ approach to national healthcare policy implementation has been widely criticised over the years for its failure to recognise the complexities of organisations (Dunsire, 1978; Hogwood and Gunn, 1984; Pfeffer, 2002).

Capodagli and Jackson (2001:154) call this arms length approach a “*spray and pray*” method, describing spraying on the change and praying that it sticks. As will be seen in the next section, there are many challenges to the “*spray and pray*” approach often adopted by national bodies. In Chapter 4, Part III of the literature review, I will pick up the role and influence of management and leadership in implementing national guidance on patient safety.

Just as the HMPS had made an attempt to count adverse incidents and suggested the numbers could be extrapolated to all hospital systems, so UK researchers, as part of OWaM, began to consider the nature of serious failures in the NHS by measuring adverse incidents (DoH, 2000b). Based on a small-scale pilot study of hospital inpatient records, the report estimated that the proportion of inpatient episodes leading to harmful adverse incidents was around 10%, of which half could have been

avoided. As a result, new systems were proposed to examine the extent to which the NHS had the capacity to learn from such failures.

The report concluded that, if the NHS was to successfully modernise its approach to learning from failure, four key areas had to be addressed as means of working towards the introduction of:

- A unified mechanism for reporting and analysing when things went wrong was required;
- A more open culture, in which errors or service failures could be discussed should be developed;
- Mechanisms for ensuring that, where lessons were identified, the necessary changes would be put into practice;
- A much wider appreciation of the value of the system approach in preventing, analysing and learning from errors was necessary.

(Adapted from DoH, 2000a)

The overall policy objective of OWaM was to provide an independent reporting system to record adverse incidents and ‘near misses’ happening in healthcare. A national, mandatory electronic reporting system for adverse incidents was developed and implemented throughout primary care and acute services. At the same time, a new body, the National Patient Safety Agency (NPSA), was established to run the reporting system.

In conclusion, the OWaM report set out 10 key recommendations which were all accepted by the Government and are presented below in Box 2.2.

Box 2.2 OWaM Recommendations

- Introduce a mandatory reporting scheme for adverse incidents and near misses
- Introduce a scheme for confidential staff reporting
- Encourage a reporting and questioning culture in the NHS
- Introduce a single overall system for analysing and disseminating lessons
- Make better use of existing resources of information on adverse incidents
- Improve the quality and relevance of NHS adverse incidents investigations and inquiries
- Undertake a programme of basic research into adverse healthcare incidents in the NHS
- Make full use of the NHS information systems to help staff access learning from adverse healthcare incidents and near misses
- Act to ensure that important lessons are implemented quickly and consistently
- Identify and address specific categories of serious recurring adverse health care incident

(Adapted from OWaM, DoH, 2000a:80-86)

The difficulty would be making these actions stick in practice. As part of the strategy to implement the recommendations, patient safety became a key component of the ‘*The NHS Plan*’ (DoH, 2000c), the UK’s NHS plan for care delivery. In addition, patient safety also became a major strand of the NHS quality and clinical governance agendas for all hospital systems. The focus on ‘counting’ thus began in the hope that, having knowledge of the harmful incidents would enable learning and action to be taken to prevent further harm. Hoping for something does not necessarily make it happen. Hope is not a good plan.

2.8 Building a Safer NHS: An Emphasis on Counting

The national response to error reduction emerged as a plan to count the number of adverse incidents after they have happened. The assumption behind this approach was the belief that, if information about the number of adverse incidents was known, it could be used to take action to prevent recurrence. The emphasis on voluntary reporting became the main vehicle by which the NPSA guaranteed to Government that things would be safer. A detailed framework for the implementation of OWaM was spelled out in the second national patient safety report: '*Building a Safer NHS*' (DoH, 2000b). The plans would prove to be fundamentally flawed in a number of ways.

First, great emphasis was placed on counting individual reports voluntarily submitted by clinicians. Secondly, the causes of error and harm were complex, and increased activity around adverse incidents did not necessarily equate with reductions of harm (NAO, 2005; DoH, 2008; House of Commons, 2009). The NPSA was charged with the delivery and implementation of an IT platform from which all NHS healthcare organisations in England, Wales and Northern Ireland could report adverse incidents within a National Reporting and Learning System (NRLS).

Four years later, the National Audit Office (NAO) expressed some concern over the adverse incident learning system. The failings of the NRLS were reported publicly (NAO, 2005). From a total of 168 Trusts, just 19% (n=32) of English healthcare systems had shared lessons they had learned from individual incidents with the NPSA. There was a perception that the NPSA was not interested in disseminating national learning from individual adverse incidents. There were also wide variations in the local systems within individual hospitals for embedding changes in practice, as a result of learning from reported incidents.

For example, analysis of the national data revealed that 116 (69%) Trusts (hospital systems) were unable to provide data on the number of deaths as a result of patient safety incidents:

“In 2004-05 there were some 2,181 deaths recorded but it is acknowledged that there is significant under reporting of deaths and serious incidents. Other published estimates of death as a result of patient safety incidents range from 840 to 34,000 but in reality the NHS simply did not know.”

(NAO, 2005:1)

One of the problems the NRLS created at local level was extra work for frontline staff. There were no attempts to integrate the national adverse incident report form with existing hospital systems. Staff faced extremely complex processes to make an adverse incident report. Logging a report required several information technology (IT) systems and different on-line forms. Over 138 trusts (82%) reported problems particularly with regard to the time taken to make a report and issues with software compatibility:

“There is little evidence that data collected through the national reporting system are effectively informing patient safety at the local NHS level. Despite the high volume of incident reports collected by the NPSA to date, there are too few examples where these have resulted in actionable learning for local NHS organisations.”

(NAO, 2005:1)

It is well-established how the regulatory character of medicine, including both formal and informal practices of occupational control, have served to ensure professional monopoly in the evaluation of medical work and exclude the participation of non-professional groups in the management of technical performance (Friedson, 1970; Rosenthal, 1995; Allsop and Mulcahy, 1998; Lupton, 2002). This broader theoretical context of professional regulation and collegiality is therefore central to the issue of medical reporting.

In summary, counting adverse incidents poses several challenges; underreporting is widely recognised, estimated to range from 75 to 95%; medication errors and more worryingly, incidents leading to serious harm are the least likely to be reported (NAO, 2005). The process of making a report, on paper or electronically, removes

healthcare workers, particularly professional staff, from what they are supposed to be doing: providing care for patients. Add to that, the unreliable nature in which incidents are recorded (House of Commons, 2009). It is estimated that, 45% of adverse incidents are not recorded correctly in relation to the type of harm or error made (Lilford *et al*, 2003). It is suggested that, these errors may be due to the long list of codes from which to choose to record incidents and the individual reporters' understanding or interpretation of the harm (AkkeNeel *et al*, 2008).

2.9 Reporting in Practice

Moving on to those making the reports, as work by Cosby, (2006) demonstrates, some disciplines are more inclined to make reports than others; nurses in particular are more likely to report than are doctors. We might speculate that it is arrogance on the part of doctors leading them not to report, or fear for what might happen to their reputation or career if they are blamed for the negative outcomes on patients (Wilson *et al*, 2008). In Chapter 6, we will see the current adverse incidents reporting practices of staff within the case study Organisation.

The complex nature of the environment in which healthcare is provided also plays a role. During periods of high activity, even if a serious incident happens, it is less likely to be reported (O'Shaughnessy *et al*, 2007). This is particularly so if the patient is unaffected by the error (Evans *et al*, 2006). On the other hand, as a result of the mandatory reporting, at least every UK hospital system began to look more seriously at the details of adverse incidents to help understand what went wrong. However, the reporting of adverse incidents is not the only method hospitals can use to look for harm. Given that this study looks at the implementation of a new method of finding harm, the literature surrounding other methods of detecting harm is important, particularly the range of methods used and their successes and challenges to date.

2.10 Methods of Identifying Adverse Incidents

Finding harm in healthcare is not entirely reliant on the voluntary reporting of adverse incidents. The literature on harm in healthcare has studied the utility and application of other methods of detection.

The next sub-sections will consider 4 of those most widely used in hospital systems:

- Patient record reviews
- Patient Complaints
- Mortality and morbidity reviews of patients that have died or have complications from treatments/procedures
- Litigation -Clinical claims cases

2.10.1 Patient Case Note Reviews

Patients' case records, compiled as a formal record of the care given, are regularly used to monitor the 'quality' of that care. A number of studies have reviewed patient records retrospectively to identify if an adverse incident has occurred (Vincent *et al*, 2001; Kampman *et al*, 2005; Sari *et al*, 2007). The process usually involves three basic steps:

- obtain a random sample of patient care records
- establish a multidisciplinary review team (usually including doctors, nurses and pharmacists) to assess aspects of the patients care
- review the patient record inserts and identify 'adverse incidents'

A summary of several international case record review studies is presented in Table 2.1 below. This list is not necessarily presented to make comparisons as a means of concluding that one healthcare system is better and safer than another (Walshe and Offen, 2001). On the contrary, the list is highlighted to show the variance in the numbers of adverse incidents detected by this method, i.e. the rate at which they occur.

Table 2.1 International Case Note Reviews			
Hospital Adverse Incidents Rate studies			
Study	Year	Admissions	%
Californian study	1974	20864	4.7
Harvard Medical Practice Study	1984	30195	3.7
Utah –Colorado study	1992	14052	2.9
Australian Health Care Study	1992	14179	16.6
Denmark	1998	1097	9.0
New Zealand	1998	6579	11.2
United Kingdom	1999	1014	10.8
France (pilot study)	2000	778	14.5
Canada	2004	3745	7.5

(Adapted from Vincent, 2006: 42)

The above table is helpful in demonstrating that case note review is a valuable method to look for and address harm. The studies presented in Table 2.1 used similar methods over a 30-year period and found significant levels of harm varying from 3 to 17%. The method is not without its critics and there are several issues worthy of note about case note reviews. Many patient records around the world remain to this day: paper based; hand written, illegible, and poorly filed and maintained. Add to that, the use of the narrative components of the records, written by a number of individuals with their own unique style of recording the patient care provided. These methods are fraught with issues around the reliability and variability of the data. Neale and Woloshynowych (2003) examined some of the methodological weakness of the case review method pointing out it depends on the judgements and decisions of individual doctors. Vincent agrees and suggests:

“.....while great efforts have been made to improve the accuracy and reproducibility of patient records by training, by the use of structured data collection, by duplicate reviews and re-reviews and by resolution of disagreements, but their reliability remains no better than moderate.”

(Vincent, 2006:45)

Nevertheless, historical case notes are a valuable source for the review of clinical care. They hold specific information about everyday clinical practice and allow the reviewer to gain insight into individual patients’ conditions and the treatments that

they receive. The patient record tells a story of convergence, where aspects of theory discourse and local practice come together. The potential to use this local intelligence to change practice, prevent harm and improve exists but is often not utilised. Vincent (2006) suggests the lack of feedback from the case note reviews presents clear challenges for learning.

Local feedback is essential for frontline staff to acknowledge that, there is indeed a problem with patient safety. If there is no attempt to report back to those making the reports, they will quickly become disengaged believing that their efforts are not seen as important (Bates and Gawande, 2003; Benn *et al*, 2009). Many also believe that a report is not worth the effort as nothing is done as a result (Olsen *et al*, 2007).

Another concern is that, incident reporting is reactive: the information is reviewed after the incident; this may be too late for the individual patient if serious harm has occurred. Furthermore, the patient records selected for review may refer to care provided several months previously. As a result preventing and/or explaining the findings with those involved are almost impossible.

Results from recent studies confirm that small random samples observed over time using this method, by a trained group of reviewers, produce stable rates of harm detection of between 26-36% (Griffith and Resar, 2009). Additions to the case review method have included the identification of 'triggers' (treatments, and care complications that may lead to harm) (Classen *et al*, 2008). Categories of triggers can include: receiving a blood transfusion; abnormal laboratory reports, and readmission to hospital. The triggers are not necessarily adverse incidents but 'red flags' that should stimulate the reviewer to delve deeper into the patient record to find out more: Was the readmission necessary? Were the abnormal laboratory reports due to medication contraindications or reactions to treatments? Was the blood transfusion required because the patient had a haemorrhage due to a mistake during the surgical procedure? These errors can then be reported back to clinical staff to focus on the elements for improvement.

In summary, case note review is a valuable method of detecting patient harm. However, it has several weaknesses, it is not routinely used to go looking for harm in most hospitals; it will not detect all harm and has some major methodological issues of validity and reliability (Brown *et al*, 2008). Another routinely used method that can provide some information about patient safety in hospital is the complaint letters received from patients and their families.

2.10.2 Learning from Patient Complaints

The NHS has a mandatory system for patients to air their views about the care they received (SPSO, 2010). Many hospitals analyse patient complaint letters, as one item of data, in their attempts to detect and prevent harm. MacKenny and Falberg, (2003) suggest that complaints should be viewed, in and of themselves, by the service as adverse incidents. When patients complain, they do so because they want changes to be made, so that, their experience does not happen to someone else (Entwistle *et al*, 2003). All NHS organisations have to:

- Monitor the complaints they receive
- Measure how long it takes to resolve the issue and
- Review the service and subject areas to which the complaint refers

Around a third of the complaints are about clinical treatment, particularly regarding concerns about patient safety (SPSO, 2005). In 2006, the national complaints report for Scotland highlighted three key patient safety themes: poor communication; poor standards of treatment, and delay or failure to diagnose patients' conditions (ISD, 2006/07).

Allsop and Mulcahy's (1998) study of patient complaints found that, physicians regarded complaints as a challenge to their expertise and technical competence, and therefore, constituted a threat to their professional identity. However, it was also found that, the shared feelings of vulnerability and the loss of status serve to promote a collective understanding and attitude towards complaints that maintains

professional control and identity in the face of these external or non-professional challenges.

The complaints process is managed within individual local hospitals. However, there is an additional step as the complaint can be escalated externally to the Scottish Public Service Ombudsman (SPSO) if the patient or their family are dissatisfied with the local hospital response. In Scotland, the Ombudsman submits a public report every month to the Scottish Parliament regarding patient complaints in the NHS. In 2006, approximately 7,400 patient complaints letters were received in the NHS in Scotland. The majority of these, around 68 % (over 5000), were about acute hospital care. To put the numbers into perspective, NHS Scotland deals with over 6 million patient contacts per year and less than 1% of patients complain formally (ISD, 2006). It is also worthy of note, that complaints raised by the public can include a wide range of issues from simple car parking difficulties to serious complaints about the quality of clinical care, particularly patient safety (SPSO, 2010).

Unfortunately, as far as reducing harm in clinical care goes, individual complaints information has limited impact (NAO, 2008). This may be because there is no formal system through which hospitals can demonstrate that learning and change in practice has taken place as result of the complaint. In addition, the range of issues about which they complain is so broad that the system needs to be able to discriminate on the basis of the complaint so that harm-related complaints are identified and addressed.

There is also the issue of reconciling the patient's view, the details in the case record and the recollection of the staff involved. Complaints letters contain the individual patient or family members' perceptions of the care provided. The detail within the letters often differs considerably from the patient case note record regarding the clinical care provided. Nevertheless, some patient complaints do highlight clinical issues that have caused harm.

In 2008, the NAO performed an independent evaluation of complaints handling looking at existing performance; capability; capacity and costs of both, in health care. Until then, there had been no detailed evaluation of the effectiveness of the existing complaints systems. Critical to reflection on my study the report found that there was no formal means for any ‘lessons learned’ from complaints to be recorded so they could be shared with others:

“The main reason people did not complain formally was that they did not feel anything would be done as a result. The survey found that only one third of complainants considered that the organisations they had complained about had demonstrated that lessons had been learned as a result of their complaint.”

(NAO, 2008:7)

Of all the methods currently available to examine harm in healthcare, patient complaints is one of the most contentious because of the small numbers of patients and their carers who actually take the time to write. In addition, there is usually little evidence to substantiate the patient’s perception of the incidents versus the facts (NHS Tayside, 2006). Despite the repetitive nature of many issues raised in complaints, particularly those around patient safety, the lack of formal follow-up seems to suggest that much of the complaint details are not taken seriously. However, there are other regulatory systems concerned with harm and patient safety to which hospitals most definitely pay attention. In the next sub-section I will review the legal obligation that hospitals systems have to review safety after an unexpected or sudden death.

2.10.3 Mortality and Morbidity Reviews

Patients die in hospital every day. In Scotland, it is a legal requirement that, the unexpected or sudden death of a patient in hospital is reported to the Procurator Fiscal (PF) (Fatal Accidents and Sudden Deaths Inquiry [Scotland] Act, 1976). The PF has a duty to investigate all sudden, suspicious, accidental, unexpected and unexplained deaths; and any death occurring in circumstances that gives rise to serious public concern (Crown Office, 1998). The Scottish system dictates that no other official has any duty in relation to enquiry into death comparable to that of the PF.

Where a death is reported, the PF will investigate the circumstances of the death, attempt to find out the cause of the death and consider whether criminal proceedings or a Fatal Accident Inquiry (FAI) is appropriate. An FAI takes place in public as part of the Sheriff Court system in Scotland. The intention of the Inquiry is to examine the details of care provided and consider the decisions taken surrounding the patient's death to see if lessons can be learned and practice subsequently changed, if required. In the majority of cases reported to the PF, early enquiries rule out suspicious circumstances and establish that the death was due to natural causes. The Crown Office states:

“Most of these deaths represent an unfortunate outcome where every reasonable care has been taken, but they may result from acts of either negligent commission or omission on the part of medical or para-medical staff, or may be associated with criminality.”

(Crown Office, 1998:3)

The PF has a duty to consider deaths with reference to the following categories:

- Deaths which occur unexpectedly having regard to the clinical condition of the deceased prior to receiving medical care
- Deaths which are clinically unexplained
- Deaths seemingly attributable to a therapeutic or diagnostic hazard
- Deaths which are apparently associated with lack of medical care
- Deaths which occur during the actual administration of general or local anaesthetic;
- Deaths which may be due to an anaesthetic;
- Deaths caused by the withdrawal of life sustaining treatment to patients in a persistent vegetative state

In addition to the above compulsory notifications, individual members of the public can present a case for the further attention of the PF through an NHS complaint or directly to the Fiscal Office.

There are several key issues relating to FAIs that are important for my study. First, the legal recommendations made during an FAI apply only to the individual hospital

where the case took place. What this means is, there is no requirement for other hospital systems to take action in the light of findings from other cases. However, it is likely that some of the failings identified will apply universally to all hospitals with similar services and infrastructure.

This was the case in 2001, when the Bristol Inquiry (Kennedy, 2001) into 29 child deaths following cardiac surgery from 1984-1995, found fundamental flaws in the hospital system of reporting and investigating deaths. The Inquiry Report recommended a long list of improvements and including: changes in safety, staff competence, the application of standards and a system to measure the quality of care and greater public involvement (Kennedy, 2001). The focus of the safety recommendations was targeted at voluntary reporting of adverse incidents.

Secondly, as with adverse incident reporting, there are also issues of unreliability in the reporting of hospital deaths. Since Bristol, researchers have found inconsistencies in this regard, with rates of between 40 - 60% of deaths not reported to the PF or Coroner (Burr *et al*, 1999; Martin *et al*, 2003; Shipman Inquiry, 2003; Aylin *et al*, 2007; Charles *et al*, 2007).

The death certification process was given a radical overhaul throughout the UK following the Shipman Inquiry in 2002. Dr Harold Shipman was convicted of murder for having deliberately caused the deaths of 15 of his patients. Kinell (2000) claimed that Shipman might have killed over 200 patients, successfully avoiding detection for many years. The way in which he recorded the death of his patients and the circumstances surrounding care at the time of death was heavily criticised. The third of six reports from the 4-year public inquiry into Shipman, focused on the unreliability of death certification, calling for several improvements in accuracy and reporting (Shipman Inquiry 3rd Report, 2003).

Yet, the implementation of the recommendations with regard to unexpected death was recently criticised by Holden (2008) claiming that:

“...failure may be due to the tenor of the inquiry's proposals which saw death as a potentially criminal act to be forensically investigated, rather than an opportunity for proper certification and potential learning.”

(Holden, 2008:510)

Learning from some of the circumstances surrounding patient deaths could be a valuable source for learning to improve patient care. However, like many of these methods conducting mortality reviews is not routine. When patients die within 24 hours of admission to hospital, clinicians within the hospital may undertake a review of their case. However, this is not a formal requirement and that being the case; reviews are not routinely carried out in all hospitals. This may be due to the increasing use of incident review systems and risk management practices (Holden 2008). The process of recording the death, and determining unexpected circumstances, is fraught with issues of reliability and validity. Even if a hospital system uses the method routinely, the learning can only be applied to future patients. For those cases under review it is too late.

Introduced by Codman (1916) (see section 2.4) mortality and morbidity reviews were commonplace in organisations, and part of medical training during the past 90 years. Today, the use of mortality and morbidity reviews is not practiced as frequently. There is no formal system to capture the information or to initiate learning from the review at local or national level. As a result of the voluntary nature of the internal review, a great deal of variation in the incidence/prevalence of conditions between studies of mortality and morbidity has been shown, with limited learning and prevention of harm apparently taking place (Orlander *et al*, 2002). Learning from error is important, but confronting error is difficult in a group situation through the case review method. Admitting that you have made a mistake requires a huge leap of faith in order that the individual disclosing the error is not blamed. One of the reasons is the increasingly litigious nature of healthcare and the way in which the media

pursue those involved to ‘*name and shame*’ the individuals involved. The next subsection will explore the increasing problem of harm identified through the legal claims processes.

2.10.4 Litigation- Clinical Claims

Claims data is commonly used in local and national organisations as a measure of harm. Every hospital in the UK has a claims department. Only one percent of patients lodging a complaint about their care will eventually pursue a claim (ISD, 2006). During my empirical work (2006), 4% of cases against the Scottish NHS were settled out of Court costing around £8 million. Yet, despite the poor clinical care identified during a legal analysis, Morris *et al*, (2003), in their study of 137 adverse incidents, failed to demonstrate a rationale link between the tort system and the reduction of harm.

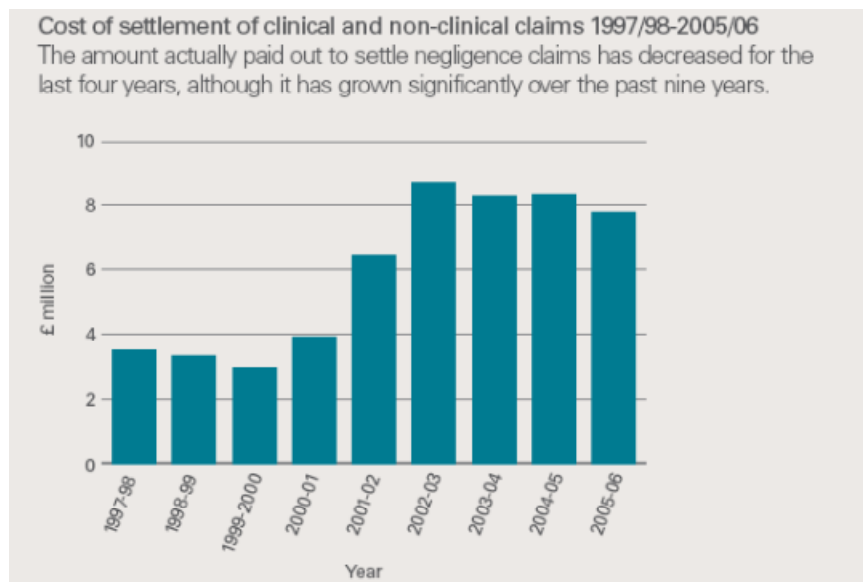
The focus of the claims system is to identify if the NHS is liable and then agree a financial settlement. There are no formal systems for learning from successful claims in the NHS. Yet, key information about harm is often revealed during the process of litigation. Such a situation can be demonstrated from the largest ever NHS payout of £20 million to Kerstin Parkin as detailed in the following vignette:

Box 2.3 Kerstin Parkin Case Study

Mrs Parkin suffered a heart attack after having had a fit during the birth of her first child in November 1996. The cardiac resuscitation team could not reach her because they did not have the security code to get through the labour ward door. Increased security measures with keypad door entry were introduced following risk management initiatives within maternity units after a spate of baby abductions from hospitals in the early 1990’s. In many hospitals a similar system exists without clear protocols to ensure staff can get access in an emergency. This demonstrates how the management of one risk can have a negative or hidden effect on another. Learning from the harm caused in settled claims should be an easy process for the NHS.

Moving on to the national costs of clinical negligence, Audit Scotland, the organisation that assesses NHS Scotland’s performance each year, provides a summary of the litigation costs annually. Figure 2.3 presents the claims settlements data for 2005/6. There are marked differences in the way that the devolved governments of the UK deal with NHS claims settlements. NHS Scotland has a centralised legal system with a dedicated infrastructure and teams of lawyers that deal with all claims.

Figure 2.3 Claims Settlements in NHS Scotland 2005/6



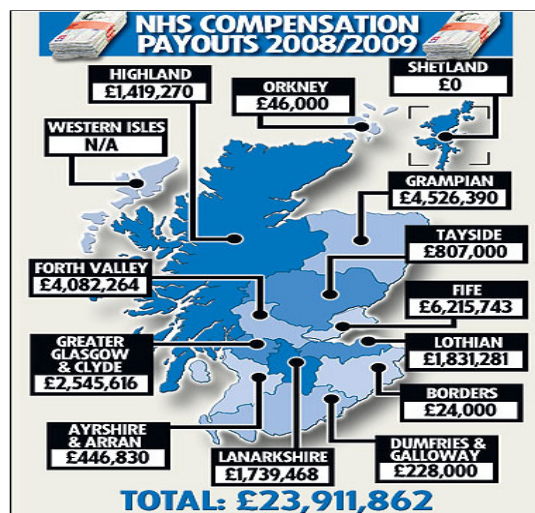
(Source Audit Scotland 2007: 31)

With a maximum of £9 million being paid out in claims in Scotland in 2002-3, and a figure of less than an £8 million pay out in 2005-6, the situation in Scotland provides stark contrast to those in England where some 345 million pounds was paid out in 2006 (DoH, 2006b). The population of Scotland at that time was approximately 5.5 million people and around 50 million in England. The £265 million more spent in England may be down to the different legal systems. The Scottish system uses a national centralised team of lawyers to defend all claims as opposed to the individual legal companies each Trust can use in NHS in England to deal with litigation issues. An unfortunate point to note is that it was estimated that £1 in every £3 paid went to

the legal systems and not the claimants in England (DoH, 2006b). The health systems in Scotland and England seem to be focused on savings and cost reductions in services rather than preventing some of the harm caused.

An additional concern is that, on further analysis of the types of claim made year on year and the likelihood of recurrence, there is a great deal of ‘sameness’ about them. Errors in surgery, poor communication with patients and families, and missed diagnosis regularly surface as formal claims (Central Legal Office 2006). I would suggest that, this identifies significant weaknesses in the current claims systems, which appear to have no mechanisms for generating learning and prevention of harm in the future. In addition, despite the celebrations of the CLO on the low comparative cost for claims in Scotland, the total payout has shot up in 2009 to £24 million for 2008/9; a matter that the media thrive on. A summary of the NHS payouts in Scotland is presented in Figure 2.4 below representing compensation payouts by health board area for the fiscal years 2008-2009.

Figure 2.4 NHS Scotland Compensation Pay Outs 2008-2009



(MATHESON Published: 02 Sep 2009, Daily Mail)

As demonstrated above, the cost of litigation to the NHS is continually rising and successful settlements must suggest that this process identifies greater rates of ‘failure’. Therefore, it comes as no surprise when the media point out the repetitive

nature of some of these harmful incidents. The sensational nature of this approach will be explored in the following section, as this plays a key role in the implementation of safety improvement systems.

2.11 The Media on Litigation

The media use claims information to sensationalise patient harm issues (Jackson and Harper, 2001) and regularly publish stories on the 'Costs of NHS Blunders'. Whether, tabloid or broadsheet, the intentions of the media are to pursue the details of harm in healthcare 'in the public interest'. Uncomfortable though their approach might be for healthcare chiefs, there is some good in this determination to get to the 'truth' as viewed by the journalists and the editorial teams. Using their somewhat blunt approach, capturing the public and organisational attention as the newspapers do, focuses the collective minds. It might be argued, it creates the potential for a social movement for change. But this is only half the story. Another perspective would see the media as wilful 'trouble makers' as they cast their interpretation of NHS errors often with few facts to substantiate their claims.

Like celebrities, healthcare both courts and shuns the media attention. Hospitals both 'use and abuse' the media to publicise the miracle babies and 'snatched from the jaws of death' stories of survivors. As a manager in the NHS, I have tended to view the media attention around harm as a negative element for both the patients and the staff involved. For example, regular reports in the media about hospital infection rates make the public afraid that the hospital is not 'clean', some patients even bringing in their own cleaning solutions as a result. However, separating my managerial from my research role, I have reflected on that view. Can/should such media attention be viewed in another way? Other than the stories in the press and wider media: internet; news, etc., the public have limited information about the potential for harm in the services that they access. Journalists might chase stories because they represent the 'public interest' but the stories also play a key-influencing role in the public's perception of harm in healthcare. This reflection introduced the need for an additional aspect of the literature review: consideration of the role of the press. Are patient n

stories in the press media hype or the tip of the iceberg? In an attempt to address this question, I reviewed a number of notorious cases as disclosed by the media and the FAI process. Through these I am able to provide a flavour of the impact of the media on patient safety.

2.12 Media Frenzy to Blame and Shame

Bad or sensational news sells newspapers and patient safety is often at the forefront of media attention. In recent years, several cases have attracted media interest. Deviating from the more 'standard' academic approach, I have chosen to engage with 3 cases highlighted by the media to illustrate the impetus given from that source to stimulate further action on patient safety. The first case is that of Wayne Jowett, an 18-year old boy who suffered the fatal error of having an anti-cancer treatment injected into his spinal canal instead of his vein. The case summary (Box 2.4 below) provides details of the incident and describes how easy it was for the staff involved, to drift into error-provoking conditions (Amalberti *et al*, 2006). The theories relating to human factors and the role they play in safety and harm will be reviewed later in Chapter 3.

Box 2.4 Wayne Jowett Case Study

Situation: In 1999, Wayne Jowett had lymphoblastic leukemia. By June 2000 he was in remission, but still needed three-monthly injections of two chemotherapy drugs - Vincristine and Cytosine. Cytosine is injected by lumbar puncture (into the spine), whereas Vincristine is administered intravenously (into a vein). Vincristine is very toxic and fatal if put into the spine.

Background: Both drugs were clear liquids in similar syringes and although clearly labeled, were stored together in the ward fridge. The hospital recognised the problems associated with the two drugs and had a policy of not giving patients both drugs on the same day. On that day, the hospital pharmacy sent the two drugs together to the ward. Different dates for administration were marked on them.

Wayne arrived late that morning; he had been very worried about the lumbar puncture treatment and needed some time to psychologically prepare.

Dr 1, the Junior Doctor responsible for the case had been working on the ward for only five weeks. He required a specialist registrar to supervise him when administering IV or lumbar puncture drugs. He asked Dr 2, a registrar, to assist.

Dr 2, while more experienced, had had been on the ward for just two days and this was his first job as a Registrar. He was supposed to be 'shadowing' a more senior doctor, not performing or supervising procedures himself, nevertheless he agreed to assist.

Neither one of the two doctors had any formal training in giving chemotherapy drugs. Both wrongly assumed that the other had checked the drugs and knew the way they were to be correctly administered.

A nurse handed the bag containing both drugs to the doctors and Cytosine was correctly injected into Wayne's spine. Dr 1 read out the name and dose of the Vincristine, but he did not say how it should be administered. When questioned later, he said that when he saw the name he was thinking of another drug which is administered spinally.

Dr 1 asked whether the Vincristine should be given intra-theccally (through the spine), Dr 2 had told him 'yes'. The Vincristine was injected into Wayne's spine. Later, Dr 1 said he was surprised by this, but had not felt he could challenge a superior.

Dr 2 told investigators that at his previous hospital it had been impossible to mix the drugs up and so had assumed it could not happen elsewhere. Within minutes the mistake was realised and desperate efforts were made to reverse the procedures, but it was too late.

Wayne's body became slowly paralysed, his breathing started to fail and almost a month later his parents agreed to turn off his life support machine.

(Adapted from DoH, 2001b)

Before this happened to Wayne, some 12 patients had died from an identical error with the same drug throughout the UK. Work only began on the redesign of the administration of Vincristine following the intense media reporting of Wayne's death. Both doctors involved in Wayne's treatment were convicted of negligence. They were blamed for making an error that many had made before. Prosecutions were not pursued in regard to the previous cases.

The incident had a devastating effect on everyone who had been involved with Wayne, especially his parents and the Healthcare professionals. The sensational media attention sent shock waves around the world as both scientists and clinicians tried to redesign the systems to prevent this type of error happening again. Thus, the media played a key role in making the circumstances of Wayne's case a priority for a number of agencies, notably: the DoH; pharmaceutical companies, and safety groups. Major changes in venous connection devices and medicine administration processes were implemented. National Vincristine alerts were sent to all hospitals in the UK and procedural changes were shared and implemented around the world. No further deaths have happened in the UK since that time. Thus, it is evident that the media played an important role in stimulating change in this case. The case involving Scottish teenager, Lisa Norris, instigated similarly major change.

Cancer affects people of all ages: one in three adults in the UK will suffer from cancer during their lives (ISD, 2009), of those; half will require a form of radiotherapy treatment. Radiotherapy was pioneered at the start of the 20th century and involves directing high-energy x-rays at a malignant tumour to kill cancerous cells. It is a delicate process; too much radiation and healthy cells will die along with cancerous ones. Too little radiation and the cancer will continue to grow. Patients receive doses of radiotherapy according to an individual treatment plan. For Lisa Norris this treatment went horribly wrong.

Box 2.5 Lisa Norris Case Study

Situation: Lisa Norris was 16 when she died in 2006, a number of months after staff at the Scottish Beatson Cancer Centre miscalculated her treatment for a brain tumour.

Background: Lisa's treatment plan was wrongly transcribed. This was a simple, but disastrous mistake meaning that on the 19 previous occasions she received a dangerous overdose, receiving 58% more radiation than intended, and died 8 months later.

Outcome: A post-mortem examination found Lisa's brain tumour had caused her death. Nevertheless, Lisa's family blamed her early death on the incorrect treatments and pursued their case further. As a result of this high profile case a full review of the Beatson's services was undertaken revealing 46 similar incidents over the previous 20 years. Twelve of the patients had to have their treatment stopped temporarily. There is no publicly available information about the other 34 patients.

Following the Beatson case review, new National policy recommendations were issued to all radiology units in the UK. Without the discovery of this error, it may have taken years to find out how any patients were affected and the potential for error in all cancer treatment centres. Patients and their families can and do use the media to get the healthcare systems to 'listen and learn' from their experiences. Perhaps one the most sensational cases was reported in the American media as told by Sorell King of her daughter Josie.

Box 2.6 Josie King Case study

Situation On February 22nd 2001, two days before she was to return home eighteen-month old Josie King died of severe dehydration and narcotics medication errors in hospital.

Background In January 2001, Josie was admitted to an American hospital after suffering second degree burns having climbed into a hot bath. She healed quickly. Within weeks was scheduled for discharge from hospital.

In the two days prior to her discharge and as a result of an error made on her patient record, Josie had all food and drink withheld with no other means of fluid intake being prescribed (e.g. no Intra-Venus [IV] drip). She was so dehydrated that, while being bathed, she sucked furiously on a washcloth for fluid. Her mother complained several times and noticed every time she saw a drink she would scream for it, and thought this was strange but noticed that it didn't cause concern in staff.

The result of the Josie King case sent shock across America. How could a relatively healthy child die, principally from lack of fluid, in a modern, highly equipped hospital? Josie's mother used the media deliberately to gain support and influence change within the American hospital system. Mrs King helped clinical staff to develop and implement a system to detect deterioration in the condition of children in hospital. She established a foundation in her daughter's name to support healthcare systems to examine patient safety and involve families. She continues to participate in and to influence patient safety systems around the world with her advice and experience. Without the media her story may have remained, like those of many of the anonymous victims of harm in healthcare, untold and unable to influence future care.

As suggested above, until the point of conducting my research, I had considered the media to be scandalmongers chasing a story and using unfortunate outcomes to sell newspapers, sometimes with half-truths. My reflection on these three cases and the influence these incidents have had on safety has caused me to rethink my position on media attention. Millenson (2002a,b) suggested that there is a positive role the news media can play, claiming they have been an important force in prompting patient safety improvement efforts around the world. I too, now recognise that the media can play a positive role in highlighting patient harm issues. The media can do this not only because of the reach of the coverage they have, but also the power of influence they can have over healthcare bureaucracy at policy and practice level. The improvements in practice following the three cases detailed above, demonstrate the reaction that the media can command.

2.13 Summary

To summarise Part I of the literature review, I have highlighted the issue of patient safety and have discussed a range of approaches introduced both empirically and in practice, to determine the size and scope of the problem. Yet, the precise number of patients experiencing harm in hospital remains elusive. Furthermore, the level of harm to patients is difficult to quantify. Given the millions of patient interactions in

hospital systems, a conservative, recent estimate drawn from several studies is that at least 10 % of all hospital patients experience an adverse incident (Benn, 2009). Over half of these may be preventable, suggesting that more work needs to be done on improvement in the sector (Leape *et al*, 1991; Vincent, 2010).

From the work of Wilson *et al*, (2008), we know that healthcare staff at all levels find it difficult to report patient harm. The reports they do make are variable in content, accuracy and reliability (Bates *et al*, 2003; Thomas and Peterson, 2003; Endres *et al*, 2004; Romero and Malone, 2005). In addition, the range of systems to detect and address errors is not integrated. These are compelling reasons why patient safety and the identification and prevention of harm are causing concern to health care providers and public alike.

A key component of most organisational systems aimed at improving safety is the reliance on individual practitioners to report errors and/or harm. Completing an adverse incident report takes time and training, and they need the capacity in the working day to do so. These systems are also dependent on the honesty and will of individuals to disclose error. Add to that, the negative influence of the media in their determination to 'hunt down those responsible'. However, even without the hype of media attention examined above, it is clear that a significant barrier to such reporting can, in general, be found within the hospital 'culture of blame'. It might be appreciated then, that, such a culture strikes fear into the heart of practitioners and, whatever the merits of that fact, this can be enough to cause them not to report harmful or potentially harmful incidents. The issue of blame and the consideration of staff as constituting victims will be examined in Chapter 4.

To conclude, Thomas and Peterson's (2003) critical review of the main methods of harm detection is helpful. They examined adverse incidents and errors dividing them into eight broad themes highlighting the advantages and disadvantages of each method (see Table 2.2 below).

Table 2.2 Methods of Detecting Adverse Incidents and Errors in Healthcare		
Study method	Advantage	Disadvantages
Claims for negligence	Multiple views, lawyers, patients, and organisational	Hindsight bias Reporting bias Processes not standardised
Autopsy, Morbidity and mortality reviews	Can identify contributory factors Used in hospitals already	Hindsight bias Reporting bias Diagnostic errors Infrequent
Clinical surveillance	High accuracy for adverse incidents	Expensive time consuming
Error reporting/ Case investigation	Used in hospitals already Multiple perspectives Can identify contributory factors Recent data Structured framework	Hindsight bias Reporting bias Focuses on severe incidents
Record chart review	Commonly used Readily available	Judgements unreliable Records incomplete Hindsight bias
Medical electronic record review	Monitors real time Integration of data possible	Program data entry errors Expensive to implement
Patient care observations	Accurate and precise Provides new data Detects more active errors than other methods	Time consuming expensive Difficult to train observers Confidentiality issues Vast amounts of data
Administration data	Readily available Inexpensive	Incomplete and inaccurate Unconnected from the clinical context

(Adapted from Thomas and Peterson, 2003)

I would suggest, in light of my own clinical experience, all of the above methods remain reactive and distant from frontline clinical staff, many lacking the opportunity of ‘real time’ data feedback to those reporting the errors. Some staff complain about the lack of feedback and change in practice following a report. As a result, many view themselves as having no ownership of the safety issue or feel no compulsion to be part of the solution (Romero and Malone, 2005). This issue is at the very heart of my study. It led me to investigate a real time method that involves staff, at all levels, in harm detection and patient safety improvement efforts. It is clear from the literature that progress is slow as far as the implementation of safer solutions and

detection systems go (Longo *et al*, 2005). Yet, real change to improve safety needs to happen at the nexus of care between patient and carer.

As part of my professional role, I have regular discussions with local staff regarding the issue of their role in current systems of patient safety. While recognising how it portrays their lack of ownership of the problem, they explain their detachment from the results of the data collection processes, as a result of there being no apparent outcome or further instruction on how to change what they do. In a practical sense, it can be difficult in a busy clinical environment, to consider reports, from a wide range of sources, and then be expected to devise improvements, for all of them. However, Vincent *et al*, (2008) have contended that feedback and ownership hold the key to change, suggesting that a convergence of patient safety data from multiple methods may give a clearer picture of patient harm within an organisation. This view suggests that, however difficult, it is important that attempts are made with and by healthcare staff to understand and implement safer clinical practice.

Nevertheless, most organisations do not yet have a system or the means to connect all the information they currently have to drive improvement in safety. The majority of hospital systems will use the information that is easily available and that they need to collect for another purpose. Therefore, the use of nationally required data from complaints, from claims evidence and error reporting by staff are commonplace. Relying on this information as representing the ‘true’ picture of harm is biased not only for the reasons set out in Table 2.2, but also because, that information relates to only a small number of incidents ‘officially’ recorded both in the error reporting systems and in complaints and claims settlements.

Finally, patient safety is a hugely significant issue for today’s healthcare systems. Despite the recent policy reports and interventions to reduce harm, there is, as has been seen in the review above, a growing body of evidence that might support the contention that, the issue is not yet conquered.

Drawing on this review, the key challenges addressed in this chapter include:

- Patient safety policy recommendations seem to have had a limited impact (House of Commons, 2009)
- Counting adverse incident reports is unable to capture and prevent harm all in healthcare (Waring 2005, NAO, 2005)
- The cost of claims is rising each year with little evidence of prevention or change as a result of these payouts. (Litigation Authority, 2008 and 2010, CLO, 2009)
- The media play a significant role both positive and negative in influencing patient safety practice (Wachter, 2004; Stelfox *et al*, 2006)
- There are a range of methods to detect and prevent harm; usually reactive and operating in isolation with limited success (Lilford *et al*, 2003; Vincent, 2006, Olsen *et al*, 2007; Sari *et al*, 2007; Benn, 2009)

This Chapter examined the problem of patient safety by reviewing the background and history of the issue. The policy systems designed to detect and address why healthcare staff ‘drift into error’ were examined alongside a critical review of their impact in practice. Following on in Chapter 3, I will consider why patient safety continues to be an issue in healthcare from perspectives emerging theory that tries to explain some of the reasons why healthcare staff ‘drift into error’ and cause harm. The issue of harm in hospital care will be considered through application of these theories synthesised with relevant empirical evidence of the application of safety models.

Chapter 3

Literature review Part II: Why is healthcare still unsafe?

“Medicine used to be simple, ineffective and relatively safe, now it is complex, effective and potentially dangerous.”

(Chantler, 1999: 1178)

3.1 Introduction

The NHS workforce is more competent and highly qualified than ever before (Collins *et al*, 2009). With the rising numbers of advanced practitioners as a backdrop; the increased use of health technologies (Parente, 2009); advanced tools for diagnosis; (Hudson and Cohen; 2009) and highly specialised treatments (Sorensen *et al*, 2009), it difficult to understand the why patient safety continues to be a problem. The previous chapter presented the background to patient safety policy and practice with the aim of understanding the methods policy makers have designed to stop practitioners ‘drifting into error’. This chapter will continue that theme by considering this paradox to explore why healthcare remains unsafe despite the policy guidance. In this chapter I will focus on the development, over the years, of theoretical models relevant to patient safety that try to explain **why** healthcare staff ‘drift into error’(Giddens, 1990, 1999; Beck, 1992, 1998; Reason, 2000, Vincent, *et al*, 2001).

As a starting point, I searched for key theoretical and empirical work that has influenced patient safety in the NHS linked to the central notion of ‘drifting into error’. Five key areas emerged presented in Figure 3.1 below:

- Managing risk
- Human factors
- Developing safer systems
- Systems and people
- Shortcuts and rule violations

Figure 3.1 Chapter 3 Discussions Themes



The issue of opportunity to detect ‘drift’ is central to my empirical work which seeks to understand and explain why harm happens before recommending means of avoiding, wherever possible, harmful situations (Rasmussen, 1999; Polet *et al*, 2003; Amalberti *et al*, 2006; Dekker, 2008; Vanderhaegan, 2010). Further details of the literature review method are presented in Appendix 2.2.

3.2 Drifting into Error

To draw on the oft-used phrase, ‘to err is human’; we all make mistakes. The concept that all human beings can and do drift into ‘unsafe acts’ is central to my study. Current thinking about patient safety draws on how other ‘safety critical’ industries, such as aviation, petrochemical, nuclear and railway, understand the nature of risk and safety. In order to explore the context of threats, tensions and trade-offs in patient safety, it is vital to have an understanding of the role of key safety models.

I will begin to explore the models under the following themes:

- Systems to manage risk in healthcare

- The difference between harm and error
- Recognition that both systems and people contribute to safety
- The human factors elements of patient safety: communication, teamwork and environmental issues
- Shortcuts and rule violations necessary to get ‘the job done’

Rasmussen (1997) was one of the first theorists to examine the concept of ‘drifting into error’. He explored the mechanisms by which, we as humans, begin to take increasing levels of risk. Rasmussen suggested that the more risk we take without sanction the more likely we are to continue to take risk and continue in any such drift. He theorised that, as individuals, we begin to deviate (or drift) from ‘normal’ practice when we are distracted; working under pressure to get things done to meet a deadline. This drift then stabilizes, regresses, or progresses to a point at which harm occurs. Rasmussen (1997) and Amalberti’s *et al*, (2006) work has continued to take this theory further in both empirical and theoretical terms. They have applied the model of drift in order to better understand safety critical systems in recent years (e.g. in aviation, in the nuclear industry and in healthcare).

Central to my study is the application of Rasmussen, (1997) and Amalberti,(2001) models of ‘drifting into error’ in healthcare. I will focus specifically on the ways in which we take ‘short cuts’ and ‘bend the rules’ to get things done. My empirical work will engage with the circumstances in which, staff begin to take shortcuts in clinical practice that, may lead to harm. The ways, in which the NHS usually encourages staff to work, ‘within the rules’ is normally done with the use and distribution of policy guidance.

As demonstrated in Chapter 2, the NHS’s main vehicle with which to address safety has been along the traditional route of regulation and control (Mello *et al*, 2005). This has been a long and arduous path with the development of weighty standards and guidance with attempts to ‘control’ or minimise the risks and their implications (DoH, 2000a; NHS QIS, 2005). By examining the literature in these contexts, this chapter explores the background and growth of risk management (RM) knowledge

and techniques moving beyond control to the influence of human behaviour on safety.

Starting with James Reason's work both as a leading researcher and theorist in the area of safety, I will explain that errors are expected to occur in complex organisations, in part as a result of human cognitive function (Reason, 1997, 2000, 2003). This important point is missing from much of the policy guidance in Chapter 2. Reason describes the existence of system defences, barriers and safeguards and their role in the context of potential errors or failures. I will review a range of theoretical and empirical works, including: migration models; the context of safety systems; and the ways in which safety threats are managed in the wider socio-organizational context, or the operating space, from a healthcare perspective (Rasmussen, 1993; Amalberti, 2001; Amalberti *et al*, 2006; Cook and Rasmussen, 2005, Waring *et al*, 2006). Operationalisation of NHS safety activity begins with an emphasis on identify and managing risk.

3.3 Managing the Risks

Every day we avoid hazards. After weighing up the potential outcomes of our actions, we take risks. We accept that hazards exist everywhere and we negotiate a safe passage that involves taking calculated risks. Whether we are crossing the road or having an operation, there is a risk that something may go wrong. However, most so called 'calculated' risks are not calculated at all but are simply based on the subjective perceptions of individuals' past experiences (Giddens and Pierson, 1997; Beck, 2001). As early as the 1920s, Knight (1921) began to consider risk management (RM), pointing out that risk and uncertainty were different things. He proposed the idea that, while uncertainty and risk can be related, risk could be measured whereas uncertainty could not.

Most individuals, in both a private and public sense, are familiar with the concept of managing risk even if they are not cognisant of that. In their private lives, some people are 'natural' risk takers while others are risk averse. The consequences of

behaviour and action in those veins often have an impact on others, an impact which might be beneficial or otherwise. So, we might say, it is incumbent upon us all to be aware of possible consequences and to be respectful of others before taking action or behaving in a particular manner. Of course, this view itself stems from the risk-averse perspective! Thus, assessing and planning to prevent risk involve taking action ‘just in case’ incidents happen (HSE, 2001a). Risks are not real incidents but are, in fact, individual’s perceptions of potential harm that might occur. In an attempt to control risk, the potential impact of the risk-laden incident(s) is considered and barriers to prevent the risk happening are developed and implemented as a result.

If we transport these notions into the public arena, that of organisations delivering goods or services rather than that of private individuals, we might expect even greater care to be taken. As a result, there is an expectation that such organisations will have proactively engaged in a process of risk analysis. We might assume organisations have systems to attempt to predict and manage the risk and provide us with quality for our money and, as far as is possible, keep us free from harm. In Britain there is, perhaps, no greater context in which society would expect to be kept from harm than within healthcare.

3.4 Defining Risk Management

“Error is not random, it is not out of the blue, and it is largely predictable. You can predict it using the uncertainty principle.”

(Reason, 2003:1)

There is an inherent contradiction in the term RM resulting in many definitions and it is almost impossible to develop an all-inclusive explanation of what it means.

The Australia New Zealand Standards (considered to be the ‘gold standard’ guidance for all organisations) defines risk as:

“The chance of something happening that will have an impact on objectives.”

(AS NZ, 2004:4)

Rayner's suggestion is more general:

“Risk is the possibility that adverse consequences will be experienced as a result of an incident or circumstance.”

(Rayner, 2001: 6)

In addition, she goes on to explain that:

“risk management is an infrastructure that enables an organisation to identify, analyse, assess, treat, monitor and communicate risks in a way that will enable organisations to minimise losses and maximise opportunities.”

(Rayner, 2001:7)

RM is mainly concerned with gathering information and expertise and translating that into positive action, which prevents loss of life, money or reputation. From an organisational perspective RM is often described as a threat to the attainment of the organisational objectives. Therefore, managing the business risks effectively is a critical part of overall organisational success (Bolton, 2002).

Formal RM processes within organisations try to assess whether a business could cope if something were to happen that would adversely affect planned activities. It attempts to assess existing contingency plans to prevent loss or disruption. Most organisations will have plans to ensure, if something goes wrong, there are safeguards to bring everything back on track or protect the system until everything can return to normal.

Broadly, the management of risk requires a set of systems and processes. It identifies potential threats and attempts to determine tangible controls to avoid those risks materialising. Managing risk within organisations requires cross-functional co-operation in the pursuit of actions that reduce the likelihood and consequences of a negative impact on the organisation. Many RM approaches today focus on a proactive approach to the management of risk. They attempt to enhance and explore from a speculative perspective, opportunity for improvement (Stock and Sharman, 2002).

There are a growing number of RM publications emphasising that managing risk should be a fundamental issue for all organisations (Mayatt, 2004; Glendon *et al*, 2006); and across a range of issues and activities. Examples of such scope include concerns with RM in, for example: internet abuse and addiction by employees (Young and Case, 2004); laboratory testing (Lippi and Guidi, 2007); tunnelling and underground space management (Eskesen *et al*, 2004); banking (Kalthoff, 2005), taxation/tax systems (Braithwaite, 2003) and managing a flu pandemic (WHO, 2009).

3.5 The Inevitability of Risk

One of the most prominent theorists to examine our ability to ‘estimate’ and ‘manage’ risk is Ulrich Beck. Beck (1992) was ahead of his time in drawing attention to the concept of risk and the practice of RM as a feature of modern society. Beck argues that risks are the product of human activity in a “*risk society*” and in that “*risk society*” everyone is affected and has some responsibility for creating the threats that we face. Beck defined risk as:

“....a systematic way of dealing with hazards and insecurities induced and introduced by modernisation itself.”

(Beck, 1999:21)

Beck’s central theory challenges that, given the enormity of all the risks we create and face our attempts to manage or control them may be futile. Noy and Ellis (2003) agree:

“The limited amount of unreliable information for calculating risk usually makes any risk calculation worthless.”

(Noy and Ellis, 2003:695)

Beck proposes that this incalculability of risk introduces uncertainty and ambivalence into the heart of institutions and organisational practices. In other words, risk is and always has been a natural component of ALL human activity. However, in a contemporary context people’s increased thrill-seeking behaviour in their private/leisure time, heightens risk incidents. Furthermore, given the burgeoning technological developments and their use in both private and public (work-related)

lives, risk and the negative outcomes of risk are exacerbated. Beck differentiates between naturally occurring risk such as in natural disasters (for example volcanic eruptions, tornados) and manufactured risks. A risk society is predominantly concerned with manufactured risks. The marked difference between the two is that, there is a significant level of human agency operating in the production and mitigation of manufactured risks.

Beck's work explores the creation; prediction and control of risk. He used examples of the way in which society is responsible for the design of the hazards that we have, such as: fast cars; nuclear bombs and food additives. We want our journeys to be fast and efficient; cars with greater capability for faster travel enable us to do that. However, this ability to go faster introduces other risks, not least of which is fatal injury to us or to others if impact at 70 miles per hour (mph) happens. Nuclear bombs are claimed by some to enhance national security but we know that, if deployed, they could destroy large areas of the world. To a lesser extent the use of food additives to extend 'shelf life', or improve flavour, appearance and taste is another example as it is widely known that the effects of these chemicals on our bodies can be harmful (Metcalf *et al*, 2003; Fuglsang, 2007). Relevant to my empirical work is Beck's claim that, we all have an inherent ability to identify current hazards, but often choose to ignore them. He suggests, when trying to determine the risks we face we often have difficulty with the first step of defining those responsible and accountable for the hazards in including ourselves (QIS, 2005; AS/NZS, ISO 31000:2009; NHSLA, 2010). In healthcare, risk analysis is often based on incidents that have never happened. Managing risk is not an exact science (O'Donnell and Greene, 2006) but is based on each individual person's perception of risk. This individualistic opinion makes it easy for others to disagree with the risk assessment (Giddens and Lash, 1995; Kaspersen *et al*, 2003; Slovic and Peters, 2006; Johnston and Slovic, 2006).

In addition, like harmful incidents, those who point out risks can often be viewed as scaremongers and instigators of the hazards. Individuals revealing risk require a climate that welcomes disclosure (Seiden *et al*, 2006) and one that is prepared to act upon risk information in order to address unsafe situations (NPSA, 2006). Yet, this is the only the first step in current healthcare RM processes. Information about risk is used (sometimes incorrectly) as a means of predicting the future and preventing further negative impacts.

High-consequence risks have a distinctive quality. The more calamitous the hazards they involve, the less we have any real experience of what we risk: for if things 'go wrong', it is already too late; particularly, in healthcare. Since anxiety, trust and everyday routines of social interaction are so closely bound up with one another; we can readily understand the rituals of day-to-day life as coping mechanisms. Thus, RM can be defined in the risk society as a systematic way of dealing with hazards and insecurities induced and introduced by modernisation itself.

We have seen Beck's theoretical view of our inability to manage and plan for risk being drawn upon and operationalised as recently as 2009. The prediction and management of the anticipated pandemic flu and the control of the H1N1 virus is the case in point. Following months of planning, healthcare organisations struggled over the degree of urgency for pandemic flu plans and interventions. National and local pandemic flu groups were established; complicated statistical risk modelling tools were developed to calculate the impact of 'swine flu' on the local and national population. As the predicted risk failed to materialise the Government incidentally, cancelled a 100 million vaccine order and scaled down pandemic flu plans (Smith, 2010). The pandemic flu scenario demonstrates Beck's theory as applied to healthcare. Yet, in the end the idea that planning for the global pandemic flu was predicable became unpredictable and grossly overestimated. The level of risk predicted was inaccurate and a great deal of time and money was invested for little or no return.

However, the literature demonstrates that views on Beck's ideas are not universally positive. Some authors suggest Beck's view is a one sided argument with sweeping generalisations (Lash and Wynne, 1992). Nevertheless, many including the critics agree with the point that risk is not controllable (Goffman, 1967; Habbermas, 1990; Lash and Friedman, 1992; Giddens and Lash, 1995; Beck, 1999; Cockerham, 2005).

One of the reasons for the criticism is that individual and collective efforts to 'control' risk are often done in isolation and fail to recognise, the impact some of the control measures may have on others. As demonstrated in the case of Kirstin Parkin (discussed in Chapter 2), where the security locks introduced to the labour room prevented the emergency team access; the intervention of higher security caused a disastrous outcome for a mother and her family.

Thus, in healthcare we can see this theory at play in many ways; managing one aspect of risk creates risks of another kind. Consider the application of two of the six dimensions of quality healthcare from Chapter 2: timeliness and patient centeredness:

- If we are efficient and work faster to provide more treatments for patients will healthcare be safer or less safe?
- If we focus on patient centeredness and offer longer patient consultations will we continue to be efficient and treat patients within the national target timescales?

In summary, several of Beck's ideas on risk are relevant to my empirical work and worthy of consideration:

- Risk is inevitable in society and therefore in healthcare
- Individuals and organisations both create and try to establish systems to manage and control risk
- Identifying all the hazards that exist and controlling risk is difficult
- Often the creating of solutions to aspects of risk also bring to bear even more risk and uncertainty

3.6 The Origins of Risk Management in Healthcare

The healthcare sector is faced with constant change. The ability to improve practice involves rationing to meet the new and ever increasing demands, resulting in a struggle to provide high quality care. The outcome of these tensions is that not all demands are met. Increasing public expectations of the NHS must be balanced within a limited budget. National recruitment and retention problems have added pressure to services, demonstrated in low staffing levels. This lack of human resource heightens risk exposure and can encourage adverse incidents to flourish. However, taking risks in the provision of healthcare is a necessary practice. Some calculated risk-taking behaviour, for example ground breaking research techniques for new treatments, is essential to expand and improve treatments and practice.

Formal RM systems were introduced to the NHS in the early 1990s. Organisational safety was the platform on which RM was based. At that time RM activities focused on the Health and Safety at Work Act (HSWA) 1974, delivered today through the Management of Health and Safety at Work Regulations (MHSWR) 1999. All the risks relating to Health and Safety at work in the UK are regulated through a single legal framework. The Health and Safety Commission (HSC) and the Health and Safety Executive (HSE) are the statutory organisations with a role to monitor specific functions relating to health and safety in practice.

A fundamental principle of the UK system is the responsibility for health and safety lies with those who own, manage and work within organisations. They must assess risks in relation to their work activities and take action to minimise those risks where appropriate (HSE, 2001). The background and legal framework for RM and Health and Safety is important here, as it highlights the nature and responsibility that healthcare organisations have to protect, not only their employees, but the wider public and patients. Over the years, the Health and Safety at Work Act has been used to prosecute both individuals and organisations for unsafe practices (HSWA, 1974).

In enforcing the law, the Health and Safety Inspectors have important statutory powers. They can, and do, enter premises without warning. Under warrant, if they are not entirely satisfied with local Health and Safety standards they can issue improvement notices that are time bound; serve prohibition notices, with immediate or deferred effect, or recommend prosecution for the most serious failings. These recommendations are aimed at the Chief Executive, referred to as the Accountable Officer, who is individually and ultimately responsible and accountable for Corporate Governance within the organisation.

3.7 The Role of RM within Corporate Governance

Corporate Governance covers a broad range of issues and focuses on the internal process within an organisation to manage and control the risks. The Organisation for Economic Co-operation and Development (OECD) clarify this definition in their statement:

“Corporate Governance is the system by which business corporations are directed and controlled. By doing this it provides the structure through which the organisational objectives are set and defines the means of attaining those objectives and monitor performance.”

(OECD, 1999: 11)

In the UK, the Cadbury and Turnbull Reports (1992; 2005) have fostered a greater consciousness of RM in the public and private sectors. The Turnbull Guidance (1999) was a voluntary code of conduct introduced to embed internal procedures and controls, to ensure effective management of business risk and to safeguard organisational interests. The guidance was revised in 2005.

The Turnbull Guidance sets out recommendations for systems of internal control that requires all organisations to adopt a RM approach. Basic requirements of the Turnbull framework are that the organisation must be able to demonstrate:

- A clear structure of responsibilities
- A policy of Internal Control

- Robust systems and processes to identify, manage, evaluate and review key risks facing the organisation
- Evidence of implementation of internal systems
- Employee contribution to designing, operating and reviewing the controls
- The use of Internal and External Audit structures and processes as a review mechanism

National Guidance for the NHS in Scotland stipulated the requirements for NHS organisations had to have full compliance with Turnbull by March 2003 (HDL, 2002:11). This directive demands organisations to produce an annual Statement on Internal Control (SIC) to report that they have effective RM processes in place presented and endorsed by the local NHS Board. The development of the SIC is a detailed undertaking, describing the operational RM systems and processes and their results throughout the entire organisation. In response, many organisations have had to radically review the whole concept of RM including the NHS.

3.8 Risk Management within the NHS

As early as 1994, *Managing Risk in the NHS* (DoH, 1994) provided guidance to healthcare organisations on the need for, and methods of, introducing formal RM processes. Today, it would be generally accepted that RM applies to all areas of NHS service provision (HSC, 1999). When formalised RM systems were gathering momentum, many organisations established RM groups to ensure they had structures and process to comply with the Code of Corporate Governance.

3.8.1 Standards Australia

Many of the developments in RM have emerged from international systems in USA, Australia and New Zealand. The most widely used model is the Australia and New Zealand Standard (AS/NZS, 4360:1999) '*Risk Management*' (RM) with detailed guidance for all organisational systems and processes. The standard outlines a move away from the traditionally accepted insurance and litigation driven methodology to a more 'holistic' one, driven by the desire to balance stability and innovation.

Bellamy (AS/NZS, 1999) Director of Health Standards Australia International suggests:

“Organisational performance shortfalls in healthcare can yield an endless array of learning and improvement opportunities. The advent of a model like AS/NZS 4360 provides a tool for planned performance measurement and review. It opens the door to achieving effective systems analysis and can provide key stakeholders at all levels with an increased ability to achieve better patient outcomes.”

(AS/NZS, 1999:1)

As a result, as part of the RM development for the NHS in the UK, the Australian New Zealand Standard is the framework of choice (CNST, 1995; SEHD, 2000 and QIS, 2005).

3.8.2 Implementing Risk Management in the NHS

Unaware of the theoretical work of Beck and others (e.g. Giddens, 1999; Lash and Wynne, 1992) the NHS is bound by legal obligations to do something (rather than nothing) in relation to managing risk. As the safety movement was attracting global attention, formal RM processes were introduced to healthcare in the UK. In the early 1990s risk assessments and risk registers were introduced to the NHS quickly followed by mandatory risk management standards and accreditation in all UK countries by 2000 (CNST, 1995; HDL,2000).

The models for the development of RM processes emerged from an actuarial background. As a consequence, clinicians and NHS managers found formal RM processes and numerical risk assessments difficult to apply. The key difficulties were the use of numerical risk assessments for predicting ‘bad outcomes’ with the addition of narrative ‘promises’ that described how the risk was to be managed, creating mitigation plans to prevent clinical risk situations (Dickson *et al*, 2004). Regardless of staffs lack of understanding in the use of risk assessments and risk registers are still produced in all NHS systems today. They are mandatory requirements within the SIC. Most organisations routinely use a (traffic light) colour coding system of red, amber and green to determine the priority of risks that the organisation faces and identify a plethora of plans to mitigate them.

Risk taking in healthcare is a double edged sword; the stakes are high. The development of new treatments to save lives requires innovation and risk taking. Conversely, certain high risk medical care, for example, paediatric heart surgery requires precision, standardisation and reliability; where there is no room for maverick practices. Between a 'rock and a hard place' NHS staff try to identify and address what might cause harm. The first step is to consider what makes hospital systems safer. The introduction of Clinical Governance to the NHS in 1998 was intended to improve quality and safety within healthcare systems.

3.9 Clinical Governance

Many health professionals have difficulty explaining the concept of 'clinical governance'. Simply stated, it is the system of checks and balances that NHS Boards put in place to ensure 'corporate accountability for clinical performance'. It can also be described as the mechanism for making sure that healthcare is safe and effective and which ensures that the public are also involved. The NHS reforms launched clinical governance in the 1990s (Department of Health (DoH), 1997; DoH, Social Services and Public Safety 2001; Scottish Executive 1997; Welsh Office 1998). Each of the four countries adopted the principles of clinical governance. In 1998, Scally and Donaldson described clinical governance as:

“A framework through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish”.

(Scally and Donaldson 1998:61)

Hospital systems were asked to introduce and apply clinical governance systems to all treatments and services. The three most recognisable components of clinical governance and those which involve quality improvement are:

- Clinical effectiveness activities including audit and redesign
- Risk management including patient safety
- Patient focus and public involvement activities to get patients and their families more involved in care and treatments

The NHS Quality Improvement Scotland (NHS QIS) document 'Standards for Clinical Governance and Risk Management' came into effect from November 2005. The standards were developed to ensure NHS boards in Scotland have clinical governance and risk management arrangements in place to support the delivery of safe, effective, patient-focused care and services. Each healthcare system is assessed against the standards and graded accordingly. Grimshaw *et al*, (2001) identified 41 systematic reviews of these interventions. The reviews included interventions of the following types: continuing medical education, dissemination and implementation of guidelines, interventions to improve team working, patient-mediated interventions, audit and feedback, reminders and local opinion leaders. Passive dissemination of educational materials, including clinical guidelines, was found to be generally ineffective. Audit and feedback and use of local opinion leaders were found to vary in effectiveness between the studies. Those interventions found to be generally effective included the use of educational outreach activities (defined as use of a trained person who meets with providers in their practice setting to provide information with the intent of changing the provider's performance) and use of reminder systems. Overall multi-component interventions were found to be more effective than single interventions.

Although clinical governance has been championed by the central NHS administration, there are vocal opponents (Loughlin, 2002; Goodman 2004). Thomas (2002) concluded that there is little evidence that clinical governance produces clear benefits for patients but concedes that lack of evidence does not necessarily mean that clinical governance strategies are ineffective. A report published by the Commission for Health Improvement in 2004 (now part of the Healthcare Commission) indicated that although there is considerable safety activity in the NHS, there is little evidence of associated service improvement. Clinical governance is the means by which healthcare systems assessment and review of the quality and safety of care. In addition, individual professional practice is regulated and the systems of regulation have a key role as the guardian of patient safety.

3.10 Professional Regulation

Regulatory bodies are established by law to protect, promote and maintain the health and safety of the public by ensuring that their registrants maintain professional standards and to assure that members are fit to practice. If a health professional does not meet the required standards in their work they can be stopped from practicing. Health professionals are required to register with their respective bodies before they can practice in the UK.

All health care professionals are required to keep their knowledge, skills and professional competencies up-to-date. Learning and development happens in a number of ways:

- Use self regulation methods record on an annual basis the methods by which each professional documents continuous development of clinical skills and competencies
- NHS organisational support for leadership and/or clinical skills
- Ongoing supervision and appraisal throughout each year
- Individual Personal development plans
- Mentoring, tutoring or training opportunities for all staff
- Protected time for learning either as an individual, team or practice
- Support to carry out research

The system of professional regulation in the United Kingdom is designed to ensure that if a patient is seen by a health care professional, such as a doctor or a midwife, the patient can trust that the care they receive will meet certain minimum standards of safety and quality. The Nursing and Midwifery Council (NMC) sets standards for nursing and midwifery education and training. They also set standards for nurses' and midwives' conduct and behaviour. The NMC have a fitness to practice standard and an individual annual review system intended to review individual registrant's

continuous professional development. There are around 680,000 registered nurses, midwives and allied health professionals in the UK (NMC, 2010). A small number, around 10%, of portfolios of evidence are selected at random from the registrants for review. I would contest this provides little evidence of safer systems given the size of the sample and the self regulation system of portfolio development.

However, a number of high-profile cases of substandard practice and (in the case of Harold Shipman) murderous behaviour by doctors has raised questions about whether the present systems, based on self- regulation, is fit for purpose. After commissioning two reviews of current arrangements for the regulation of all health care professionals, the government has concluded that the public's trust in a doctor's continuing fitness to practise throughout their career must now be 'underpinned by objective assurance' (DoH, 2007a, 2007b).

In February 2007, the UK government published a White Paper entitled *Trust, Assurance and Safety: The regulation of healthcare professionals in the 21st century* (DoH, 2007b). This set out significant reforms to the system of professional regulation, which, if implemented, would introduce new checks and assurances for the safety and quality of professional performance and make the regulatory councils more accountable. The White Paper did not set out developed proposals for non-medical professionals; instead the government focused on the details for medical regulation and proposed further consultation with each regulator of non-medical professionals. There was no decision on whether or how the skills of non-medical professionals would be revalidated beyond a basic relicensing process. Nor was there any mention of the extent to which local fitness-to-practice procedures, including possible equivalents General Medical Council affiliates and recorded concerns, are to be introduced for non-medical professionals.

For any consideration of the regulation of health professionals, the preservation of that trust has to be the starting point. Professional regulation must create a framework that maintains the justified confidence of patients in those who care for them as the

bedrock of safe and effective clinical practice and the foundation for effective relationships between patients and health professionals. Westrum (1996) and Parker *et al*, (2006) have identified a journey through which professionals might progress to provide safer clinical systems.

3.11 Safer Systems

As demonstrated by the literature so far, staff in the NHS and the systems they operate within create risk and compromise patient safety. Westrum’s theory (1996) suggests organisations and their employees can react in 3 ways to the principles of safety:

- They have a pathological approach and are in denial, ignoring safety issues
- They have a business approach and ‘go through the motions’ doing the minimum
- They welcome the exploration of safety as an opportunity to learn from failures

Further details of Westrum’s model are detailed in Table 3.1 below

Table 3.1 Westrum’s Safety Systems		
Pathological	Bureaucratic	Generative
Information is hidden	Information is ignored	Information is actively pursued
Messengers are shot	Messengers are tolerated	Messengers are trained
Responsibility is avoided	Responsibility is limited to local area	Responsibilities are shared
Failure is covered up	Organisation is just and sympathetic	Failure invites enquiry
New ideas are crushed	New ideas create problems	New ideas are welcomed

(Adapted from Westrum , 1996)

3.11.1 Pathological

The pathological approach is one where staff and the organisation are fearful of what will happen to them if they raise safety concerns. As mistakes are made they are 'covered up' and information hidden to avoid detection. If 'caught', staff are blamed and punished for the failures.

3.11.2 Bureaucratic

In the bureaucratic system, the rules and procedures are followed, for example making formal reports of errors, but there is neither, ownership of the issue nor a will to sustainably improve the system for subsequent patients. Suggestions for improvement may be met with barriers to implementation and viewed as additional problems. Perhaps, this occurs because the suggestions or the people providing them are seen as threats to authority. Changes to make things safer are often limited to individual areas and departments. Discussions about safety are bothersome and safety is assumed as a reliable everyday practice.

3.11.3 Generative

In a generative system, the organisation will develop a deep understanding of safety and seek out opportunities to improve. Organisations that claim to have this type of system will welcome staff raising safety issues and will invest in training them to do so. The system will focus on failure as an opportunity to change and improve. To make the NHS safer a generative system is required.

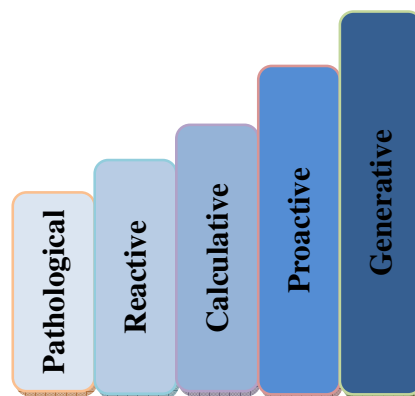
Westrum and Adamski (1996) provide a helpful framework for NHS organisations to begin to position themselves and plan to improve patient safety. The 3 types of safety systems, from 'pathological' through to 'generative', determine the 'maturity' of an organisation to deal with safety issues. This idea of 'maturity' to understanding patient safety will be explored in the case study organisation (see Chapter 6), where the history and organisational background and context of patient safety will be presented.

The idea that development in understanding safety is iterative was developed further by Parker *et al*, (2006). Parker and colleagues added to Westrum's 'maturity' theme by suggesting an additional two levels of development that are necessary to address safety.

Parker and her colleagues claim that that all organisations must go through each stage in the process to be able to improve safety. Their empirical work in the oil and gas industry took Westrum's model a few steps further by adding a reactive and calculative stage (Figure 3.2). The reactive phase emphasises a great deal of effort when things 'go wrong'. The calculative phase draws on the importance of RM processes; of counting and considering risks and hazards within the organisation.

More recently Parker and her research colleagues applied and tested their approach in healthcare (Parker, 2006).

Figure 3.2 Parker *et al*, 2006: Stages of Maturity in Safety



(Adapted from Parker, 2006:557)

Parker's model is helpful when considering the developmental stages that may be required to establish safer systems in healthcare settings. Understanding the signals and looking out for the behaviours that, determine each stage in Parker's model provides a framework to improve hospitals safety systems. Each level can be summarised as follows:

- **Pathological:** the principle driver in this stage focuses on the question: who cares, as long as we are not caught? Investing time in safety is considered wasteful because it might never happen. There may be a false belief that it (the adverse patient safety incident) could never happen here.
- **Reactive:** Safety is important: we do a lot every time we have an accident. The focus in this stage is after the incident. No expense is spared in the investigation of the incident after harm has happened. The organisation reacts to safety issues on an individual basis. Dealing with each issue as it arises as a consequence often unaware there may be patterns and trends emerging from repetitive incidents.
- **Calculative:** We have systems in place to manage risks and deal with hazards. By counting and doing something with risk and hazard information and taking action as a result safety or safer systems are assumed. The belief is risk can be managed by these processes and RM will reduce risk and harm.
- **Proactive:** We try to anticipate safety problems before they arise. We are on the alert for risks that might emerge. The organisation begins to develop systems that go 'looking for harm' and do not just rely on the information that is easily available (through formal reports). Safety training becomes an important issue in all departments. Safety becomes a routine practice to reduce harm and error with specific projects and interventions.
- **Generative:** Safety is how we do business round here. Safety becomes the number one priority within the organisation. Like aviation; safety is the issue which all practice is based upon. In a generative safety system all staff recognises the role they play and the ways in which they contribute to the issue of safety.

(Adapted from Parker, 2006:555)

3.11.4 Parker's Findings

Developing a system of safety takes years. Worthy of note is the absence the use of the Parker and Westrum models in NHS policy development, discussed in Chapter 2, as a means of determining safer systems. As will be seen in Chapter 6, NHS Tayside demonstrates movement though some of these phases; I would argue that such movement has taken NHS Tayside to the 'proactive' level. Given that my empirical work focuses on the testing the development and use of a new model in a

proactive/generative phase, it is important to point out that NHS Scotland's journey up to the year of the data collection (2006) had taken approximately 7 years. The efforts to 'move up the scale' involve all staff. Everyone needs to understand what it takes to improve safety. A deep knowledge of the influence of human behaviour on safer systems is essential. This behavioural influence of people on safety is often referred to as human factors (Meister, 1999).

3.12 Human Factors

The circumstances inherent to how we interact with our environment are an essential part of safety and are referred to in the literature as 'human factors'. From Reason's (2008) work, human factors cover a range of issues that have a significant impact on safety in both a positive and negative way. Human factors are the unique 'people' elements that affect our patient safety work including:

- The characteristics of individuals: their knowledge, memory and attention capacity.
- The individual patient characteristics: language, education, economic background, impact of disease including mental health.
- The Complexity of the task, time pressure, how the individual must keep track of information, interruptions.
- Our interactions with technology and tool characteristics: ease of use and readability, standardisation of information display, clarity of information.
- Environmental characteristics: lighting, noise, distractions.
- Organisational characteristics: training, management expectations and rewards for fast versus precise work.
- The external environment: policies and regulations, informatics industry standards for information display, academic traditions for training Healthcare Professionals.

Human factors research has shown over the years, it is essential that senior managers understand the ways in which humans and their behaviour affect safety (Pidgeon, 1998; Reason, 2000; Mearns *et al*, 2003; Flin and Yule, 2004; Waring, 2005; Elbardissi *et al*, 2007; Pronovost *et al*, 2009 and Mahlmeister, 2010). The issue of the influence of management behaviours on patient safety will be addressed in the following chapter. As a first step in understanding patient safety, managers and staff must appreciate the differences in harm and error.

3.13 Harm and Error

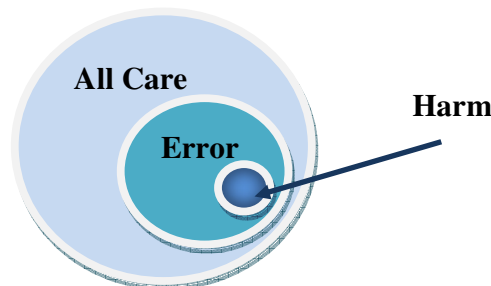
Not all error causes harm but all harm involves errors. The use of the words ‘harm’ and ‘error’ are not interchangeable. As discussed in the previous chapter, it is not possible to capture all aspects of harm by focusing on reporting and counting errors.

Resar explains:

“You could work forever trying to fix every error and not affect the level of harm.”
(Resar, 2006:1)

In clinical practice there are far more errors than harmful incidents as I have demonstrated in Figure 3.3 below:

Figure 3.3 Harm and Error in Healthcare



Yet, there is no universally agreed classification of error. The word ‘error’ has a Latin root and means *"wandering"* or *"straying"* (Dictionary of Etymology), or, we might say, “drifting”. Understanding the difference, between error and harm is important in any context, but particularly so in the context of my thesis.

The concept of wandering or straying links to the central theme of this chapter focused on a practitioner’s tendency to drift into harmful practices and in the process, making mistakes or errors. Reason describes human error as:

“...the failure of planned actions to achieve their desired ends without the intervention of some unforeseeable incident”

(Reason, 1997:71)

Reason (1997) goes on to elaborate that understanding error and harm will influence the way in which the organisation tries to address patient safety. Layde *et al*, (2002) challenge Reason’s thinking (2002) pointing out that human error and harm are not always linked. Individual, rare incidents in medical disease and the ways in which individual humans react make distinguishing between errors and harm challenging.

Nevertheless, targeting error as a strategy to address safety has similarities to Parker’s (2009) reactive and calculative phases in an organisation’s development of safety systems. A focus on error relies, on the individual that made the mistake; on single analyses of each incident; on determining who was involved and often relies on the person making the error to report it. An understanding of harm on the other hand is very different; here the scope for analysis is much wider. The focus becomes: how could this have happened? How can we prevent this happening to someone else by examining all of the influencing factors? Table 3.2 below briefly describes the differences when safety systems have a focus on harm or error.

Table 3.2 Difference in Harm and Error	
Harm	Error
The focus of the discussion is harm	Errors are the focus of discussion
Looks at all unintended consequences	Only looks at those outcomes and actions related to the error
Nothing is unpreventable	Often considered unpreventable
Multiple measurement tools	Measurement primarily relies on self reporting

Examining the aspects of error only, will narrow down the scope of any enquiry to the individual incident and, following investigation, is often considered

unpreventable due to the multiple contributory factors involved. Nevertheless, there are links between the two and understanding error is a fundamental part of building knowledge about how harm happens. For my empirical study it was important for me to understand how error happens in clinical practice. A useful starting point was the theoretical models exploring human error.

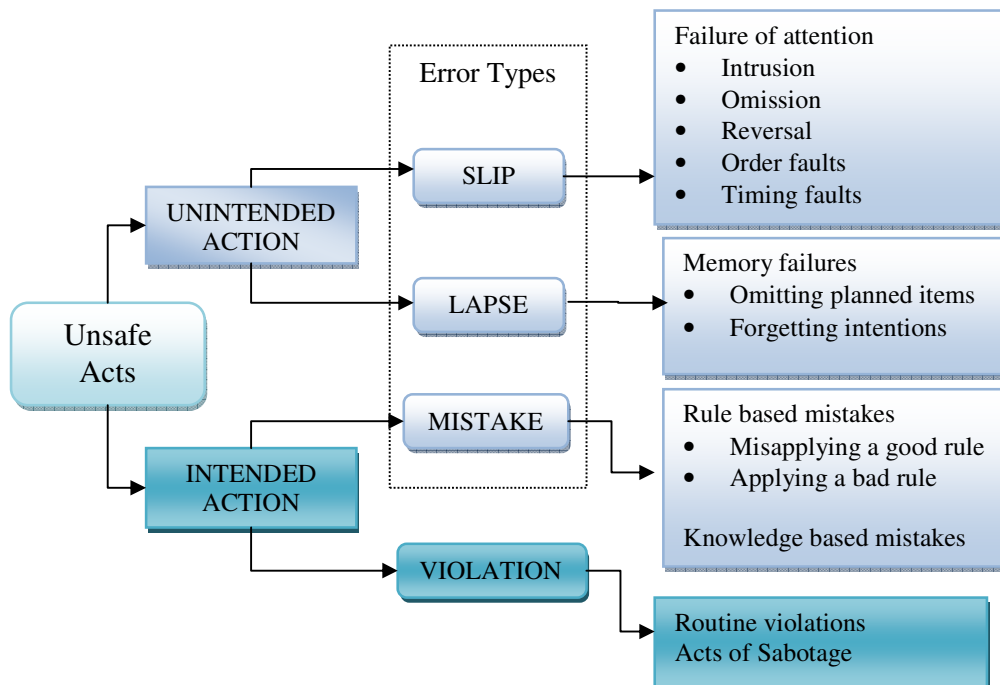
3.14 Human Error

“Knowledge and error flow from the same mental sources, only success can tell one from the other”

(Mach, 1905:84)

Understanding how we make mistakes is a vital part of addressing harm in healthcare. Reason *et al*, through their work on unsafe acts (1990), provided a theoretical model and a simple framework to help us understand the ways in which we make simple errors resulting from intended and unintended actions (see Figure 3.4 below)

Figure 3.4 Reason’s Unsafe Acts Model (1990)



(Adapted from Reason, 1997:207)

Before examining these scenarios in healthcare environments, we might first consider them in the context of everyday life. Daily living is full of opportunity for error: like locking the front door and leaving the key inside; putting orange juice over the cereal instead of milk, and leaving the original paper document on the copier plate after the photocopying is complete. There are many other examples of where we make simple errors every day. As can be appreciated from Figure 3.4 above, by demonstrating how we make errors through intended and unintended actions, Reason's model (1997) provides a helpful framework for organisations to better identify and engage with some of the processes and practices that contribute to harmful incidents. The policy document *Building a Safer NHS for Patients* (DoH, 2000b) recognised Reason's work and recommended the NPSA use the framework as a measure for clinical negligence. The sub sections below examine the application of the unsafe acts model in healthcare as recommended by the NPSA.

3.14.1 Intended Actions

Intended actions involve choosing (both consciously and unconsciously) to 'break the rules' or take shortcuts to get the job done. Routine violations of this nature are seen in healthcare practice where staff, due for example, to time, volume and target pressures of work, need to bend the rules and take shortcuts to provide care for patients. Other more sinister intended actions include acts of sabotage. These are wilful intentions to destroy or harm. Although there are some striking examples of such behaviour (e.g. nurse Beverly Allitt in 2005 - *Munchausen's by Proxy*; and Dr Harold Shipman in 2003 – multiple murders of elderly patients), this is very rare in healthcare. However, in addition to the damage caused by the atrocious nature of such acts themselves, and as demonstrated by the infamous Harold Shipman case, the fact that a perpetrator might be acting secretly means that, any such cases could, and in his case did, lay undiscovered for many years. However, the actions that lead to each of these cases demonstrate circumstances that are diametric from those which are unintended, even if the outcomes to a patient might be similar.

3.14.2 Unintended actions

Unintended actions are not meant to happen. The intentions are correct and in line with the plan(s) appropriate for required treatment or care. However, in this context, the outcomes are not those anticipated or intended. In this ‘scenario’, errors occur and are manifest as a slip, a lapse or a mistake (Reason *et al*, 1997). These errors often take place at the front line, usually during interactions with patient care. We might interpret these (unintended) actions as being associated with attentional or perceptual failures. Reason (1997) also refers to them as active failures and, because of their centrality to my thesis; it is useful to consider them in slightly more detail:

3.14.3 Slips

Reason (2000) defines ‘slips’ as observable errors. In healthcare, the process of examining medication errors often reveals slips. Several authors have found that over 40% of all adverse incidents are a result of medication errors including ‘slips’ of giving the wrong dose of medicine, by the wrong route, or at the wrong time (Botvinick and Bylsma, 2005; Mc Dowell *et al*, 2010; Roughead and Semple, 2009 and Walsh *et al*, 2009). Often the prescription chart is paper based. This results in further human error influences, such as the illegibility of the prescriber’s handwriting and the nurses’ interpretations of what is written on the medicine chart. In addition, on a busy ward within the clinical environment, the nurse may be constantly interrupted and distracted as he/she prepares a range of medications and administers the medicines to a large number of patients. Many of these elements were revealed in the fatal case of Wayne Jowett (see Chapter 2).

3.14.4 Lapses

Lapses are momentary memory failures (Reason, 2003; Cheyne *et al*, 2006) where individuals forget what they were about to do. This scenario often occurs when we are in a hurry, pressurised by a multitude of tasks or trying to complete a task within a tight deadline. As highlighted in the empirical work by McGlynn *et al*, (2003) and Leatherman and Sutherland (2004), lapses in routine practice can happen up to 45% of the time. We are all likely to be able to identify with such a situation.

3.14.5 Mistakes

Reason's model describes mistakes in two ways; as rule based and knowledge based mistakes:

- **Rule based mistakes** occur by applying the incorrect rules to a situation or problem, such that the plan used is perhaps inadequate for the intended task. As was seen in Chapter 2, in the case of Josie King, the wrong rule was applied. By instigating the 'nil by mouth' rule, meant for preoperative patients, Josie a small child, without fluids for over 48 hours died of dehydration. The wrong rule was applied to the wrong patient.
- **Knowledge based mistakes** happen when our understanding or knowledge of a situation is inadequate for the circumstances and/or the task in hand. Perhaps, thinking up solutions on the spot when treating a patient in an emergency is a good example or in a learning situation when facing a problem for the first time. The point here is that, such behaviour or action can be highly beneficial and, indeed, can be at the core of innovative practice BUT the risks involved are immense. It is safe to say that, because of the nature of the 'business' of the NHS, there are potentially catastrophic implications if RM is not properly attended to.

Reason further develops the ideas inherent to his Unsafe Acts Model (1990) in his Accident Causation Model (1997). The latter Model has been referred to as the famous 'Swiss Cheese' Model. The model describes failures in two ways; these being demonstrative of the prevailing circumstances of active failures and latent conditions. Reason's active failures represent the unsafe acts that happen close to the patients by those who provide direct patient care. Active failures can create holes in the defences in two ways. First, the frontline staff may deliberately disable the defence or take a short cut to get the job done by missing out a step in the process. An example in hospital care is the pressure to treat patients within the 18 week National target time which forces staff to take short cuts to see and treat more patients. Latent conditions

refer to the ways in which the organisation operates and exist within the levels of risk that are tolerated in everyday practice.

3.14.6 Latent Conditions

“People do not act in isolation their behaviour is shaped by circumstance by circumstance.”

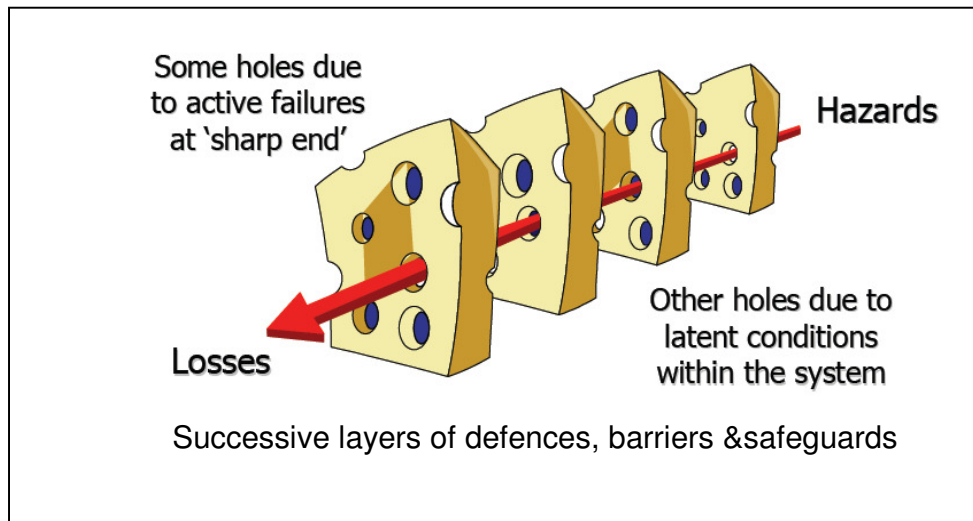
(Reason, 1995:80)

Reason’s (1997) ‘Swiss Cheese’ Model (Figure 3.5 below) has become a dominant paradigm for examining adverse incidents and harm in healthcare. Reason argues that you need both active failures and latent conditions for an adverse incident to occur. Latent conditions are sometimes described as system issues and active failures as the people issues. For that reason, attention to safety threats needs to be directed upstream to the levels of management, who enable or exacerbate the potential for error (Leape *et al*, 1998).

Latent conditions, that cause error, emerge from organisational and management systems and may take a long time for them to be discovered. For example; senior managers might decide to reduce the hospital pharmacy hours of opening at weekends, to mornings only. This could prevent patients going home from hospital in the afternoon. The knock on effect could be catastrophic in a number of ways: emergency medications required ‘out of hours’ for patients would be unavailable; patients could be discharge without essential medications or the wards could become overcrowded with patients ready to go home but unable to do so without their medication.

The organisational (latent) conditions create the ‘unsafe’ systems that staff operate within. In this model, accidents or errors are the result of a combination of active failures at the sharp end and a series of failed or unnoticed latent failures throughout the organisation that then leads to an accident or error.

Figure 3.5 Reason's 'Swiss Cheese' Model



(Reason, 2000:769)

Reason's Model developed for industry is used widely (Rosen, 2004; Veltman, 2007; and Ofredy *et al*, 2009) throughout the NHS to describe and address error management. The 'Swiss Cheese' slices represent the defences, barriers and safeguards to prevent errors and failures. The model is best represented by a moving picture where each defensive layer or slice is moving according to local conditions. Similarly, the holes move within each layer in response to local demands the actions of those involved. These defences may be represented in clinical practice by check lists or, perhaps, additional steps in a procedure to improve safety. The defences can have many layers, including: organisational (personal safety equipment, standard operating procedures); team (nature of teamwork) and individual (cognitive function) within the work environment. They are the rules, practices and error safeguards that the organisation has developed to catch or prevent errors. The defences in the case of Wayne Jowett were the rules around the injections to be given at different times on different days. When these barriers fail, as the model demonstrates, the error progresses or escalates to multiple errors in a chain reaction, eventually causing an adverse incident or harm to the patient (Nolan, 2000).

Using Reason's argument that active failures and latent conditions contribute to all adverse incidents, we can see that errors in the use of intravenous infusion pumps demonstrate examples of both these elements in play. Providing intravenous medication through an infusion pump device is a complex business. The clinical ward staff need two main skills:

- to have the technical knowledge to operate the infusion pump device and
- to understand the often complex medication dosing regimens required for the bags of fluid for the 'drip' to deliver the intravenous fluid to the patient (White, 2004).

An additional complication is that there are over 30 different models of infusion pumps available for each NHS organisation to purchase. Each machine might involve a unique set up and require a range of operating procedures. This complexity creates perfect conditions for both latent and active failures to occur (Quinn *et al*, 2004).

These two paradigms will be addressed in the next section. In practice, Reason's model provides an overview of the way in which healthcare systems set the scene for failure to happen. Most of the time the 'Swiss Cheese' slices, or holes in the cheese are blocked by the barriers set up to catch the error and prevent harm.

These barriers to prevent error happening can be seen in all hospital practices including:

- the use of check lists;
- machine alarms to detect 'out of range' recordings of the patients vital signs;
- colour coded laboratory sample bottles for individual tests

Reason's 'Swiss Cheese' Model, is often used to help healthcare professionals understand the complexity of the NHS, by showing how holes in the cheese line up in the harm trajectory (Reason, 1990, 1997, 2000). Although the tool is useful, it still cannot capture all the multidimensional variables going on at the time of the incident that, 'intersect with the cheese'. Therefore, it may be appropriate, not only to look for sequential patterns in a specific process relating to individual treatments but also to examine other simultaneous processes. Another difficulty with Reason's model is that it may not be widely understood in practice by frontline staff (Perneger, 2005); it is a tool used mainly by those managing risk and teaching the principles of RM and adverse incident review (NPSA, 2004; 2008a,b; 2009). Reason's paradigm of latent (systems) failures versus active (people) failures can be explored further in his work on the ways in which organisations deal with adverse incidents.

3.15 Systems and People

As demonstrated in Parker's (2006) model the way in which an organisation and its managers react to adverse incidents reveals its maturity to address safety issues. Some chose to (pathologically) 'hunt down' those responsible while others encourage (generatively) the disclosure of unsafe systems as an opportunity to improve. Systems or people approaches offer two models of examining error and harm each with its own theories and solutions (Reason, 2000). If Reason's previous model of 'unsafe acts' is to be believed, it will be accepted that, humans are imperfect and errors are expected even in the best organisations. Errors in an organisation focused on the systems approach would be viewed as system issues, as consequences rather than causes. Solutions are based upon changing the conditions within which the people work and accept that, it is difficult to change human behaviour. Managers in this system, would like Parker's (2006) proactive/generative model, encourage staff to share their safety concerns.

Following an adverse incident, the main issue using a systems approach is not the issue of **who** made the error but **how** and **why** did the defences fail, or when did the drift into error commence. Analysis would be followed by the development and

introduction of a means by such a situation might be avoided in the future. The goal of the systems approach then, is to build defences and error traps to mitigate for adverse incidents. The systems approach is one welcomed by frontline healthcare staff as the responsibility is pushed further up the line to managers and often to Board level; a departure from the more traditional approach within healthcare, which is to blame ‘the people’.

3.15.1 Person Approach

In the media, blaming or naming and shaming individuals appears to be more satisfying than targeting organisations (Reason, 2000). In a study in aviation, 90% of lapses were judged as blameless (Marx, 1997). However, using this approach is likely to drive safety issues ‘underground’ as staff fear they will be blamed for adverse incidents (Catchpole, 2009). Another limitation in the person approach is the belief that, by removing the people that make mistakes, the system will be safer. There are two problems with this: first, errors are made by everyone and sometimes the ‘best’, most qualified and experienced individuals ‘drift into’ the worst mistakes. The second issue is that defences that fail due to one person making an error will fail for others, regardless of those involved. Reason argues that:

“A system in pursuit of greater safety is seriously impeded by an approach that does not seek out and remove error provoking properties within the system at large.”

(Reason, 2000: 768)

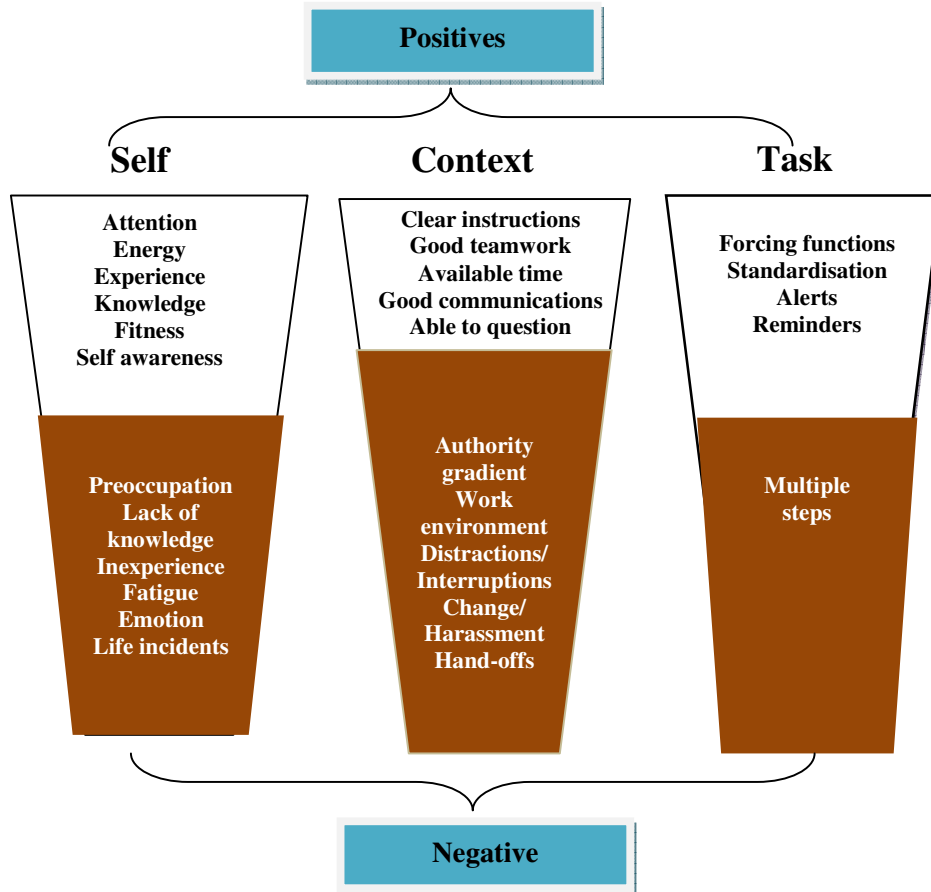
Reason’s more recent theoretical work (2008) calls for organisations to look beyond individual blame and develop ‘error wisdom’ to understand how adverse incidents happen.

3.16 Error Wisdom

Recognising the influence of both the context and the individual’s role within that Reason has further developed his Unsafe Acts model (2004) with a metaphor of ‘3 buckets’ (Figure 3.6 below). He suggests, what is required to proactively build safer systems is an ability to recognise error prone situations that, he has divided into three separate buckets of: self, context and task awareness (Reason, 2008b).

Each bucket is filled with negative influences or ‘brown stuff’ that has a nasty harmful effect on how we perform.

Figure 3.6 Reason’s 3 Buckets (2008)



(Adapted from Reason, 2004: ii32)

Looking at each of these buckets in more detail is illuminating:

3.16.1 Self

Healthcare staff will have an awareness of when and where the ‘brown stuff’ has an effect on them that then makes their individual performance less than perfect. Empirically the ‘brown stuff’ has also been defined as lack of knowledge (Naylor, 2003; Taxis, 2003); inexperience (Kumar and Malik, 2003); fatigue (Dawson and Reid, 1997); emotions and life incidents (Schwappach and Boluarte, 2009) all have a negative impact on human behaviour (Reason, 2008).

3.16.2 Context

Context has a much bigger influence on behaviour, hence the greatest amount of ‘brown stuff’ in the bucket. Clinical staff in healthcare, do often recognise, the effects of: changes in the work environment; distractions and interruptions; the influence line management arrangements; equipment failures, and staffing issues, most likely through personal experience (Nichols *et al*, 2008). All healthcare systems incrementally push their services towards the edges of the safety envelope (the narrow boundary between safe and unsafe practice) (Dekker, 2008). This can be seen by the ever increasing performance targets (SGHD, 2010) and the reductions in staffing levels (RCN, 2010) creating the ideal environment for error. Nevertheless, this is not necessarily the case across all organisations or departments.

3.16.3 Task

Moving on to the ‘task bucket’, staff are less likely to have knowledge of the types of mistakes that can be made in relation to their own behaviours, when undertaking individual tasks including:

- more steps in the process produces increasing error (Hor *et al*, 2010)
- tasks in the later stages of an activity are more error prone (Reason, 2002)

There are some positive elements of ‘error proofing’ described in this model that staff do recognise as helping them to work more safely. Experience, teamwork and standardisation are recognised in several studies as positive influences on safer practice (Leonard *et al*, 2004).

In the three bucket model an empty bucket does not assure safety (no bucket is ever empty, life is not that simple). Conversely, a full bucket will not always result in failures. It is the recognition and ‘situational awareness’ that enables healthcare teams to cope with everyday practice environments. Understanding the positives and negatives in the bucket will build resilience and knowledge to error-proof the systems (Reason, 2008). Reason goes on to offer a numerical risk scale for frontline staff to

build an awareness of the issues that exist to deal with the ‘brown stuff’. In addition, he offers a tool kit of advice to support staff to:

- Accept that errors can and will occur
- Assess the local ‘brown stuff’ before undertaking a task
- Have contingencies to deal with problem
- Not permit professional courtesy to get in the way of checking your colleagues knowledge and experience, especially when they are strangers
- Appreciate the path to adverse incidents is paved with false assumptions and the lethal convergence of benevolence

(Adapted from Reason, 2008: 248)

The three buckets model is relatively new and, to date, I can find no empirical examples reported in the literature of its routine use in healthcare practice. The NPSA have developed a training tool based on the three buckets model but it has yet to be evaluated (NPSA, 2008b). In addition, I found two pieces of work referencing the model’s use within local patient safety training programmes (Taylor–Adams *et al*, 2008; Cooper, 2009). Perhaps, this is because in clinical care there is relatively little time for staff to try out what is, principally, just another risk assessment tool. There are other simpler tools available to determine the organisational approach to patient safety. In sum, Reason’s three buckets model offers some insight into the ways that, individuals can be influenced, both positively and negatively by their surroundings and the task to be undertaken. The model offers some insight into pressures on staff to take short cuts and ‘bend the rules’ to get the job done.

3.17 Shortcuts and Rule Violations

Pressures within the hospital system force individual practitioners in healthcare to bend the rules to get things done. McGlynn’s *et al*’s (2004) work in healthcare found similar results to Rasmussen’s (1997) work in nuclear power plants to work: an enormous variation and departure from standard operating procedures or routine practice. Yet, much of the policy guidance is reliant on following standards and implementing evidence base practice. The studies above highlight although the staff

in both environments were highly trained in applying standards and procedures, they did not always follow the guidance, but tried to get the job done in their own way as a means of meeting operational requirements, persistently drifting into unsafe practice.

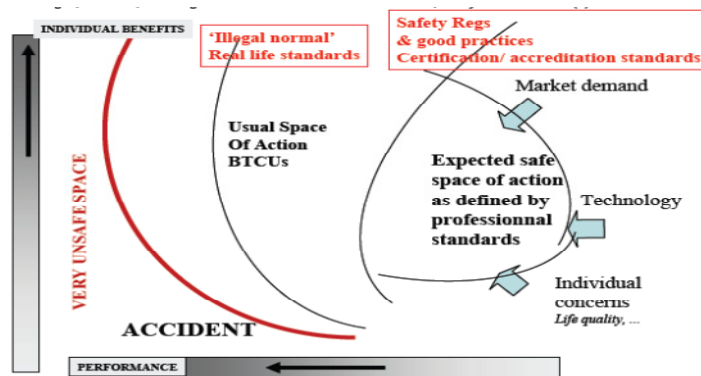
Rasmussen's view is that as human beings we are constantly adapting to changes and circumstances that surround us. He argues that, error management and current investigation techniques are over simplified. To better understand how people work, and how they adapt to pressures, we need flexible, reflexive systems. As previously demonstrated, it is often the case that as one system gets safer, risk increases and safety is compromised in another. Like car seatbelts, following their compulsory introduction, individuals began to drive faster because of a perceived increased level of safety, resulting in an increase in number of road accidents (Janssen, 1994).

Amalberti *et al*, (2005) work suggests pressures within the work place, to do as much as possible, in the time allocated, or to do more with less, can over time, migrate everyday practice beyond the safe boundary causing a 'drift into error'. The many pressures within the hospital environment make this 'drift into error' an everyday reality. Greater demands on hospital services (ISD, 2009), target timescales for treatment times (SGHD, 2008) and a limited and dwindling workforce render almost perfect the conditions for 'drifting into error'. Dekker (2007) agrees and claims, in these circumstances, systems incrementally push their operations towards risky unsafe practice.

3.18 Drifting into Error

Rasmussen *et al*, (2003) carried out theoretical and empirical work in this field examining human behaviour and the tendency to take increasing and regular risks in practice. Figure 3.7 below demonstrates what they call ‘a systemic migration to boundaries’ to borderline conditions of use.

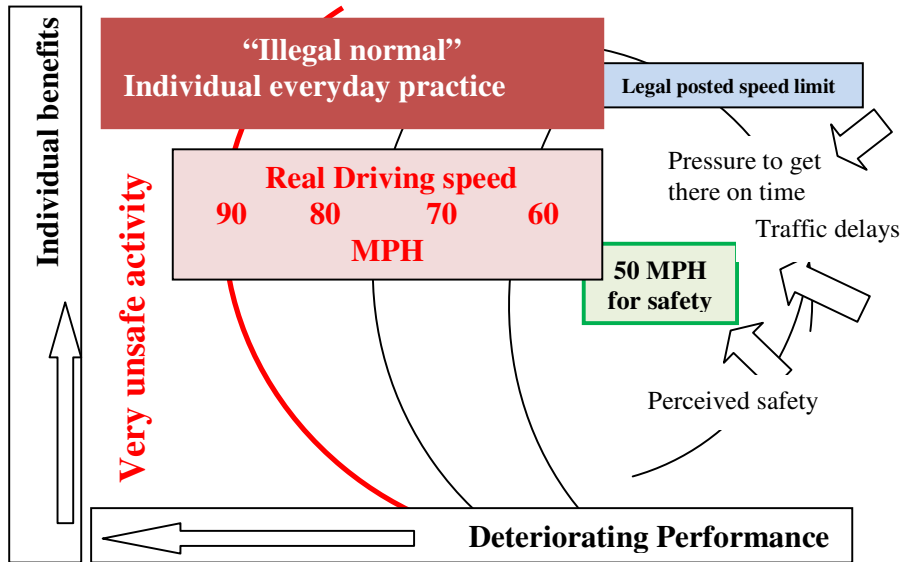
Figure 3.7 Systemic Migration to Boundaries



(Rasmussen *et al*, 2003:11)

This model appears complex, but can be explained using a metaphor of driving beyond the legally posted speeding limit (speeding) (see Figure 3.8 below). In this hypothetical model, the legally posted limit is 50 miles per hour (mph) but due to external pressures; the driver is going to be late for an appointment; the traffic ahead is delayed due to road works and he has driven beyond the speed limit many times before without punishment. So he decides, once the traffic is clear, to speed up and catch up a bit of time on a clear stretch of road that he has travelled many times before at over 65 mph. He also knows that there is no speed camera there and therefore not much chance of getting caught. The regular habit of speeding to arrive on time (without sanction) will become the ‘illegal normal’ behaviour of the driver.

Figure 3.8 Rasmussen’s “Illegal Normal” for Speeding



(Adapted from Rasmussen, 2003)

In the explanatory light of the ‘speeding’ model, the Systemic Migration model demonstrates that the more we drift into unsafe practice without an accident happening the more regularly we routinely increase our risk taking behaviour. This is particularly so, if we are subject to external pressures to ‘perform’ combined with our perceived belief that, moving into unsafe practice without having experienced anything adverse renders us relatively safe. The work of Amalberti *et al*, (2006) also identified that, the more frequently and increasingly further an individual drifts over into unsafe practice, the more likely this space becomes the new ‘norm’, albeit the ‘illegal normal’ area of operation.

Thus, the Systemic Mitigation Model suggests work practices will inevitably migrate to the borderline conditions beyond the accepted limits of safety in response to the conflicting pressures of maximum performance, systems output and individual benefits that make life easier.

The empirical work behind this theoretical model does not discuss the build up of latent failures in organisations, or the organisational systems to identify risk. In healthcare, breaking the rules is often perceived as negative activity associated with poor outcomes for patients. However, breaking the rules can benefit patient care, through pioneering treatments and ground breaking research that discovers new ways to improve health for example searching for new treatments in cancer care research; pioneering new surgical procedures for the first time. In emergency care too, often there is not time to operate within the rules when making decisions instantly to save a patient's life.

My empirical work (see Chapter 8) will discuss patient safety with healthcare staff exploring the complexities that encourage 'drifting into error'. Through the process of Patient Safety Leadership Walkrounds (PSLWR) the issue of 'taking shortcuts' will be highlighted in the quest to reduce harm and improve safety.

3.19 Summary

Providing and receiving healthcare is fraught with risk. The key theoretical models discussed in this chapter outline some of the reasons for this, explaining some of the difficult challenges faced by healthcare staff in detecting and preventing harm in healthcare. The aspects of error were explored, demonstrating that error in healthcare is not random, in fact, it is largely predictable but often goes unrecognised in the delivery of national policy.

The critical review of the theoretical models discussed in this chapter suggests that there are multiple complex factors at play that make healthcare unsafe. Despite the regular publication of policy guidance on patient safety and the quality of healthcare (DoH 2003, 2004, 2005 and SGHD 2010) practitioners regularly 'drift into error' and as a result harm is difficult to detect and address.

In summary:

- Healthcare is an inherently complex and a risky business (Boon *et al*, 2007; Nemeth, 2008) where risk is inevitable and difficult to control or mitigate for (Beck, 1992; Giddens, 1999 and Reason, 2008)
- RM systems in healthcare have a long history and a robust legal framework (HSWA, 1974; DoH, 1994; QIS, 2005 and DoH, 2009)
- Risk analyses are subjective (Giddens and Pierson, 1997; Beck, 2001)
- Error and harm are separate issues. Not all error causes harm but both harm and error are difficult to identify and address (Vincent, 2004; Reason, 2006)
- Error management theory is not generally understood (Perenger, 1999; Johnston and Slovic, 2006)
- Professional regulation goes some way to provide standards and a framework for safety and quality but has gaps in relation to checking the means by which safety is measured (DoH 2007b)
- Drifting into error is common place and extremely risky (Rasmussen, 2001; Amalberti *et al*, 2006)

In this chapter, I have presented a broad overview of some of the key theories that help us to understand why healthcare remains unsafe. Despite an array of theoretical and practical models developed in safety critical industries (aviation and the nuclear industries) to improve safety, these models have not necessarily been applied, to reduce error and harm in the hospital setting (DoH, 2009). Nor as was seen in the presentation of healthcare policy guidance (Chapter 2) have they been recognised widely within this sector. Thus, it can be concluded that additional methods of detection are necessary. Several models discussed above (Westrum, 1996; Reason, 2003; Parker, 2006 and Amalberti, *et al*, 2006) have suggested that the context within the organisation and the role of leadership are fundamental features that influence safety and safer systems. Following on in Chapter 4, I will consider the influence of organisational management theories and empirical works that influence how patient safety develops inside healthcare systems to improve patient safety.

Chapter 4

Literature review Part III:

What influences patient safety in the NHS?

“A somewhat lethal cocktail of impatience, scientific ignorance and naive optimism may have a dangerously inflated our expectations of a safety culture.”

(Cox and Flin, 1998:190)

4.1 Introduction

The previous chapter reviewed key theoretical patient safety work that helps to explain why healthcare staff ‘drift into error’ and patient harm remains an issue. To set the context for this Chapter, Part III of the literature review focuses on empirical work related to the development of a ‘the safety culture’, as a positive mechanism for healthcare organisations to reduce harm (Singer *et al*, 2003; Provonost and Sexton, 2008; Sorra *et al*, 2008). Thus, in this, the final part of the literature review, I will explore the influence of management theory and practice as a means of helping or hindering staff discussions on patient safety, often referred to as the ‘safety culture’ (Parker *et al*, 2006, French *et al*, 2009). I will review the notion of ‘safety culture’ to explain the theoretical concept rather than as a method or methodology for measurement.

The notion of a ‘positive safety culture’ is important to my study as it is considered central to encouraging staff to discuss patient safety and harm more freely in order to improve service (Cox and Flin, 1998; Frankel *et al*, 2003 and van Noord *et al*, 2010). The concept has a direct relationship to the use of PSLWR as a mechanism to encourage staff to discuss safety and harm. It is important to note that my intention for my research was not to take the traditional route in culture studies and attempt to measure, the safety culture within NHS Tayside before and after the introduction of PSLWR. Rather, my focus was to use the PSLWR to evoke disclosure and discussion of harm.

4.2 Chapter Plan

Using the literature review method identified in Appendix 2.2, five key themes emerged as mechanisms as influential for the positive and negative paradigms of a 'safety culture'. As represented in Figure 4.1 the discussion themes include: Traditional Management Theory (Managerialism); Systems Theory; Chaos and Complexity; Trust and Blame; and finally Leadership.

Figure 4.1 Chapter 4 Discussion Themes



Over the years, a 'negative' paradigm of patient safety culture has emerged. This development might have been influenced by the sensational media coverage when patients are harmed (Millenson, 2002) (see Chapter 2, sections 2.12); the focus on cost reductions over quality (Appleby, 2010) and growing complaints from the public about 'poor care' (The Healthcare Commission, 2009). These elements are catalysts for beginning the debate around the influence of 'safety cultures' in sentinel cases. For example: in the famous Bristol Infirmary Inquiry (Kennedy, 2001:12): where 35 children died unexpectedly during cardiac operations. The report suggested that there

was a medical ‘club culture’ of senior medical staff who deliberately covered up problems to prevent sharing and addressing patient safety issues.

Nine years on, the emphasis on ‘culture’ continues following the Mid Staffordshire Hospital review where a ‘culture of fear’ was described, suggesting that as a main contributor to the poor healthcare and associated unexpected deaths of 1000 additional hospital patients (The Mid Staffordshire Inquiry, 2010:400).

4.3 Organisational Culture

The term culture is difficult to define. The word culture comes from the Latin word ‘*Cultura*’ meaning to cultivate, or grow (c15 Mid Century). The issue with organisational culture is: we cannot see it, or touch it, but still, we know that it is there, as individuals tend to behave in accordance with prevailing behaviours and practices ‘acceptable’ within their organisation (Schein, 2004). Organisational culture has been studied for decades (Davies *et al*, 2002; Schein, 2004 and Sun, 2008), in regard to its role in securing organisations’ strategic objectives. More than 25 years ago Schein (1985) suggested that:

“Culture is best thought of as a set of psychological predispositions (which he called ‘basic assumptions’) that members of an organisation possess, and which leads them to think and act in certain ways.”

(Schein, 1985:10)

He also that added that, culture is:

“A pattern of shared basic assumptions that a group learns as it solves its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.”

(Schein, 1985: 17)

Brown (1998:33) offers a similar definition:

“...the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organization’s history, and which tend to be manifested in its material arrangements and in the learned behaviours of its members.”

(Brown 1998:33)

The issue of learned behaviours is important to large organisations like the NHS as individual professional groups can develop their own cultures (Schein, 2004) and sub-culture behaviours. (Davies *et al*, 2007) related to their professional autonomous status (Kennedy, 2010). This is perhaps particularly so in academic medical centres like NHS Tayside, where professional loyalties are often more deeply embedded and enacted in the individual disciplines, (for example surgery, medicine, paediatrics and obstetrics) than in the light of wider organisational goals. Linked to the models of Parker (2003) and Westrum (1996), as discussed in the previous Chapter, there are key issues related to the ways in which safety is communicated and the overall attitude within the organisation of sharing information regarding error and harm. Professional allegiance often trumps the organisational goals, or in cultural terms “*culture eats strategy for breakfast*” (Teasdale, 2005:1136).

4.3.1 Safety Culture

Research into the nature of patient safety and the causes of harm, has identified a number of common cultural problems related to disclosure of harm in NHS organisations: communication (Pidgeon, 1997); opportunity to ‘speak up’ about safety (Department of Health, 2001) and fear of blame (Singer *et al*, 2003). When reviewing the literature on safety culture, I discovered a vast array of terms covering a range of descriptions applied to the word culture: ‘blame culture’; ‘learning culture’; ‘reporting culture’, ‘generative culture’; ‘open and fair culture’; ‘culture of fear’ and ‘a just culture’. There is little doubt that, both empirically and theoretically, culture plays a part in safety, particularly when an organisation reviews harmful events (Leape and Berwick, 2000; Parker, 2009). In fact Krause and Hidley (2010) suggests that:

“Healthcare organisations are not organisations at all, they do not have a singular culture; they are but loose confederations of constituencies [teams] with a common objective.”

(Krause and Hidley, 2010:1)

Krause’s quote hints at teams and teamwork. The collective nature of healthcare teamwork is central to my empirical work, as the PSLWR process is intended to pull

the 'top', (senior managers) of the organisation, and the 'bottom' (the frontline staff), closer together in order that they can discuss and address safety; then collectively as a team, move forward to take actions, to improve safety issues. In a metaphoric sense, patient safety is not an individual event, it is a contact team sport, requiring the participation of all involved, including all healthcare staff, the patients and their families. Krause, (2010) and colleagues in their empirical work, emphasised the issue of the multidisciplinary teams in healthcare and the diverse nature of how these groups co-operate and work together, or are, often at odds with each other affecting safety.

4.4 Teamwork

Effective collaboration between professionals is at the core of what is required to provide patient care in hospital and establish a 'patient safety culture'. Singer *et al* (2003) demonstrated that the lack of team working can contribute to unsafe practice in hospital. Ten years ago, the policy report OWaM ,(2000) (discussed in Chapter 2) highlighted the need for a teamwork to improve patient safety.

Ten years later, the recent Mid Staffordshire Inquiry, (2010) criticised the lack of a 'culture of multidisciplinary teamwork' claiming the senior medical staff set up a medically dominated infrastructure that was detrimental to patient care. The enquiry highlighted the organisational systems that prevented staff speaking up and sharing information about harm. Such historical arrangements may suit managerial convenience or the niceties of professional customs but, crucially, they did not suit the patient. One issue that may thwart the development of team working is the un-disciplinary way in which different healthcare teams learn their trade. Nurses, the allied health professionals, medical students, pharmacists and ancillary staff are educated in linear fashion as individual groups. However, several universities are beginning to recognise the value of training professionals together to prepare them for the realities of working together at the patient's bedside (Paul *et al*, 2008; Marshall and Gordon, 2010).

4.4.1 Team Training

In high reliability industries like aviation, team training has long been an important part of ensuring safe practice. Team training in healthcare is beginning to emulate aspects of aircraft safety practices by using checklists, safety drills and improved communication tools. In mental health services, Jones *et al*, (2008) found team training beneficial for individual team members; improving their ability to cope with stressful situations and share personal experience of unsafe practice. There are many other examples where the benefits of team working and team training can improve patient safety including; within the theatre teams developing operating room skills (Catchpole *et al*, 2008); in labour and delivery within in maternity services (Mann *et al*, 2006); in ambulatory care and rural settings (Webster *et al*, 2008); during medical education (Thompson *et al*, 2008) and by adapting a variety of communication tools from the aviation industry (O'Connor *et al*, 2010).

Increasingly, hospitals are using a type of team training developed from aviation and the space industry called Crew Resource Management (CRM), as a means of helping staff recognise and overcome some of the human factors that create risk. The CRM training raises staff members' awareness of the dangers that surround them helping them to recognise the ways in which they drift into error. This awareness is often referred to as 'situational awareness' and helps individuals to understand, how to take action, through optimal communication and team working (Grogan *et al*, 2004). I would argue, however, that one short coming evident in the adaptation of CRM training, thus far, is the issue of targeting only professional, clinical team members, excluding other non-clinical members, therefore limiting the potential contributions that the entire network of employees can bring.

There are some clear indicators of situations where such training is effective and others where circumstances mitigate to make it less so. A recent review of the literature by Meri n *et al* (2010) found maternity team training effective in its contribution to the prevention of errors, thus improving patient safety in acute obstetric emergencies. However, McMurray, (2007) argues that team working is

eroded due to frequent movement of staff within departments in the NHS today. Individual roles and organisational responsibilities constantly change, destroying the inter-organisational communication channels, decision making processes and shared understandings required for teams to commit themselves towards a mechanism of joint working practices.

In another study by Bamford *et al*, (2008), the benefits of team working were examined within surgical teams, finding improvements in the surgical outcomes of patients. However, in Bennett and Stewart's (2007), work within the theatre operating room, staff demonstrated teamwork is often a 'pipe dream'. Their work engaged with over 220 theatre staff and while most agreed that team working is beneficial and something that they welcomed; few experienced it in practice. Bennett and Stewart's results suggested that bureaucracy and the systems of management control, prevented teamwork and is therefore, indicative of bureaucratic dysfunction (Bittner, 1973; Weber, 1947 and Zimmerman, 1973). The way in which team members discuss and work together on patient safety, will be drawn out during my empirical work in NHS Tayside, to examine multidisciplinary contributions, to both safe and unsafe systems, thus, adding to and further consolidating work such as that of Bennett and Stewart.

In practice, the way that interdisciplinary teams work is inextricably linked with the management infrastructure of the NHS. The nature of that management underwent a radical overhaul, in the late 1980s and early 1990s.

4.5 Managerialism

When the UK NHS was established in 1948, senior medical and nursing professionals managed most hospitals. A major shift away from the professional paradigm of management was introduced in the early 1980s. The Griffiths Report, (1983) introduced general management to the NHS. Up until that point, the NHS had two unusual organisational characteristics; the infrastructure of the management teams in each hospital was identical and run by the professionals; and decisions were made by consensus (Gabe and Calnan, 2009). Hospitals were run by the doctors with support

from matrons for day to day operations. Doctors at that time often operated in a professional culture where promotion or selection was made primarily by groups of their peers. Control mechanisms for doctors tended to exist by mutual consent, influence was shared within peer groups and the most common source of power was their expertise and autonomy. However, with the introduction of more rigorous regulation as identified in Chapter 3 on improved regulation and revalidation processes things more checks and balances are in place. The nature of Managers' control in the NHS focuses on financial savings and government and efficiency targets, in the attempt to balance both costs and quality (Bisognano, 2003). In the busy environment of healthcare, dealing with all of these issues can leave little time for frontline staff to share and discuss information about patient safety concerns with managers. The efficiency drives that influenced and increased managers' responsibilities developed from the public sector reforms and the emergence of new public management.

4.5.1 New Public Management

The British government attempted to introduce general, industrial-style management systems to the public sector including the NHS, through what became known as New Public Management (NPM) (Pollitt *et al*, 2007; Ackroyd and Kirkpatrick, 2007). NPM is a 'topical' phrase to describe how management techniques from the private sector are now being applied to public services. NPM increased the powers of managers over the years and has threatened the doctors' medical domain, of how hospitals are run.

The NPM changes were part of the Government's drive for the NHS to learn from the processes and management styles of the private sector. The 'new' aim was accountability and transparency (Power, 1997).

Key changes were applied to healthcare teams and hospitals systems were redesigned to target:

- Efficiency and an emphasis on making the public services more business like;
- Downsizing and decentralisation and the introduction of free market aspects (creating competitive forces between hospitals);
- The pursuit of excellence where organisational development and culture change are a priority;
- Public service orientation with a emphasis on service quality and the consumers of the services;

(Adapted from Ferlie, 1997)

A new structure of general managers, separate from the professionals, aimed to address the lack of managerial control and weak decision-making mechanisms from the 'old system' (The Griffiths Report, 1983). The focus on service quality introduced greater financial regulation and regular audit and inspection (Clarke and Newman, 1997). However, the performance measures, target-setting mechanisms and attempts to reduce professional autonomy, acted as disincentives for the policy changes because they interfered with the ability of health staff to reach agreement to work together to bring about change processes (Maddock and Morgan, 1998). Clarke (1994) argued that management in the NHS, at that time, moved from a view of staff as carers, to their being seen simply as 'labour': a component factor of production.

Thus, the intention of the NPM was not new at all but based on the traditional management approach of scientific management theories originally from Taylor in 1911 (Taylor, 1972; Weber, 1947). Taylor's work targeted efficiency and effectiveness introducing processes for the workforce to utilise the capacity to work. He introduced a 'top down' management approach, used authoritarian control and measurement of the inputs and outputs, where, people were viewed as, elements of the production process. Such approaches are typified as being a division of the 'brain' (management) and the 'brawn' (the workers). With fore thought and sensitivity, it would probably not have been a surprise that these techniques and

management styles do not necessarily match with the requirements to improve health services.

Critics have expressed concerns, demonstrating discontentment with the managerialist approach that NPM introduced in the NHS claiming that:

“Managerialism undermines the collegiate cultures and is generating new tensions and rivalries between rank-and-file staff and senior professionals.”

(Brunnetto, 2002:5)

making it increasingly difficult to achieve:

“...goals such as improving the quality safety and responsiveness of service.”

(Kirkpatrick, 1999:489)

Yet, some of those practices remain. Learmouth (1997) highlighted the fact that, management behaviours and practices within the NHS still had Taylorist elements and did not support team development.

Learmouth discovered the public perception was that:

- Managers focused on ‘task cultures’ based on order and bureaucracy and not necessarily patient care but the tasks that needed to be done.
- Managers were driven by ‘performance’ targeting how the systems operate. The nature of the day is determined by inputs and outputs. In healthcare the counts might be numbers of staff on duty, numbers of beds occupied and numbers of patients admitted, discharged and treated.

The New Public Management paradigm and increased managerial approaches from industry have perhaps introduced more efficient throughput. However, there are suggestions in the literature that this has been at the expense of effective teamwork and improved communication, both of which, it can be argued, are detrimental to the quality and safety of healthcare. Looking forward to my empirical research, the formal introduction of PSLWR may provide a way to closing the effectiveness gap by

bringing teams together, particularly around the understanding of the negative effects of efficiencies on the quality and safety of care in the form of performance targets.

4.5.2 Management and Performance Targets

The focus on targets and performance remains in the NHS today. Chapter 2 highlighted the fact that it is difficult for healthcare teams to keep up with service demands and performance targets. Som's empirical work in 2009, points out that, it is almost impossible to continuously improve service quality to achieve higher standards while meeting quantitative targets. Improving the quality of healthcare often requires more time for each patient and subsequent quality improvement activities require more expenditure. Simply increasing the throughput of patients might reduce waiting lists, but it can have a 'knock on' effect, of increasing the risk of clinical errors forcing staff to take short cuts and drift into error (Rasmussen and Svedun 2000; Amalberti, 2001) because less time is available to provide care for individual patients.

Sergeant (2003) reported that the NHS Confederation had concerns that the top of the organisation is not connected effectively with the frontline and that they may not even share the same objectives and priorities. PSLWR are designed to close that gap. Consideration, must therefore be given to all elements of the healthcare system; to the key values held by the stakeholders; the variables in patients attending, to the capabilities of the staff attending and to the overall performance of the system to keep patients safe. The healthcare systems that exist are both the solution and the problem.

4.6 Systems Theory

Within large hospitals, the culturally defined processes and human variables supporting the healthcare process, the professional interfaces, hand-offs, and latent disconnects that threaten patient safety, all require serious evaluation (Vincent, 2006). Even more importantly, where new technologies and a redesign of the hospital environment is introduced (referred to a socio technical system), it is critical to study

and refine the connections to existing processes through communication, collaboration and culture (Pawson and Tilley 1997).

4.6.1 Socio-Technical Systems

Understanding organisational behaviour as a component of an integrated socio-technical system began in the 1950s, at the Tavistock Institute of Human Relations in London. The initial studies examined the technical changes in English coalmines (Trist and Bamforth, 1951) and Indian weaving mills (Rice, 1958). The studies focused on the impact of mechanised systems on the existing work organisation (Trist *et al*, 1963). The studies found that, when new technologies were introduced to increase productivity it disrupted the social system within the workplace, decreasing both efficiency and effectiveness. These studies are relevant to healthcare as staff interact with technology every day. For example many tasks involve technical apparatus: from the simple process of taking a patient's temperature to complicated procedures like full body scans. The issue in safety terms relates to the work of Vincent (2003; Chapter 3) in regard to the latent failures that can occur around clinicians' ability to operate with competence the increasing number of technologies, yet take a chance drifting into failure to get the job done.

Technology plays an essential role in 21st Century Healthcare. The interaction between NHS staff and technology is not without risk as the Medicines and Healthcare Products Regulatory Agency (MHRA) points out. They receive over 8000 reports per year regarding incidents involving errors with NHS machines, particularly medication drip counters (MRHA, 2010). Five percent of these patients (around 400 per year) die as a result of erroneous treatments and encounters with health technologies. Recently, Currie and Finnegan (2009) have tried to explain some of the issues with socio technical systems explaining:

“The staff in roles that rely on one another to get the overall task done found that the new technology was making it more difficult for them to work together. The result was that the overall performance of the work system deteriorated. ”

(Currie and Finnegan, 2009:184)

Currie and Finnegan (2009) also point out that the way in which staff cope with this is to develop an over-ride system:

“Other outcomes are that only parts of the functionality of the new systems are adopted and users often devise elaborate workarounds to cope with the differences between what the system offers and what is required to get the job done.”

(Currie and Finnegan, 2009:184)

The above situation can be demonstrated further through the use of intravenous (IV) drip counters. Most IV systems have alarm functions to alert the operator (the nurse or doctor) if the system is mal-functioning. Usually, the alarm, a shrill sound, is triggered when the fluid is being delivered too fast or too slow, as a result of the measured drip counter having been set incorrectly. All of the infusion devices have an over-ride button. When the alarm sounds, staff frequently ‘blame’ the unreliable technology and over-ride the alarm by muting the facility or switching it off. This risky behaviour demonstrates the ways the socio-technical system influences patient safety and safe ‘drift into error’ contributing to the ‘safety culture’ within the organisation. The ways in which individuals and technologies interact are all part of the larger network of healthcare systems. Systems theory gives insight into how all of the individual parts play a role in organisational function and contribute to the overall ‘safety culture’.

4.6.2 History and Impact of Systems Theory

Systems theorists introduced the notion that, organisations are made up of several interacting parts and that these parts fundamentally affect functioning within the organisation (Kuhn, 1974; von Bertalanffy, 1974). The way in which large healthcare organisations operate including the different aspects of departments; different professional groups; numerous processes and patient contacts has a direct bearing on the safety culture within them. As highlighted in Chapter 3, Systems Theory is regularly applied to the analysis of adverse incidents to help understand the failures between separate departments and people. When considering the aspects of an organisational ‘safety culture’; it is important to understand the implications of the connecting parts of the organisation; like the ‘Swiss Cheese’ slices from Reason

(2003); the sum and the parts interact together under a variety of conditions. Systems theory provides a window into the overall understanding of a 'safety culture'.

The general management systems theories first introduced by Taylor (1911) and Ford (Flink, 1988), were aimed at standardising everything in manufacturing, including the workforce, as components of inputs and outputs that, could be altered to work faster and more efficiently. Remnants of Taylor's theories and Ford's practices remain in healthcare, where the application of standardised treatments is the norm when treating patients through evidence based medical procedures. As Chapter 2 demonstrated, staff have difficulty in applying standardised practice for every patient (McGlynn *et al*, 2003; Leatherman and Sutherland, 2004). Drucker (2007), for over 50 years, considered this mechanistic approach to work, in his empirical studies offering a different view; people hold the key. He studied managers and management, describing organisations not in terms of solid lumps of bricks and mortar but suggesting that, an 'organisation' could be defined by the interactions and relationships of the people within. These complex interactions between individuals and professional groups in healthcare are often referred to as a 'social system' (Berwick, 2003).

4.6.3 Health Care as a Social System

For almost fifty years, these interactions have tended to be referred to as, the 'social system' within hospital (Wilson, 1963; Rabkin, 1990). Social life is complex in its range and variability, and operates at different levels. It has "*many layers of meaning*" (Berger, 1966:12) and the researcher has to "*lift veils*" (Blumer, 1976:15) to discover the inner most meanings. As a qualitative researcher, in common with others so minded, I am interested in life as it is lived in real situations (Fearfull, 2005; Boor and Wood, 2006). These interactions become the 'life blood' of the 'organisational culture', building a network of shared beliefs, values and understandings, which implicitly inform behaviours. In this context, my interest is in the ability of the organisational culture to promote discussion on safety.

Reactions and interactions between staff provide members with a sense of identity, and are symbolically embodied and expressed through customs and practices of various kinds, as well as in more mundane ways through policies, guidelines, and procedure. In other words, they create the systems and the 'culture' in the organisation. In human systems like the NHS, structure includes the perceptions, goals, rules, and norms that people use to make decisions. Perception, goals, and norms in an organisation are agreed upon by repetition and practice, but these are mitigated by other circumstances. Professional boundaries or 'silos' (Firth-Cozens, 2002) influence behaviors of both individuals and groups and their practices. Brooks and Brown (2002) examined professional groups in hospitals and analysed the rituals and practices that helped sustain or remove the barriers to the traditional boundaries and their impact on the 'safety culture'. Carroll *et al*, (2002) highlighted the negative impact on safety of the traditional social individualistic behaviors of the medical profession as demonstrated in the Bristol (Kennedy, 2001) and The Mid Staffordshire reports (2010). At an early stage, learners are taught the goals and norms of the organisation by the existing staff.

Yet, the key elements seem simplistic when considered within the increasingly complex, and sometimes chaotic, hospital environment that seems to encourage the 'drift into failure' due to the latent conditions (Reason 2003). The science of Chaos Theory (Gleick, 1987) suggests that, relationships in complex organisations are non linear and made up of numerous interconnections and divergent choices that create, unintended effects and render the whole unpredictable (Reason *et al*, 1990; Vincent, 2003; Beck, 2001). In my experience, that perspective better reflect s the real world of daily hospital care. The next section will address chaos and complexity theory as applied to hospitals systems and consider the impact of such notion in practice, to the issue of patient safety.

4.7 Chaos and Complexity in the NHS System

“In complex systems, unpredictability and paradox are ever present, and some things will remain unknowable.”

(Pleseck and Greenhalgh, 2001:625)

The NHS is huge, being the largest employer in the UK. Thus, as mentioned above, the very nature, size and scope of NHS hospital care make it a complex and at times a chaotic place. Chaos and complexity theories (Marion, 1999) influence the context and culture of healthcare and patient safety. The huge increase in demand and the dramatic changes in the workforce (both numbers and skill) make it difficult to guarantee a stable working environment. However, with careful consideration, elements are recognisably repeated; even emergency care has predictable patterns (Lewis, 2010). It can be guaranteed that, in any inner city Accident and Emergency (A&E) Department, it will be busier at the weekends, with accident prone ‘Do It Yourself’ (DIY) enthusiasts, weekend walking injuries and the latest surge in injuries from garden trampoline activity (Wooton and Harris, 2007; Au Yeung *et al*, 2009). It can be appreciated then, that the healthcare system must be dynamic (Walsh, 2000) to cope with the potential turbulence of numerous interactions in practice that happen each and every day.

Dynamic systems behave in complex unpredictable and chaotic ways, making predictions of future behaviour impossible unless the basics of Chaos Theory are understood. Chaos and complexity theories can provide an understanding of the dynamic relationships between care and care givers within the hospital ward environment. They also help to explain some of the reasons why staff make mistakes and choose to ‘drift into error’.

4.7.1 Chaos Theory

Chaos can affect culture and safety. One of the early theorists was Gliek (1987), who identified that, as with past scientific approaches (e.g. Ford and Taylor), assumptions were made that the world progresses in a set way, ruled by laws and mathematics allowing accurate predictions to be made. Gliek offered another analysis suggesting that the key to mastering desired change begins with a focus on the whole system and the relationships of the interacting parts. Much, like the application of PSLWR chaos theory looks at the issue as a whole being the ‘sum of all of the parts’.

Gliek claimed each step in a system is both dependent on the previous steps to progress and also interconnected with surrounding activity. The implication of this interconnectivity is known as the ‘butterfly effect’. This term has become a popular Chaos Theory metaphor, and arises from the idea that a butterfly flapping its wings in one part of the world could cause a tornado or hurricane in a distant location (Gleick, 1987; Lorenz, 1993). Chaos Theory suggests that, systems are very sensitive to feedback and the smallest amount of variation can become exaggerated to produce major problems. Paradoxically, although the word ‘chaos’ generally denotes disorder and confusion, Chaos Theory is actually founded on the notion that even the most seemingly disordered processes involve a great deal of underlying or hidden order. Even variability in the increase in ‘trade’ at the A&E Departments of large city hospitals due to Saturday night revellers; or the increase in seasonal ‘Flu’ admissions during the winter months can be predicted. Through the chaos, patterns can appear.

However, even with the benefit of Chaos Theory, it is never possible to predict absolutely where some treatments will succeed and some fail even in relatively similar ‘types’ of patients with similar conditions. Giddens, (1991) work (discussed in Chapter 3) suggested that risk is inevitable and attempts to predict and manage are is fruitless. If we apply this notion to healthcare, where it is said that ‘rare events happen rarely’ many individuals will have little experience with high-risk events.

Giddens (2005) suggests the lack of experience in high hazard events invites chaos to patient safety events suggesting that:

“High-consequence risks have a distinctive quality. The more calamitous the hazards they involve, the less we have any real experience of what we risk: for if things 'go wrong', it is already too late.”

(Giddens, 1991:122)

From such notions of chaos, the complex nature of healthcare must be understood. A safety culture is one that understands and manages the complex environment (Clancy, 2007). Again PSLWR may offer the opportunity to bring an understanding of how complex the local hospital systems are and why chaotic situations happen.

4.7.2 Complexity

“Our systems are too complex to expect merely extraordinary people to perform perfectly 100 percent of the time. We as leaders have a responsibility to put in place systems to support safe practice.”

(Conway *et al*, 2004)

Complexity in practice pervades each individual patient’s care. On the one hand, individualised care is desirable for the patient to understand their disease and response to treatments. Another perspective might be that, the role of the autonomous practitioner creates an environment full of uncertainty where each doctor can carry out a procedure in any way that they choose, thereby compromising patient safety. The complexity of healthcare is constantly acting with and reacting to the internal and external culture and influences within the hospital environment. Some of the complexity is caused by high levels of activity, including, on a daily basis, the numerous appointments, hundreds of medications dispensed; and the hundreds of patients admitted and discharged from the hospital (ISD, 2010). Burton (2002:2) suggests that most complex systems have key features:

- Complex systems have multiple components
- Interaction between the parts can be unpredictable
- Complex systems interact and are sensitive to their environment

- Complex systems have a history and are sensitive to initial conditions
- Interactions between the elements are non linear. This means any action depends on the state of the elements at the time as well as the size of the input. Small inputs may have large effects and ‘*vice a versa*’
- Interactions can generate new properties called ‘emergent behaviours’ of the system that cannot be explained by studying the elements of the system, however much detail is known
- In complex systems emergent behaviours cannot be predicted
- Complex systems are open and when observed the observer becomes part of the system

Burton’s (2002) complex elements are evident in healthcare cultures. Throughout the hospital system and during their treatment cycles, patients meet lots of different staff, and engage with them in different contexts and for different purposes. The process can involve a whole range of individuals: administrators at first appointment; the general practitioner; professionals at each referral appointment, more on hospital admission and discharge home then community staff. In association with that, the process for a single patient journey involving a routine operation can involve many steps along the way. The more steps there are in a process; the increased likelihood of error. If a process has one step that is reliably done 95% of the time, there is then, a 95% chance that an individual will do the task correctly. Conversely, the individual will do the task incorrectly 5% of the time. The risk of error in a one step process is therefore low. However, when tasks require multiple steps by a range of individuals the opportunity for error is compounded. Each of the steps introduces opportunities for error. In a forty step process there is only a 12% chance that all of the steps will be done correctly (Resar *et al*, 2009).

“By simplifying the number and complexity of steps you can reduce the likelihood of error.”

(Resar *et al*, 2009:34)

These complex interactions also rely on evidence based practice to introduce some form of uniformity or reliability into patient care. Yet, the growth of evidence based practice also contributes to both safer and unsafe systems.

4.8 The Rising Tide of Evidence Based Practice

The NHS has a remarkable research and development culture and infrastructure as scientists search for new and advanced treatments for disease (McClellan, 2008). Treatments, procedures and technologies are constantly changing and this constant flux impacts on service delivery throughout. Keeping up with the vast range of literature regarding evidence-based medicine is a struggle, let alone putting that evidence into practice. For example, Alper *et al*, (2004) found that in general medicine alone; over 8,265 papers are published every month. He suggested that even Doctors trained in epidemiology would take an estimated 627.5 hours per month to evaluate these articles. Once 'well read', there is often the issue of the competencies required to apply this new knowledge, particularly where a new approach is necessary in order to do so. As a compromise, healthcare professionals have to choose what evidence to apply and which to ignore. To cope with the complicated processes and pressures within the healthcare systems, staff adapt, as we all do in everyday life, to the safe and unsafe systems that they encounter. We all navigate a course through the complexity by adapting our behaviour to cope with or avoid difficult situations. Healthcare organisations are often referred to as complex adaptive systems (Begun *et al*, 2003). More recently Panesare *et al*, (2010) suggested that an orthopaedic surgeon would need to read approximately 20 scientific academic articles everyday to keep up with the new knowledge published. I believe the success or failure of the application of evidence-based medicine is linked to the people dependant nuances and the context in which healthcare is provided.

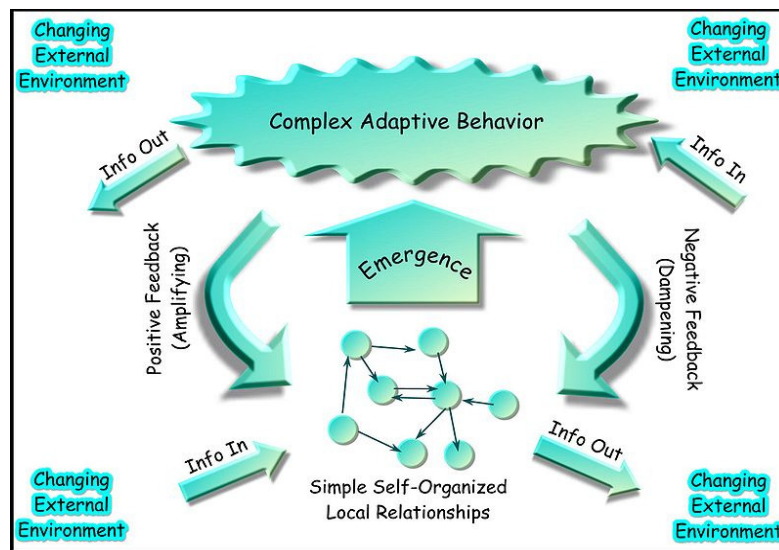
4.9 Complex Adaptive Systems

As has been demonstrated, providing healthcare in contemporary society is a complex business. This situation is somewhat removed from the nature of the service at its inception in 1948 when simple care systems were put in place to cater for hospital and community care. At present, the NHS has over 120 different staff groups with a range of hierarchies in each one providing care in a wide range of settings across both primary and acute care (the main staff groups are highlighted in Appendix 4.1). The complexity of NHS organisations and the numerous social interactions within them,

build a unique set of social structures for communication and adaptation, to navigate a path through the barriers and challenges of providing optimum patient care. Reinstein *et al*, (2005:1) suggests complex adaptive systems such as healthcare cannot be specifically managed in detail but leaders can focus on the system attributes ‘leverage points’ to make small important changes. PSLWR may be able to assist this process.

Complex adaptive systems explain the ways in which agents (e.g. healthcare staff) adapt (e.g. take short cuts) to cope with problems and issues (e.g. pressures to work harder and faster) to deal with everyday life referred to as ‘*local organised relationships*’ (Lewin, 1992:138). Using Lewin’s model (Figure 4.2 below) explains how people react to the ever-changing external environment based on the information they have.

Figure 4.2 Complex Adaptive Behaviour



(Adapted from Lewin, 1992:138)

According to Lewin’s model, individuals adapt to the problems they face by changing their behaviour based on the feedback given from other sources. Within the workplace, we all react in certain ways to our colleagues and the environment and culture around us. According to Lewin’s model above, if we receive negative feedback about our actions or behaviour we subsequently hide or cover up the actions

that triggered the negative response. Conversely, positive feedback produces positive reactions and individuals will emphasise and repeat the behaviours and actions that triggered positive feedback.

I have considered Lewin's model and applied it to the following scenario in the hospital environment (see box 4.2 below)

Box 4.1 Adapting to Complex Systems Example

Based on Figure 4.2

On a daily basis, in the busy surgical ward, the charge nurse admits several patients for operations in theatre. There are never enough beds for the patients until around 10am. Therefore, some patients have to wait in the ward lounge having pre-theatre tests undertaken within in the waiting area. The manager persistently tells the charge nurse that all patients must be admitted to a bed for safety reasons and if this is not done staff will be disciplined [negative feedback]. The charge nurse reacts and adapts his/her behaviour in response to the manager's reaction [based on the information in]. If the manager is angry that the patients have had to wait in the lounge the nurse will hide the fact that this happens on a regular basis [dampening]. If the manager is sympathetic and tries to offer help and support the nurse will adapt local behaviour and react positively. The system will be redesigned to ensure patients are not waiting to get additional support or resources [Amplifying].

The scenario above explains the social system (culture) and behaviours that exist in order for 'frontline' workers creating unspoken alliances to get 'through the day' or 'get the job done'. Explained in another way the systems and processes and culture can encourage clinicians to cover up when mistakes are made. Walsh and Shortell (2004:110) explains, individuals can encourage others to 'drift into error':

"Staff are being drawn into the 'bonds of transgression' to compensate for the shortfalls to help each other out and turn a blind eye to problems generally known about but not publically acknowledged."

(Walsh and Shortell, 2004:110)

As demonstrated, in the work of both Amalberti *et al*, (2005) and Reason (2003) these adaptive behaviours become the norm, and epitomise the complex adaptive systems (Plesek and Greenhalgh, 2001; Greenhalgh and Bate 2005). Avoidance and risky behaviours can compromise patient safety. It is the sharing of such activity that establishes a ‘culture of trust’ (Scott *et al*, 2003; Kane –Urabazo, 2006), or more likely a ‘blame culture’ (Edwards *et al*, 2002; Walton, 2004 and Waring, 2005), when addressing patient harm and issues of patient safety. The next section will consider the influence of trust and blame behaviours in relation to the ability of hospital systems to create opportunities to build trust and thus create a safety culture.

4.10 Trust and Blame

“Virtually every clinician knows the sickening feeling of making a bad mistake. You feel singled out and exposed – seized by the instinct to see if anyone has noticed. You agonise about what to do, whether to tell anyone, what to say. Later the event plays in your mind. You question your competence but fear being discovered. You know you should confess, but dread the prospect of potential punishment and of the patient’s anger.”

(Wu, 2000:726)

We all make mistakes. However, the intensity and the area in which the mistake is made make all the difference to our own reaction and those of others. Making errors in academia, purchasing, or communications may be rectified by an apology or some offer of financial recompense. In healthcare, the consequences can be, and often are, far greater, sometimes fatal, and often cannot be put right with apologies or money. Often the impact has a profound effect on everyone involved: the patient; their family and the doctors and nurses involved. When a patient is harmed those involved are likely to blame themselves. Wu *et al*, (2009) call this the ‘second victim’ situation. Leape (1994) suggests that one of the reasons why doctors have difficulties in dealing with error is because of the ‘culture’ of medical practice. Doctors are:

“...trained to aim for failure free practice and come to view error as a failure of character.....how can there be error without negligence?”

(Leape, 1994: 272)

Wu and Folkman, (1991) engaged with 254 junior hospital doctors asking them to describe the most significant mistake they had made in the past year. Nearly all of the events shared were serious, a third involved a death and the most common (52%) was missed diagnosis. Most of the mistakes were discussed with a clinical colleague in confidence, but only a quarter of the adverse incidents, were shared with the patient or their family. Over a quarter were worried about negative repercussions of sharing their errors, or feared being blamed as a consequence. When the outcome was favourable following the mistake, individuals felt they had ‘got away with it’ and had a sense of relief rather than guilt that they would not be blamed.

4.10.1 Blame

The Oxford English Dictionary defines, the verb, to blame as follows:

“to hold responsible and criticise for a fault or wrong.”

This definition suggests that blame can be considered the process by which society allocates shame. The UK National Audit Office (2008:2) has recently reported on the state of blame with regard to patient safety in NHS Trusts:

“The safety culture within Trusts is improving ... However, trusts are still predominantly reactive in response to patient safety issues and parts of some organisations still operate a ‘blame culture’.”

(NAO, 2008: 2)

In health care, making a mistake is hard to cope with from everyone’s perspective; and the ‘worse’ the outcome, the greater the ‘blame’ (Vincent, 2006:229). There is a certain infallibility surrounding healthcare professionals, particularly doctors because of the Hippocratic Oath “...*first do no harm*”. Empirical work by Vincent (2006) considered what makes mistakes hard to cope with in healthcare key points from this work are displayed in Box 4.2 below.

Box 4.2
What makes mistakes in healthcare hard to cope with?
<ul style="list-style-type: none"> • Poor outcome for patient and their family • Patient and or their family being angry or distressed • Being self critical • Departure from 'normal practice' • Blame and no support from friends, family or colleagues • Professional blame and criticism

(Adapted from Vincent, 2006b:232)

Mizrahi (1984) in a small survey (n=22) found half of the junior doctors had made serious errors in the first two months of their jobs. Gawande (2007) claims all doctors make terrible mistakes. When asking his surgical colleagues at top medical schools around the world about the mistakes they had made in the last year he found that:

“A general surgeon left a large metal instrument in a patient’s abdomen where it tore through the bowel and wall of the bladder. In another [incident] a cancer surgeon biopsied the wrong part of a woman’s breast and thereby delayed her diagnosis of cancer for months. A cardiac surgeon skipped a small but important step during a heart operation, thereby killing the patient...”

(Gawande, 2007:192)

The issue with these mistakes in healthcare is whether or not they are disclosed and discussed within the organisation to understand what went wrong and how to fix it. If practitioners believe they will be blamed as a result of the failure they will hide or cover up the errors and their consequences. As described by Parker *et al* (2006), blame is often revealed as a major factor that prevents disclosure of patient safety issues (Bristol Inquiry 2001). Some authors even blame the adverse incidents reporting system claiming it is used as a witch hunt:

“Existing systems are not trusted by doctors. It's meant to be confidential but the culture of 'no blame' isn't a reality in the NHS.”

(Bacon, 2004:7456)

There is certainly a view that blame discourages reporting and disclosure (Woodward *et al*, 2009). If errors go unreported, healthcare workers are less likely to admit mistakes to patients and make attempts to improve harmful systems (Soresen *et al*, 2008). Lawton and Parker's (2002) study of incident reporting in health care found that the occupational and professional hierarchies inhibit reporting. Professionals are typically reluctant to report their experiences of error, rule violation or poor performance to senior colleagues, because of the blame associated with 'whistle-blowing' and the assumption that it could inhibit career development.

However, we know that the overwhelming majority of adverse incidents are not the fault of any single person, but rather the result of a whole range of system problems (Reason, 2003) and thus we need to shift our emphasis to the system approach. In the new paradigm of a positive safety culture, apologies are given, errors are admitted and then changes are put in place to prevent them from happening again (Kohn *et al*, 2000). When an error happens and harm occurs, patients want to know; they need an explanation and apology (Hobgood *et al*, 2002). This can only happen when the clinicians have trust and support from within the organisation; trust from their peers; trust from patients and their families and trust in the management and leadership, to review the system that caused the error and not to blame the individual.

4.10.2 Trust

A culture of trust is an essential part of health care; not only between clinicians and patients but also between staff and professional groups and managers. The nature and importance of trust in a healthcare context has been investigated over the years (Mechanic, 1996; Rowe and Calman, 2006; Hall, 2005 and Smith, 2005). Conventionally trust is taken to signify:

"....a coordinating mechanism based on shared values and norms supporting collective co-operation with uncertain environments."

(Reed, 2001:439)

In the context of organisational culture, the absence of trust is sometimes revealed through the existence of undercover systems and processes that inform and involve risky behaviours in practice driven by cultural censorship. Cultural censorship limits and controls what goes on in the organisation. Sherriff (2000:114) argues that:

“Cultural censorship is a socially shared silence which plays a critical, yet, often invisible role in shaping, not only private experience, but also the politically charged social relationships that, make up public life.”

(Sherriff, 2000:114)

When applied to patient safety and adverse incident reporting distrust is common place as:

“It is suggested that, cultural censorship may be so deeply embedded in Western healthcare systems that, the introduction of mandatory reporting schemes may simply drive mishaps, mistakes and even malpractice underground, to flourish in the underside of organisational life.”

(Hart and Hazelgrove, 2001:257)

Disclosure of harmful events or admission of ‘drifting into error’ requires an ‘open culture’ free from censorship and based on trust. Giddens (1991:41) claimed that ‘trust’, by its very nature, is in a certain sense creative, because it requires a commitment that is a ‘*leap into the unknown*’, placing those participating into a ‘hostage to fortune situation’ which implies a readiness to embrace new experiences. In patient safety terms Bark *et al*, (1997) consider that a particularly effective strategy to build a culture of trust is for senior staff to talk openly about past mistakes; be open about error; its frequency and problems caused. The intention of my empirical work was to explore the relationships through a dialogue about safety between managers and frontline staff. Would they trust each other to have a conversation about the local aspects of patient safety during the PSLWR? Reason’s work suggests (1997) a ‘culture of trust’ will exist where people are encouraged and even rewarded to provide essential safety related information.

Trust is intimately related to risk (Sztompka, 1999:29). A culture of trust is one which enhances security and encourages openness. Fox (1974: 67-68) argued many years ago that:

“The essential character of all trust relationships is their reciprocal nature. Trust tends to evoke trust; distrust to evoke distrust....as trust shrinks distrust takes over.”

(Fox 1974: 67-68)

To develop a ‘culture of safety’, there are expectations that the staff groups and individuals working in healthcare, will trust the organisational management systems and each other, to be open and honest about the ways in which, safety is compromised. Several authors suggest leadership holds the key to the exploration and role modelling of behaviours to encourage disclosure of the unsafe systems (Mhor *et al*, 2002; Shortell and Singer 2008 and Leape, 2009a).

4.11 Leadership for Safety

“Leaders are people who do the ‘right things’ and managers are people who do ‘things right’. Leaders are interested in direction, vision, goals, objectives, intention, purpose, and effectiveness - the right things. Managers are interested in efficiency, the how-to, the day-to-day, the short run of doing things right.”

(Bennis, 1995: 6)

The importance of leadership for effective safety management has been the focus of industry research for several years, particularly in the manufacturing; energy and aviation industries (Ginnett, 1993; Reason, 1997; Falluco, 2002; Cullen, 2003, Yule, 2003 and Flin and Yule, 2004). However, the concern about patient safety has tended to target, almost exclusively, the frontline staff with a view to identifying where they have made omissions; mistakes; and rule violations (Flin and Arbuthnot, 2002). As demonstrated in the hospital failures in Bristol Infirmary and the Mid Staffordshire Trust, the most common reason for failure of large systems to improve safety, is the failure of the leadership team to function as an effective team. Yet, the corporate expectations of NHS leaders are clear and stated within The Code of Conduct for NHS Managers (DoH, 2002: 268) which reads: *“As an NHS Manager, I will...make the care and safety of my patients my first concern and act to protect them from risk”*.

At a higher level ‘*Governing the NHS*’ advises NHS Boards and reminds them:

“The duty of an NHS Board is to add value to the organisation, enabling it to deliver healthcare and health improvement within the law and without causing harm....It is the duty to the board to ensure that the quality and safety of patient care is not pushed from the agenda by immediate operational issues”

(Department of Health, 2003:9 and 11)

Despite the clear guidance, stated above, serious harm happens in all healthcare systems, as highlighted in the policy and practice review of the literature in Chapter 2. Some leaders may hold the view that, ‘it could never happen here’. There is recognition that, without the commitment of organisational leaders the changes required within healthcare organisations will not be made (Donaldson, 2001). Senior leaders have both the responsibility and the authority to position patient safety as a strategic priority in the NHS. Issues identified as a strategic priority for all staff have a spotlight on them and as such become the key focus of the leadership’s attention.

The Institute of Healthcare Improvement (IHI, 2005:4) emphasises this point claiming that “*the currency of leadership is attention*”. It might be added that, such attention should be focused in safety terms on; data regarding the level of harm; on understanding the system or latent factors that produce error provoking conditions; on praising staff for disclosing error and promising patients improvements in safety. To achieve system level changes and create a culture of safety, the leaders in the organisation must monitor, support and remove barriers that inhibit patient safety improvements. Improving patient safety is a component of everyone’s job within the NHS. However, senior leaders play a critical role in promoting and supporting the necessary teamwork and collaboration to build a culture of safety.

One of the hallmarks of a safe organisation is that, it is ‘preoccupied with failure’ (Kalisch and Aebersold, 2006:143). From my own observations, leaders focused on safety, routinely and consistently, monitor their own environment to assess what could go wrong. By targeting the systems that support quality and safety, senior

leaders can improve the lives of patients and their families and indeed those of their own staff.

Flin and Yule (2004) highlighted there has been very little research into leadership and safety in healthcare settings. My empirical work will explore that gap by examining the involvement of leadership in patient safety activity through PSLWR. It is suggested that leadership involvement in patient safety improves the safety culture within the organisation. Botwinick *et al*, (2006:3) in particular claim that:

“Only senior leaders can productively direct efforts in Healthcare organisations to foster the culture and commitment required to address the underlying systems and causes of medical errors and harm to patients.”

(Botwinick, 2006:3)

Morath (2004:288) concurs by suggesting that to be successful in improving patient safety leaders must have:

“The willingness and enthusiasm to do the ‘heavy lifting’ of the work of patient safety and the courage to stay the course and model the way is the senior leaders role in aligning operations to build systems that do no harm.”

(Morath, 2004:288)

My research begins by considering that, role modelling behaviour of leaders in PSLWR are an invitation by the senior executives, to create a dialogue with frontline staff to talk exclusively, about local patient safety issues. Bringing staff together to discuss safety legitimises and invites conversations about the unsafe systems and practices (Morath, 2004).

Although, it is clear that leaders in the NHS are responsible and accountable for patient safety, to be effective this must be borne out in actions and demonstrations to reduce harm. This is often a difficult in the current financially constrained healthcare environment.

4.12 Conclusions from the Literature Review

The three literature review (Chapters 2, 3 and 4) have presented and discussed the theoretical and empirical work relating to harm in healthcare. In summary, my review of the literature shows that:

- Several large studies have identified that there are significant rates of harm in healthcare with wide ranging rates from 8-47% (Mc Glynn *et al*, 2003, Leatherman and Sutherland, 2004; Vincent, 2008).
- Counting error does not necessarily reduce harm. The National Patient Safety Agency (NPSA) gathers adverse incident data from England, Wales and Northern Ireland not in Scotland. These large databases show that the same types of events are reported year on year suggesting a failure to learn and change practice to reduce harm (NAO, 2005).
- Even when there are hospital systems to make reports on errors and harm, detecting the level of adverse incidents is an elusive and complex science. Using voluntary reporting produces low levels of capture and cannot capture all harmful events (House of Commons, 2009).
- The reporting systems are reactive and underreporting can range from 5% to 95% (Barach, 2000; NAO, 2005; House of Commons, 2009)
- Improving patient safety is a policy priority (DoH, 2008; SGHD, 2010) to develop health care systems with a positive ‘culture of safety’.
- Yet, a ‘culture of blame’ is identifiable on the occasion of most system failures in hospital adverse incidents (Kennedy, 2001; Mid Staffordshire, 2010)
- Finding and understanding the causes of error and harm are still relatively primitive (Amalberti *et al*, 2006, 2009; Vincent, 2006, 2008, 2010)

- Sharing and learning from these errors is difficult as the reporting mechanisms are not standardised and each organisation has a locally designed system (NAO, 2005).
- Some professionals are reluctant to disclose the mistakes that they make for fear of blame. The disclosure of adverse incidents has, for some, resulted in punishment and criminal prosecutions rather than support, changing and learning (Kennedy, 2001; Lomas, 2009).
- Healthcare staff regularly fails to recognise and discuss when they themselves or the system begins to drift into failure, leading to high levels of risk in practice. This drift is cited (Rasmussen, 2003; Amalberti *et al*, 2006) in several high profile adverse incidents reports (Kennedy, 2001 and Mid Staffordshire, 2010)

4.13 Research Objectives

Given that my research sought to examine the extent to which hospital staff ‘drift into error’ when dealing with patients (Amalberti *et al*, 2003, Dekker 2011), my literature search centred round that notion and informed the development of the following research objectives:

- To collect preliminary data on the introduction of a new method to address patient safety within one Scottish NHS healthcare system.
- To update and extend the limited existing data on the use and implementation of the PSLWR processes
- To update and extend the methods of detecting error and harm in healthcare
- To use this information as a means of informing both local and national policy and practice

Table 4.1 (below) summarises the literature and links the research objectives and key research questions to be addressed in my empirical work. I will use PSLWR to engage staff and leaders in patient safety conversations as an additional means to reduce harm.

Table 4.1 Literature Summary and Research Objectives		
Chapter	Main Conclusions	Research Objectives
Chapter 2	<p>Improving Patient safety is a national policy priority but has had limited impact Current systems of counting adverse incidents do not reduce harm.</p> <p>Prevention is limited as organisational systems fail to put changes in place to prevent recurrence</p> <p>The patient safety leadership walk round system (PSLWR) developed in the USA provides a promising model</p>	<p>To update and extend the limited existing data on the use and implementation of the PSLWR processes</p> <p>To update and extend the methods of detecting error and harm in healthcare</p>
Chapter 3	<p>Risk is inevitable in healthcare.</p> <p>Detecting, recording and addressing adverse incidents is difficult</p> <p>Current mechanisms to detect harm are reactive after the event; it is too late for the patient.</p> <p>Error and harm are separate issues.</p> <p>Everyone makes mistakes and we all drift into error to 'get the job done'.</p>	<p>To collect preliminary data on the introduction of a new method to address patient safety within one Scottish NHS healthcare system.</p>
Chapter 4	<p>The complex structures and processes in health care and the culture of the NHS make it difficult for staff to engage in patient safety solutions. A culture of blame persists.</p> <p>Leadership plays a key role in influencing the importance of patient safety within hospital systems. Building trusting relationships between hospital professionals has the potential to encourage open dialogue about harm in healthcare</p>	<p>To use this information as a means of informing both local and national policy and practice</p>

4.14 Research Questions

The literature review has led me to devise an approach through which to conduct my own research in this area. I decided to adopt the PSLWR technique as a means of engaging all levels of staff in discussion regarding the patient safety issues that they deal with on a daily basis. From this, I have reasoned, it is imperative to have knowledge of the hospital system. Thus, the most appropriate approach for my study would be the adoption of qualitative methods to examine, staff participation and patient safety discussions. I also carried out semi-structured interviews to understand what staff thought of the PSLWR process. My intention was to investigate the phenomenon of PSLWR in the natural setting of a Scottish healthcare system - NHS Tayside.

The review of the literature identified gaps in patient safety and the development of 4 key objectives above (Table 4.1 above) which led to 4 key research questions to achieve the objectives presented in Box 4.4 below.

Box 4.3 Research Questions

- To what extent would staff engage in the PSLWR process and discuss patient safety issues?
- To what extent could the PSLWR generate discussions:
 - to identify new or additional information regarding patient safety?
 - related to staff taking shortcuts underpinned by Amalberti *et al*, (2006) theory of ‘drifting into error’?
- To what degree would/could the actions agreed during PSLWR discussions be implemented and/or completed?
- What were the perceptions and reflections of the participants within NHS Tayside of the PSWR process?

To illuminate the context of my empirical work, the next chapter will detail the context and background of the NHS followed by a summary history of the case study organisation- NHS Tayside. The Organisation's approach to patient safety and the design and implementation of PSLWR will be included.

Chapter 5

The NHS Background and Context

“The NHS employs more than 1.7m people. Of those, just under half are clinically qualified, including 120,000 hospital doctors, 40,000 general practitioners (GPs), 400,000 nurses and 25,000 ambulance staff. Only the Chinese People’s Liberation Army, the Wal-Mart supermarket chain and the Indian Railways directly employ more people.”

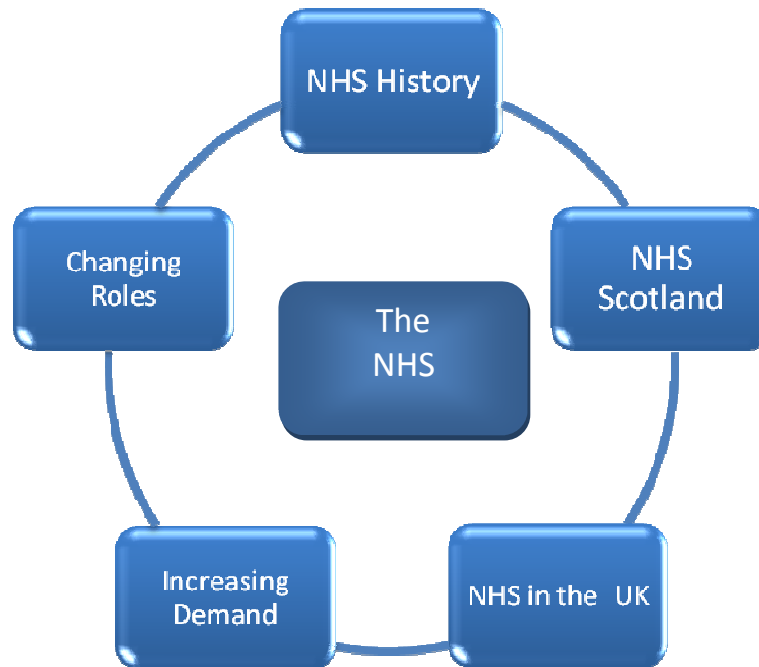
(NHS Choices, 2009:1)

5.1 Introduction

The previous three literature review chapters highlighted the problem of patient safety and set out the framework for this thesis focused on why clinical staff ‘drift into error’. Chapter 5 will provide the background and history of healthcare provision in the UK and provide detailed context for the case study organisation. Davies (2002) highlighted that understanding context is crucial to case study research. Therefore, the environment in which NHS practitioners work, is important to better understanding of my empirical work, regarding challenges, successes and failures in patient safety thus far.

Within the UK NHS, many disciplines and different services are responsible for providing care. Improving safety requires everyone to participate. Often, the implementation of safety improvements will require a mechanism to overcome the resistance implicitly embedded within the traditions, customs and historical dominance of medical practice (Willis, 1983; Adamson *et al*, 1995 and Coburn, 2006). This medical resistance has around since the NHS began. Chapter 5 will present an overview of the NHS framed around themes for discussion presented in Figure 5.1 below.

Figure 5.1 Chapter 5 Discussion Themes



5.2 NHS History-the new NHS

The UK National Health Service (NHS) celebrated its 60th birthday on 5 July 2008. The NHS is the biggest service of its kind in the world. In a typical day, the NHS treats over one and a half million patients. It is popularly regarded as one of the most remarkable achievements of post war Britain (BBC, 2008).

Yet, the National Health Service very nearly did not happen at all. The Conservative Party and the national press were bitterly opposed to the plan to introduce such a service in the months leading to its launch. Surprisingly, the most vicious and vocal opponents were the very people its existence depended on, the professionals - surgeons, nurses, dentists and Britain's 20,000 doctors. Their reaction might have been predictable on two counts: first they might have feared that their income may be affected by the new system, as they were paid directly by the patients. A second worry might have been related to their independent, professional, autonomous status which, they could have perceived, might be challenged, by the collective hospital

approach. To get the NHS established required the perseverance and resolve of one man – Aneurin (Nye) Bevan, the Labour Party's then Minister of Health.

No additional nurse or doctor positions were created for the introduction of NHS, nor were additional beds introduced in order to meet the inevitable growth in demand for its services. Bevan merely nationalised the existing system across the UK. This revolutionary change in healthcare provision was developed to make all services available to everyone and free (no direct cost to users). A separate Scottish NHS Bill was ready early in 1946, but was delayed in case it caused problems for Bevan with the Bill for England and Wales. The Scottish NHS had a solid foundation to build on.

5.3 Scotland was different

The context into which the Scottish NHS was to be introduced was different from that in England and Wales. Half of Scotland was already covered by a state-funded health system directly managed from Edinburgh to serve the whole community. The other half comprised of independent General Practitioners (GP). As such, the NHS did not suddenly appear in Scotland from nothing on the 5th of July in 1948. The Highlands and Islands Medical Service (HIMS) had existed for 35 years. In addition, during the war years, a state-funded hospital building programme was developed in Scotland on a scale unheard of in Europe. Closer and well-established working relationships between doctors, civil servants and universities existed in Scotland, than were present in England and Wales. All of these arrangements were incorporated into the new Scottish NHS.

There were other important differences in the NHS in Scotland. Administrative devolution in the 1940s enabled a growth of a separate civil service in Edinburgh with direct, hands-on experience of running health services. There was no equivalent in the rest of the UK. Scotland's medical schools also had a clear role within the new regional hospital boards. They were included in the hospital arrangements from the outset.

For the 60th anniversary celebrations of the NHS in Scotland, the Scottish Government Health Department (2008) used the metaphor of the birth of a baby to describe the impact of the launch of the NHS in Scotland (Box 5.1 below).

Box 5.1 The NHS in Scotland
<p>The Scottish (NHS) ‘baby’ was:</p> <ul style="list-style-type: none">• a ‘wanted child’ – welcomed by the public with a future course set out in detail in previous Scottish national recommendations• created with its own distinct legal identity <i>via</i> a separate Act of Parliament• almost irresistible. The voluntary hospital system was financially crippled• already in a family with two older siblings in the HIMS and the Emergency Hospital Service.

(Adapted from SGHD, 2008:4)

The cultural differences between the National Health Services of Scotland and England are important to my empirical work. The history and infrastructure contexts of the Scottish NHS enable an understanding of the way a ‘typical’ NHS organisation in Scotland operates and influences the beliefs, discussions and practices of those providing services.

5.4 The NHS in the UK Today

It may be assumed by the general public and by those outside the UK, that the NHS provides one healthcare system for the whole country. In fact, as demonstrated above, the UK has a devolved political infrastructure and a different approach to healthcare in each constituent country. Each of the 4 UK countries England, Wales, Northern Ireland (NI) and Scotland has devolved Governments, free to establish an autonomous infrastructure to deliver healthcare. A short synopsis of the arrangements, specific to each country is highlighted below.

5.4.1 England

The NHS in England is managed from the Department of Health in Westminster, London. Throughout England there are three levels of organisational structure: the Strategic Health Authority (commissioners); the Trusts (providers) a regional group of hospitals and individual hospitals. A degree of competition exists in the English NHS, this being facilitated through a grading system that awards high performing Trusts with 'foundation status' which allows them to generate income to support services and to reinvest any surplus. All patients have a choice of which hospital they would like to attend. These arrangements create a number of issues in relation to matters of safety and the need for improvements: market forces on improving efficiency, not necessarily safety; and competition between hospitals create barriers for sharing and learning.

5.4.2 Northern Ireland (NI)

The NHS in NI has a devolved Government department for the delivery of Health and Social Care with a political connection to the DoH in England. The DoH, Social Services and Public Safety was created in 1999 as part of the NI Executive by the NI Act 1998 and the Departments (NI) Order 1999. In 2009, the NI Health Service undertook a national review to create 5 Healthcare Trusts. Each Trust has multiple individual hospitals within it.

5.4.3 Wales

The Welsh Assembly is responsible for the delivery of services to 3 million people resident in Wales. The Assembly Government allocates resources each year to local health boards and the Health Commission Wales to pay for the costs of hospital treatments provided by NHS Trusts and other independent healthcare providers.

The summaries above are intended to create a backdrop of the NHS in the UK to put Scotland's services in context of the wider systems.

The above summaries demonstrate similarities between the NHS in England, Wales and NI in the following ways:

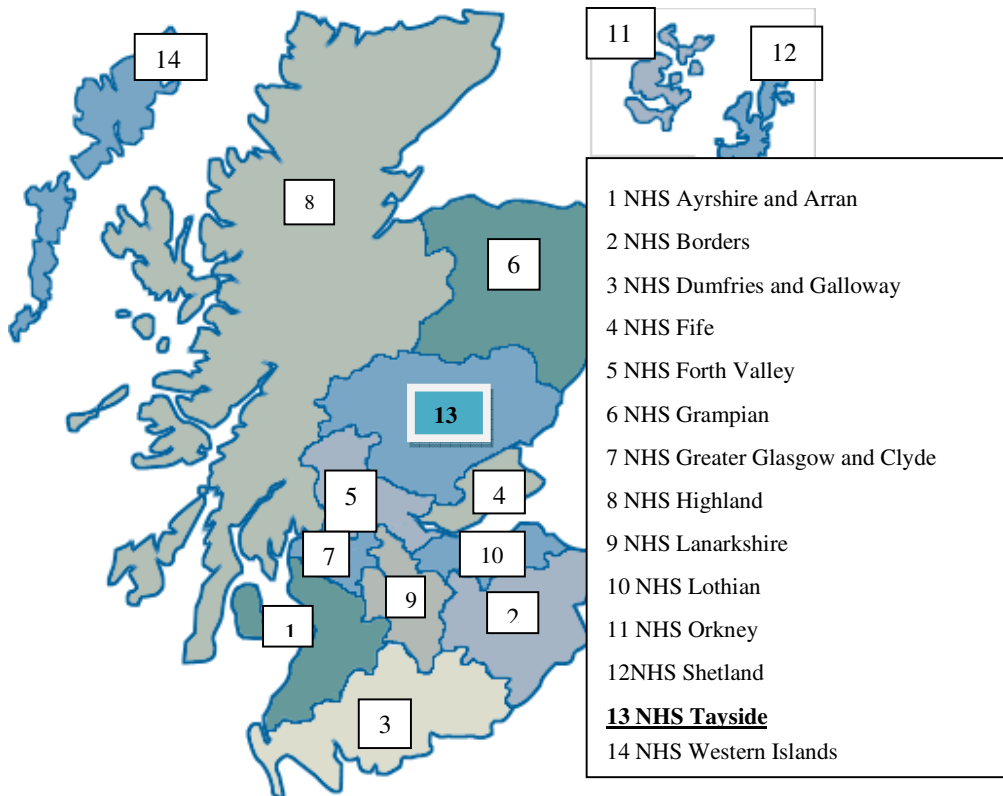
- commissioning care services are separated managerially from providers
- hospital systems are grouped in Trusts
- primary care and acute care have separate management structures

However from the patient's perspective any differences are minimal. Patients' experiences in accessing services anywhere in the UK should be the same. The nuances are in structural terms and how care is organised. In the next section I'm going to provide details on the NHS Scottish system drawing out where it is dissimilar to those above and thus showing its distinctiveness. In this way, I can demonstrate its distinctive and unique features thus, the context for my analysis within this thesis.

5.5 Scotland

The NHS in Scotland is free at the point of delivery and available to all of Scotland's 5.1 million people (General Register Office, 2006). Devolved from DoH in England, the SGHD allocate the budget (£8 billion in 2006/7) to the 14 Territorial Boards (Figure 5.2). These Boards range in size from Greater Glasgow and Clyde with 44,000 staff to Scotland's three island archipelagos with around 500 staff in total (SHOW, 2010). Each regional Board provides health care for the local population through an integrated management structure for primary care (in the community) and acute hospital services. The Scottish NHS system is designed to enable integration as there is one management structure overseeing the services which are organised and delivered within each board area. Such an infrastructure should support sharing and learning to improve safety. The approach in Scotland is designed to emphasise integration and professional collaboration as the means of improving services. A number of services are also provided on a national basis, for example heart surgery, specialist children's services, specialist cancer treatments, where the delivery of each is provided through dedicated centres in Scotland.

Figure 5.2 Scotland's Health Board Regions



(Adapted from Scottish Government Health Boards SHOW, 2010)

5.5.1 The Size of the NHS in Scotland

The NHS in Scotland is the country's largest employer with around 157,000 staff. Approximately, 3.2% of the population work in healthcare (ISD, 2009). NHS staff are involved in over 6 million patient contacts each year in the process of healthcare delivery (Table 5.1 ISD, 2007). The scale and complexity of this level of activity creates problems, particularly in relation to patient safety. Patients often criticise local services for what they view as, the fragmented approach to service delivery involving, as it does, interaction with a large number of different professionals, and often poor systems of communication, between hospital and community care (SPSO, 2006).

Table 5.1 Summary of NHS Scotland Statistics 2006	
Summary of NHS Scotland Statistics 2006	
Staff	157,986
Patient contacts	6,300,000
In patient discharges	1,550,00

(ISD, 2007)

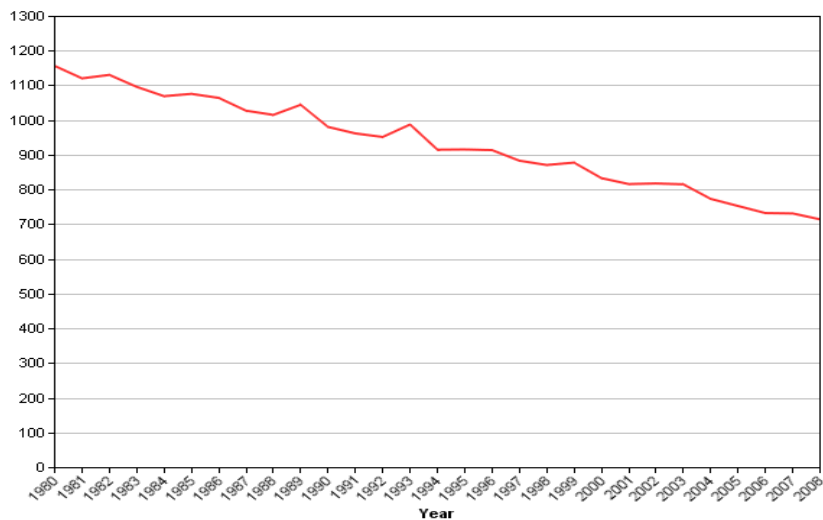
In the following four sections, I will build on the background of the NHS in Scotland and consider the contextual issues that influence patient safety in practice with an emphasis on:

- Increasing demand for health services by the population (Culyer and Cullis, 2009; Mannion, 2009 and DoH, 2010)
- The increasing complexity of health care provision (Kenrick, 2004)
- Professional and policy changes that affected the working hours, shift patterns and responsibilities of almost all healthcare staff (Directive 2003/88/EC; DoH, 2004 a and b; Tooke, 2008)
- The demands of the population and politicians to constantly deliver improvement against a wide range of performance targets (SGHD, 2010)

5.6 Increasing Demand and the Demographic Time Bomb

People are living longer. In Scotland, mortality (the likelihood of dying) from treatments and medical interventions was the lowest ever recorded in 2008 (Scottish Public Health Observatory, 2009) presented in Figure 5.3 below.

Figure 5.3 Scotland Trend in all-cause deaths 1980-2008
Standardised rates per 100,000 population



(Scottish Public Health Observatory, 2009)

As we age, our need for healthcare generally increases. In common with other European countries, Scotland has an ageing population. It is worth pointing out that this tendency towards an aging population is, in part, due to healthcare improvements over the years, along with the readily available, life extending and life enhancing medications for the elderly. However, with finite resources in regard to both facilities and staff, there is ultimately a knock on effect on safety as staff struggle with hospital bed availability and waiting times for treatments (Martin *et al*, 2003). This situation is likely to become more challenging over time. Recent reports predict a financial shortfall for all hospital systems for 2010-2011 (Audit Scotland, 2009).

The proportion of people aged 65 and over in Scotland is projected to increase from 16 % in 2008 to 23 per cent by 2033 (General Register Office for Scotland, 2006). These population changes are often referred to in a metaphoric sense as the ‘demographic time bomb’ (Hewitt, 2008). To better demonstrate the issue, Figures 5.4 and 5.5 show a graphical representation of the Scottish population demonstrating a change in shape from a pyramid shape, where the majority of the population were young in 1951, to a shape which can be likened to that of a ‘super oil tanker’ for the predicted population for 2011; where bulk of the population are older (40-75).

Figure 5.4 Population Pyramid Male/Female

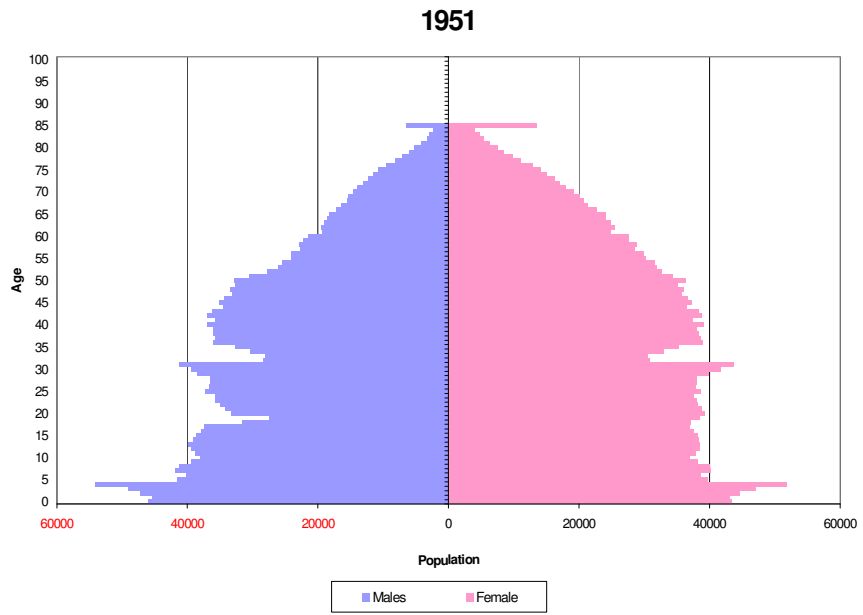
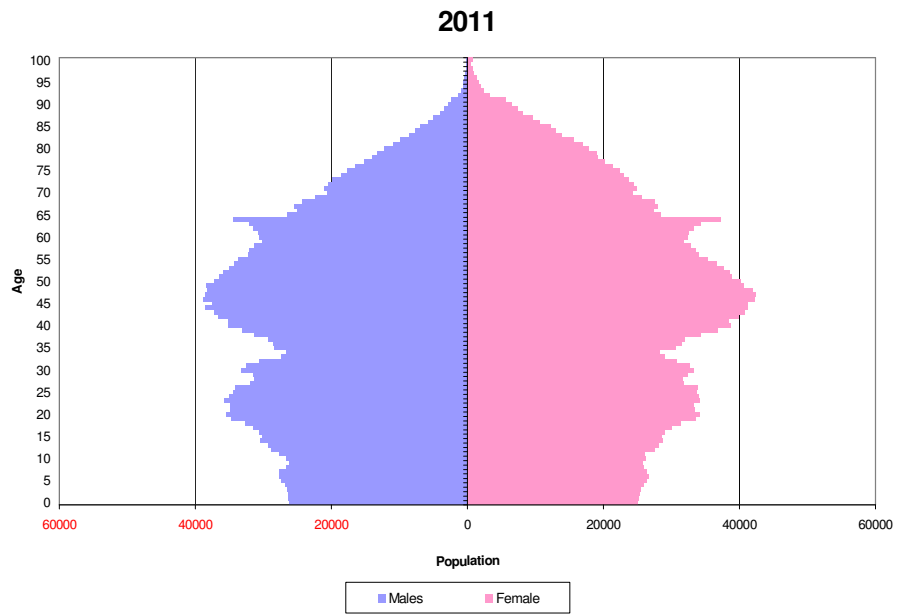


Figure 5.5 Population Pyramid Male/Female

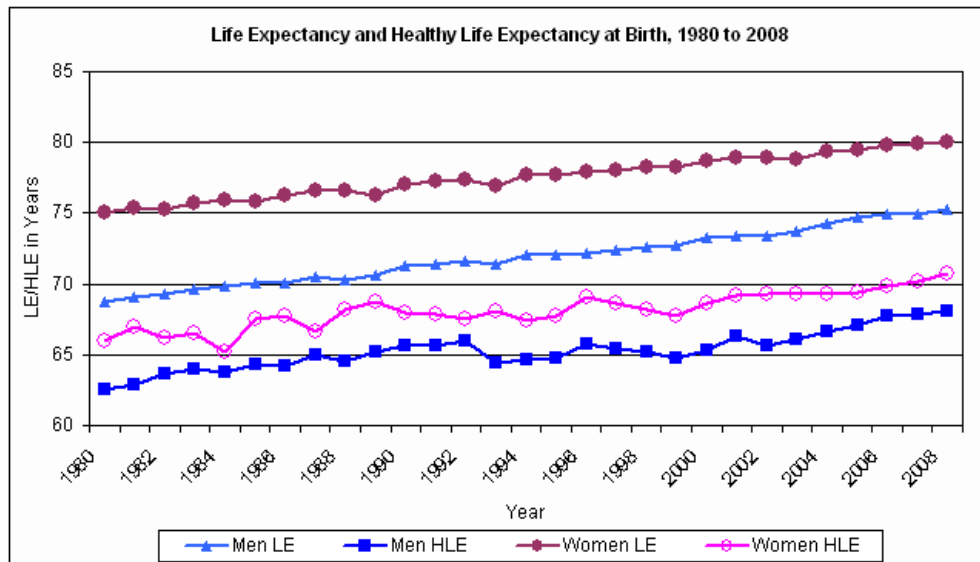


(General Registrar Office for Scotland, 2006)

5.7 Life Expectancy

Government policies on disease prevention and target treatment timescales have also, had an impact on increasing the use of health services (Lewis and Marshall, 2005). The extensive range of population based screening programs to detect disease; for example cancers (including breast, bowel, prostate, and cervical) increase use of the service potentially compromising the guarantee to treat within 18 weeks. As we age, the likelihood that we will develop diseases that require a lifetime of treatments increases, this being due, in part, to the success of healthcare in increasing life expectancy as demonstrated in Figure 5.6 below.

Figure 5.6 Life expectancy 1980-2008



(ISD, 2008)

More than 66% of the over 65s have at least one long-term condition. A few examples of such conditions include: asthma, diabetes, epilepsy, skin conditions, cancer, high blood pressure; heart disease; arthritis; ME; chronic pain; Alzheimer's; stroke and mental health problems.

These diseases require frequent monitoring and can become complex, whereby several medications are required. Poly pharmacy (the need for multiple medications) accounts for over 17% of adverse incidents (Colley and Lucas, 1993) and around 10 to 40% of all medical hospital admissions (Budnitz *et al*, 2007 and Creswell *et al*, 2007).

Add to that, the relatively simple fact of monitoring long term conditions, for example: coronary heart disease, high blood pressure, and diabetes, all of which require regular health checks and regular hospitalisation (SGHD, 2009). However, such increases in the requirement for care have not been matched with appropriate, relative, increases in staffing. In fact, shortages in healthcare staff have been an ongoing issue highlighted in the literature over the last decade (DoH, 2000a; NMC, 2002; RCN, 2002; Bureau of Health Professions, 2002; Bach, 2003; Goldachre *et al*, 2004; Batata, 2005 and Buchan, 2009).

The growing need for treatments compounded by increasingly limited resources puts pressure on hospital usage, with many hospital wards in large acute hospitals recording over 90% bed occupancy (NHS Tayside, 2010). High patient activity has a bearing on safety (DoH, 2006b:11) when hospital wards are busy:

“There was also a lot of peer pressure – especially for junior staff – to conform to this basic deviation from safety procedures to cope with the workload. Not adhering to basic safety procedures, such as giving a drug without checking the prescription chart and not checking it was the right patient identification frequently. It was tolerated as ‘the cost of doing business in a busy department’. A prevailing culture of ‘helping each other’, especially when staff were stretched, had inadvertently increased the risks to patients.”

(DoH, 2006b:11)

To make matters worse, the skill mix of the staff groups providing care recently underwent a major shakeup. The changes began with a reduction in junior doctors’ hours. This reduction was not always automatically or effectively counter balanced by an increase in the numbers of junior doctors or any other health professional for that matter. As a consequence, there is a tendency towards more work for others since

the volume of work does not reduce in accordance with the lessening of staff numbers. In other words, staff are in the position of constantly trying to do more with less.

The next section extends this theme by through a discussion of the impact of radical workforce changes on patient safety.

5.8 Changing Roles

The problems of increasing demand have been compounded by major Policy changes to workforce planning in the NHS workforce structure, in particular the influence of:

- The European Working Time Directive (EWTD) (1993)
- Modernising Medical Careers (DoH, 2004a)

5.8.1 The European Working Time Directive

The EWTD (1993) is a collection of regulations intended to limit the hours of work of each individual with regular break times between shifts. The EWTD legislation had a profound effect upon healthcare workers, particularly junior doctors, who had traditionally been required to be resident on site when 'on call'. Key features of the EWTD include: limitations on the maximum length of a working week; mandated as 48 hours in 7 days; and a minimum rest period of 11 hours in each 24 hours. Such limitations are buttressed by research elsewhere that has suggested fatigue, chaotic shift patterns and long hours contribute to patient harm (Friedman *et al*, 1973; Gaba and Howard, 2000 and Harrison *et al*, 2007).

Although the legislation affected all 'on call' workers and those working shift patterns, the biggest impact in the NHS, as suggested above, came through the limitations placed on the hours and working patterns of junior doctors. The EWTD has led to a dramatic increase in the required numbers of junior doctors needed to cover every 24-hour period. Given the higher and longer term demand for healthcare highlighted in the previous section; fewer professionals in one area or at one level

leads to the requirement of more at another in order to secure the breach. A reduction the numbers of junior doctors resulted in more work for the other members of the healthcare team including senior doctors.

5.8.2 Team Working

Providing healthcare is not undertaken by one discipline. Over 120 disciplines provide different elements of services within the wider healthcare team: Hospital clinic administrators arrange patient appointments; both doctors and nurses see and treat patients; pharmacists review and arrange medications, porters transfer the patients around the hospital for tests, theatre staff perform operating procedures and cleaning, and estates personnel ensure the environment is clean and safe. The issue of how the collective teams address patient safety is a fundamental part of my empirical work.

Research by the Royal College of Surgeons (RCS)(2009) contended that the EWTD has been detrimental for both patient care and medical training. The research found that very few hospitals were compliant with the 48 hour rule and found that there were not enough surgeons to fill rotas if they worked only 48 hours a week (RCS, 2009). These findings correspond with Goddard *et al*, (2009:4) in their study of over 700 doctors where they found examples of:

“Consultants sleeping in hospitals to cover short notice night-time rota gaps in hospitals, with many of them [...] expected to work as normal the following day.”

(Goddard, 2009: 4)

As part of the NHS response to the pressure on doctor’s hours, a wide range of educational programs for other disciplines was introduced to create specialist practitioners. A specialist practitioner has additional training to enable them to perform more complex treatments and duties, for example: undertaking minor surgical procedures (under local anaesthetic) and prescribing medications. Nurses, midwives, and the Allied Health Professionals (for example Physiotherapists, podiatrists, speech therapists) thus extended their competencies to bridge the huge gap created by the reduction medical staff hours and availability.

The additional training programs took years to develop and implement (Kneebone *et al*, 2006 and Sim *et al*, 2007) and only recently the European Union (EU) Commission admitted that, as a result of the EWTD:

“A staffing deficit will emerge, particularly in highly skilled professions.”
(European Commission, 2010:4)

During this phase, the impact on patient safety was two-fold: the increase in numbers of junior doctors meant a greater number of medical learners in the workplace at the same time that the ‘specialist practitioners’ were also in learning mode. As a result there has been a reduction in levels and presence of expertise compounded by increased ‘practicing’ going on as these staff learned their ‘trade’: a recipe for raising the potential for patient harm.

5.8.3 Modernising Medical Careers

The aim of the MMC programme was to:

“Improve patient care by reforming medical education with a transparent and efficient career path for doctors”.

(DoH, MMC, 2006a:3)

Just as the NHS was getting to grips with a reduction in Senior House Officer (SHO) (junior doctors) with the introduction of EWTD, the structure of the workforce took another blow with the introduction of Modernising Medical Careers (MMC) (DoH, 2004a). The *NHS Plan* published in 2000, included a commitment to ‘modernise the [SHO] grade’. This plan was in response to the widely held view that there were many problems with training at SHO level, as these doctors had no clear educational or career pathways, no defined educational goals, no limit to time spent in the grade, and a lack of distinction between service and training. To counterbalance the reduction in junior doctors the plan also intended to increase the number of consultants in the NHS.

While these principles received broad support, their implementation has not, largely because the increase in the number of consultants was achieved by reducing the length of training required to reach the grade from an average of 21,000 to just 6,000 hours (DoH, 2005). This has led to accusations in the press and regional medical selection committees complaining that the NHS now has a less experienced workforce (Tsouroufli and Payne, 2008; Gallacher *et al*, 2009). In practice what this means is doctors spend fewer hours in each medical specialty, which could perhaps be said to demonstrate a ‘jack of all trades’ and a ‘master of none’ approach.

From a patient safety perspective it could be argued that some of the doctors attending patients may not have enough, or the appropriate type of, experience and as a result are less equipped to deal with difficult or complex cases. Such a scenario could breed the ideal environment for the doctors to drift into error provoking conditions. This situation could significantly compromise safety as, throughout the medical hierarchy, the training needs for each grade are notably reduced.

In keeping with this suggestion, the Tooke Report (2008) highlighted that 90% of trainees were exceeding their scheduled hours on a weekly basis to ensure they achieved their educational outcomes. With almost 40,000 responses Tooke suggested:

- less than 1% of doctors felt that new training would have a positive effect on clinical service delivery
- 58% believed patients would not benefit from MMC
- over 85% reported coming in to do operations on their days off
- only 25% felt the working patterns held by their human resources departments accurately reflected their actual working hours...
- ...leading to 55% reporting pressure to falsely declare their actual hours worked
- more than two thirds felt the quality of their training and operative skills had deteriorated as a result of the educational training schedule and shift-working patterns brought in to meet working time regulations.

In summary, 71% of doctors responding to the Tooke survey felt the reduction in working and training hours had not led to any improvement in their work/life balance and had adversely affected their confidence and competence. It might be extrapolated from that, the service provision was also adversely affected. As the workforce struggled to cope with the provision of safe care, amidst all the changes in the way they work, the focus of measuring the performance of services was gaining ground. In Chapter 3: section 3.1, several authors suggest these conditions create the perfect culture for shortcuts and rule violations to become the norm (Rasmussen, 1999; Polet *et al*, 2003; Amalberti *et al*, 2006; Dekker, 2008; Vanderhaegan, 2010).

5.9 Going Faster with Performance Management

The supply and demand for healthcare, and increasing costs, continue to impact enormously on the viability and safety of health services. Health Executives are now faced with more complex challenges than ever before. Not only are they managing day-to-day operations, but they are dealing with increased quality and regulatory standards, government changes and increased patient expectations. Until the mid 1980s, the performance of healthcare focused on the ability of each hospital's management teams to fiscally balance the books. But there is more to healthcare than money. From its inception in 1948, the ethos of the service had been about people and the provision of a high quality of care. Due to the increasing demands performance and cost counting became a much more of a focus the NHS in the 1980's and 1990s (DoH, 2001).

The reforms introduced to the NHS (in the UK) during the 1980s forced service managers and senior executives to focus on performance and productivity targets. Performance assessment frameworks developed fairly rapidly over the next two decades in the UK (SGHD, 2005 and DoH, 2006b). Subsequently, the devolved Governments developed their own systems over the years with a complex framework of over 100 clinical and financial indicators (SGHD Performance Assessment Framework [PAF] 2003). The PAF had no direct clinical indicators for patient safety.

Evaluation of these performance measurement systems has suggested, as the sanctions are limited to a senior management discussion around the trajectories, that gaming of the numbers to remain within the target areas is widely practiced (Bevan, 2004; Hood, 2006). This gaming activity is a classic example of Lewin's (1992) complex adaptive behaviour explained in Chapter 4 (section 4.12), where the system is manipulated to cope with the demands. Meanwhile, managers and frontline clinicians struggle with the ever increase number of targets and the unachievable goals within these, such as the imperative to reduce waiting times. For example: the UK target for wait time to be seen for treatment in an A&E Department is 4 hours. If there are several patients whose waiting time is about to breach the 4-hour 'waiting limit', they may be treated by nurse initially in order to enable documentation of a consultation having taken place within the target time. Patients may continue to wait to be seen by the doctor but the wait time is met due to the nurse consultation.

Performance targets are a managerial tool aimed at middle and senior managers to measure efficiency in the service but put pressure on the frontline staff to collect data. Senior executives to test the 'temperature' of efficient activity, rather than the quality and safety of the system use these measures. Efficient activity does not equal effective outcome in safety terms. I would suggest greater efficiency may in fact further compromise safety, as staff speed up to get the job done taking more short cuts and 'drifting into error' (Rasmussen, 1999; Amalberti *et al*, 2006). Staff working at full speed can compromise safety for patients, particularly for emergency or unplanned admissions, where the risks are inherently higher due to their very nature and the fact that emergency patients are usually more acutely ill. Working at speed with constant interruptions increases the likelihood of 'drifting into error' as suggested by Rasmussen (2003), Amalberti *et al*, (2006) and Reason (2004) and discussed in Chapter 3. The condition of working faster is increasingly risky which then compromises the opportunity for optimum (safe and effective) patient journeys through the system.

5.10 Patient Journeys through the Healthcare System

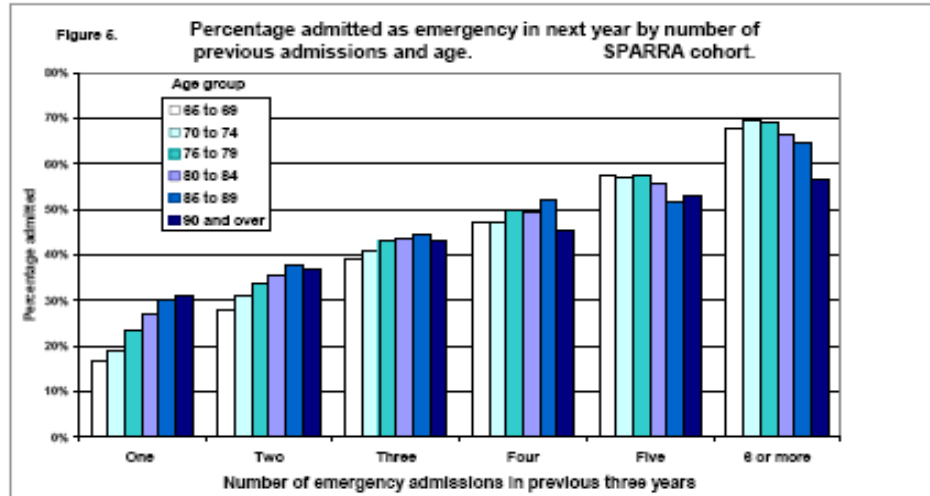
When a patient requires admission for treatment in hospital there are two routes:

- as an emergency or unplanned admission or
- as a non-emergency also referred to as an elective admission or planned admission

An emergency route will usually involve an urgent appointment at a hospital A&E department. Non-emergency (unplanned) patients are likely to visit their GP then be referred to the hospital system for specialist consultation, tests or treatments. It is widely accepted that patients attending as an emergency are, in general, sicker and therefore have increased mortality and morbidity risk during care (ISD, 2008). Morbidity is defined from the Latin word '*morbidus*', meaning sick or unhealthy it is a diseased state, disability, or poor health due to any cause. Elderly patients are more likely to be admitted for emergency care due to poly pharmacy or increased complications with their long-term conditions.

The high readmission rate (see Figure 5.7) and complex needs of the over 65s creates increasing patient safety issues for elderly patients. As a result, they are exposed to more potentially unsafe practices.

Figure 5.7 Predicted Readmission Rate in Elderly Patients



(ISD, 2009)

When attending hospital, some elderly patients are not accompanied by family members; many are confused and disoriented and thus unable to give an accurate medical history or correctly remember the variety of medications that they currently take. This creates the perfect environment for adverse incidents as junior, or the most inexperienced, staff are usually the individuals responsible for the admission processes. In addition, in a busy A&E Department the staff are less likely to report adverse incidents (Olsen, 2007). The A&E scenario exemplifies NHS hospital departments; highlighting the conditions that compromise patient safety and demonstrate the increasing and more complex needs of the patients; constituting overall, a 'normal' hospital day. In the next chapter, my presentation of the background to the case study organisation will further illuminate the NHS within a local context.

5.11 Summary

This Chapter introduced the background and context of the NHS in the UK, before placing particular focus on NHS Scotland. The challenges and pressures that influence patient safety at a national and demographic level were highlighted including; the increasing demand for services; the complexity of care required to treat multiple conditions; difficulties in balancing the professional team, complexities of working hours and performance management systems. Collectively, the issues I have addressed have provided a contextual overview of the nature of patient safety in the NHS in Scotland. The contextual backdrop is considered by some authors to be essential to case study research (Goldacre *et al*, 2004; Fearfull, 1996; Greenhalgh and Bate 2005).

Likewise, understanding the operational arrangements in which NHS employees and patients interact is crucial to an appreciation of my empirical work. My research is essentially about people: how they, including patients, their families and staff, interact within and between those groupings. Being aware of the dynamic nature of healthcare at national and local levels has allowed me to gather 'rich' descriptive data on PSLWR within the case study organisation, NHS Tayside. In Chapter 6, my thesis will begin to take a deeper 'dive' into NHS Tayside, in order to enhance understanding of how patient safety operates and goes wrong at the nexus of care.

Chapter 6

NHS Tayside - The Case Study Organisation

“NHS Tayside has shown us what can be done in patient safety. Since 2004, they have seen many successes which have brought real benefits to patients.”

(Dr H Burns, Chief Medical Officer, Scottish Government 2007:2)

6.1 Introduction

In case study research there can be many layers (Yin, 2003). The previous chapter provided general contextual background of the NHS. The next layer is a ‘deeper dive’, presenting a descriptive analysis of the history and infrastructure the case study organisation - NHS Tayside. In this chapter, I will review the relevant structure and history of NHS Tayside to understand the local organisational practices used to deal with risk and safety. Current management and administration systems to improve patient safety will be examined alongside a review of existing practice. The inclusion of data from the NHS Tayside’s annual risk management report is presented not to make a comparison with the PSLWR discussions but to help the reader to develop an understanding of the information already available and used within NHS Tayside to address adverse incidents and patient safety issues. The key themes for discussion are presented in Figure 6.1 below.

Figure 6.1 Chapter 6 Discussion Themes



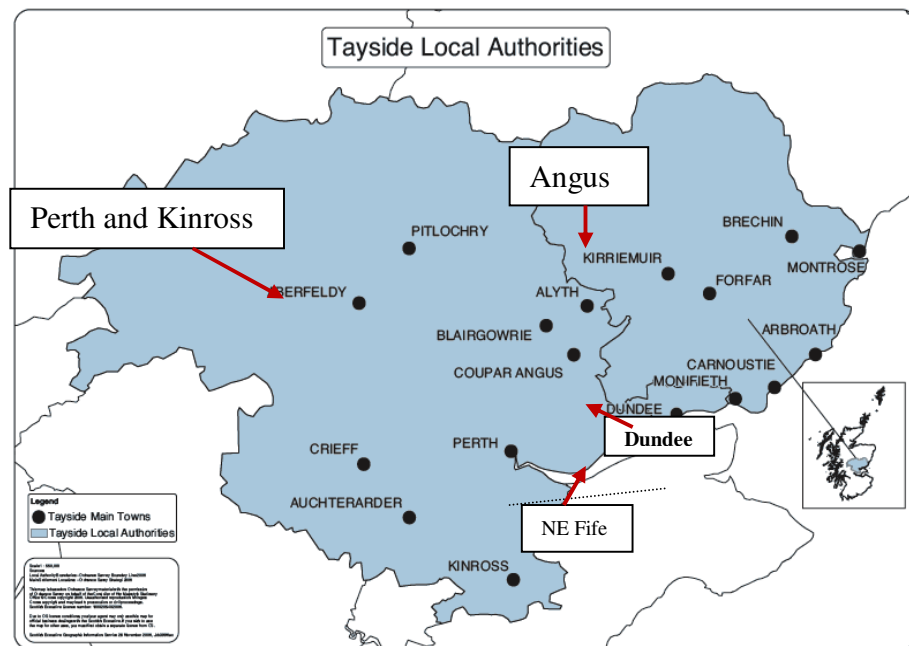
NHS Tayside, like many NHS systems, has come through troubled times. Of particular relevance are the internal governance and leadership arrangements in relation to the openness and transparency of the risks that NHS Tayside faced. In this respect NHS Tayside has some unique features.

In the Chief Executive’s report of 27 March 2007 to NHS Tayside Board, Dr Burns praised NHS Tayside for their work on improving patient safety. However, NHS Tayside has not always been at the forefront of national praise around disclosure of failures. Under scrutiny from the Scottish Parliament Audit Committee, NHS Tayside was publicly vilified in 2000.

6.2 NHS Tayside – History and Structure

NHS Tayside is one of fourteen territorial Boards within NHS Scotland (as detailed in Chapter 5, Figure 5.2). NHS Tayside is a large teaching hospital situated within the central eastern part of Scotland. Relevant to the teaching and placement of healthcare students; The University of Dundee admits around 160 medical and 460 nursing students per year (University of Dundee, 2010). Covering a large geographical area of 750,792 hectares; a wide range of healthcare services is provided in both urban and rural settings for a population of approximately 388,780 people. The Tayside Local Authority region consists of the local Council areas of Dundee City, Angus, and Perth and Kinross represented in Figure 6.2 below.

Figure 6.2 Tayside Region



(Adapted from SHOW, 2007)

In addition, a number of services are commissioned to treat patients from the North East Fife region. The annual budget for NHS Tayside available to provide both acute hospital care and primary care in the community setting in 2006-2007 was £652 million. Pertinent to the discussions in Chapter 5, regarding the increasing demand for services, the current budget for 2010/2011 is £750 million.

The overall aim of NHS Tayside is to: provide healthcare services that reduce health inequalities and improve the health of the people living in the area. Important to my thesis is the fact that, NHS Tayside has identified safety within its five strategic objectives presented in below Box 6.1:

Box 6.1 NHS Tayside Strategic Objectives 2006
<ul style="list-style-type: none">• Deliver safe, effective, integrated services/care for people in natural communities through effective, integrated planning and performance• Nurture with partners, a health improvement culture within Tayside to promote the highest possible quality of life for the people of Tayside• Achieve a measurable improvement in the overall health of Tayside's population, and a reduction in health inequalities• Create meaningful patient, public, staff, and partner involvement in planning and delivery of services• Achieve the governance standards required by NHS Tayside

(NHS Tayside Corporate Plan, 2006:3)

As discussed in Chapter 4, the direct reference to safety within the organisational objectives demonstrates the commitment of leadership, to the issue of patient safety. Not only is safety mentioned but it is the first intention of the NHS Tayside to keep the patients safe. Signalling the importance of patient safety sends a clear message to both externally to the public and internally to all employees.

6.3 Demographics of the Organisation

Interestingly, linked to the staff in training, NHS Tayside has a network of academic affiliations and a University Liaison Committee (Standing Committee) which includes the Deans of Medicine within the Universities of Abertay, Dundee and St Andrews and representation from NHS Fife. The Committee provides strategic guidance in developing models of healthcare in addition to planning of research, clinical teaching and facilities. Given that my study examines the implementation of a new intervention to examine safety it is important to note that the committee have no dedicated remit for patient safety and my research was not presented to or requested by the Committee. However, the senior leadership were informed each month of the

safety issues identified through the PSLWR and actions taken as a result were regularly followed up and discussed.

Moving to the detail of the infrastructure and workforce, NHS Tayside is a large complex healthcare system with three main hospital sites at Ninewells Hospital, Perth Royal Infirmary and Strathcathro Hospital, which together make up the acute hospital system with approximately 1200 hospital beds available. A total of around 14,000 staff are employed as profiled in table 6.1 below.

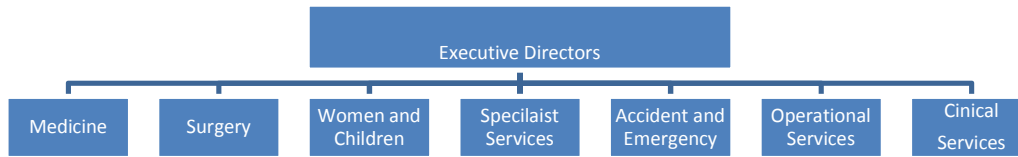
Table 6.1 NHS Tayside Staff Profile 2006	
Staff profile	Staff numbers
Medical	1035
Nursing and Midwifery	5841
General Medical Services	350
Medical Dental Support	180
Dental	220
Allied Health Professionals	1022
Personal and Social Care	61
Administration	2800
Support Services	1928
Healthcare Scientist	570
Total	14007

(NHS Tayside Workforce Report, 2006)

6.4 Organisational Structure

In 2006, the organisational structure consisted of eight Executive Directors; seven Clinical Directorates within the hospital system and three Community Health Partnerships (CHP) providing aspects of community health and social care (Appendix 6.1). Each of the ten organisational areas had a Clinical Director (a doctor) and a Business Manager. A summary of the Directorate structure is presented in Figure 6.3 below.

Figure 6.3 Summary of Directorate Structure



Within each Directorate, a sub-structure of divisional team managers and departmental staff in wards and units exist. The size and scope of the Organisation are important to my empirical work as the PSLWR involved frontline staff from all the clinical and non-clinical units, middle managers and leaders within the Organisation, including all executive team members.

6.5 Troubled Times for Tayside - The Fall and Rise of Good

Governance

In any large organisation, leaders come and go. However, the way that they have changed over the past decade in Tayside, is important to the background of my empirical work. It is my contention that, the behaviours and actions of the senior leaders have moved the organisation through the stages of reactive to proactive management of risk and patient safety (Westrum, 1996; Parker, 2006).

In 1999, a leadership crisis emerged in NHS Tayside when it made media headlines for all the wrong reasons. The national media alleged there were financial irregularities and accusations of bullying and harassment by senior executives made headline news. The Senior Executive Management Team and the Organisational governance arrangements came under scrutiny from the Auditor General of Scotland. The criticism focused around, a failure of the senior leadership to predict and manage the financial risks facing the Organisation (NHS Tayside Audit Committee, 2000). As a result, worries about the financial problems were not openly discussed. The Organisation faced a £12 million deficit and references were made to 'a cover up' in the official report.

The result was a detailed investigation and a Parliamentary Inquiry before the Scottish Government, lasting over 4 months (Scottish Parliament Audit Committee Report, 2001). The internal systems and behaviours of those who prevented open discussion were uncovered.

The final report used a 'name and shame' approach to justify accusations that, NHS Tayside no longer had the respect of the local community. It was suggested the outcome lead to a loss of public credibility leading to a loss of public confidence. The issue of public confidence of the NHS is important from two reasons:

- The public need to have confidence and belief that their local health system has integrity to provide the highest quality of care to treat them in their hour of need. In addition, the general public still feel a sense of ownership for their local health services, paid for with their public taxes (Keep Our NHS Public, 2010)
- NHS staff need to have the confidence that the public trust; respect and value the autonomous and professional decisions that they make in the process of providing healthcare as opposed to self interest (Maynard, 2007; NMC, 2008; Mannion and Davies, 2008)

As a consequence, several of the most senior leaders were replaced including the Chairman, Chief Executive, and Board General Manager. The outcome of the review recommended radical changes for NHS Tayside including an overhaul of the governance arrangements and a new robust infrastructure for budgetary control with immediate effect. To put these actions into place, a new Chief Executive was appointed and several members of the Executive Team were replaced.

6.6 The Way Forward for NHS Tayside

Fundamental changes in NHS Tayside set a new direction; one focused on building public credibility, integrity to improve the quality of clinical health services (NHS Tayside Annual Report, 2001).

At the heart of these changes was a focus on robust measures of governance and the establishment of a RM department to support the Organisation in formally capturing information about risk in healthcare (NHS Tayside Risk Management Strategy, 2001). The new senior leadership were intent on creating a new cultural ambiance of openness; of creating opportunities at all levels to raise concern and plan for change (NHS Tayside Chief Executive Report, 2001).

The new RM arrangements created corporate wide systems for assessing and monitoring the strategic and organisational risks. New risk control plans were developed for all departments. A revised system wide incident reporting system was established for recording and monitoring adverse incidents and an in house educational programme for all staff to understand the issue of risk and the ways in which they could all be involved.

As a result of the new RM arrangements in 2002, NHS Tayside was the first healthcare system in Scotland to achieve National Accreditation from the Clinical Negligence and Other Risks Indemnity Scheme (CNORIS) satisfying 20 clinical and non-clinical RM standards (NHS Tayside, 2002). This was a significant achievement for the Organisation as preparation for the accreditation was complex. NHS Tayside's success contradicts some authors who suggest establishing accountability systems within hospitals can have a negative effect on frontline staffs' willingness to disclose risks, problems and errors (Marx, 1997; Kohn *et al*, 2001). Parker *et al* (2006) disagree and suggest recovering from an organisational crisis has a positive and fundamental role in the development of robust risk management processes in the journey to safer systems. NHS Tayside has a number of systems to detect and manage safety.

6.7 Patient Safety Systems in NHS Tayside

As a senior manager in the system, I have access to corporate information regarding risk and safety. Understanding the systems the Organisation currently uses to prevent patient harm is critical to the background of my empirical work. Therefore, as part of my study, I have included a descriptive review of the access the 2005/2006 risk management reports as part of the ethical approval for my research. NHS Tayside had, before PSLWR, three mechanisms to detect and analyse patient harm:

- Adverse incident reports
- Patient Complaints
- Patient Claims

In the following sections I will explore these three systems.

6.7.1 Adverse Incidents

Policy guidance (discussed in Chapter 2), advises that every hospital system must have a mechanism to record adverse incidents (QIS, 2005; NPSA, 2006; 2008). All such systems are set up to capture not only the adverse incident but the circumstance and the contextual factors that may have influenced the ‘drift into error’ (Rasmussen, 1999; Amalberti *et al*, 2006). The incident reporting system in NHS Tayside is designed in keeping with the national guidance for managing adverse incidents. The focus of the adverse incident system is to count these incidents and examine the themes emerging in an attempt to prevent the harm caused in the future (NPSA, 2006). Each incident where significant harm is acknowledged requires a full investigation, to identify any learning points that might be shared with other service areas, to prevent recurrence. Focus groups are held with those staff involved in the incident and details of the event are shared including agreement of any actions that should be taken to improve the systems.

6.7.2 Adverse Incident Reports

Leaders frequently blame those at the sharp end when something goes wrong (Cook and Wood, 1994). As my empirical work focuses on the dialogue between hospital staff during PSLWR, I wanted to have some knowledge of the type of incidents that

were already reported as patient safety concerns within the Organisation. Drawn from a publicly available NHS Tayside report the following sections will provide an overview of the incident reporting system and the type of reports logged by staff in 2005/2006. (NHS Tayside, Annual Risk Management Report, 2005/2006).

NHS Tayside has a hospital policy to provide guidance for staff on the formal process of logging an adverse incident. Based on the Australian and New Zealand Standard, (Chapter 3, Section 3.7.1), the framework uses an RM model to define the impact and consequences of the incident. To recap, RM models regularly use a ‘traffic light’ assessment scale of red, amber and green. The system identifies; red for severe and rare incidents; amber for moderate and more frequent incidents and green for low impact and very frequent incidents.

The process is complex and involves the reporter recording all of the following information detailed in Box 6.2 below:

Box 6.2 Key information required to record an adverse incident

- What happened? Near miss or actual adverse incidents
- Consequence calculation (What is the impact of this incident? Red, Amber or Green).
- Location.
- How it happened? Immediate or proximal causes.
- Why did it happen? Underlying causes.
- What action was taken/proposed? (Immediate and longer term).
- What impact did the incidents have? (Harm to the organisation, the patient /others).
- What factors did or could have minimised the incident?
- Is this incident likely to recur? (Red, Amber or Green risk).
- How significant was this incident and how quickly should the incident be reported and shared to prevent further harm?

6.7.3 Which Incidents Need to be Reported?

Although NHS Scotland has no formal arrangement to report adverse incidents to the NPSA, all hospitals use the NPSA national guidance for reporting adverse incidents. The NPSA is recognised as the ‘best available’ guidance to practitioners (QIS, 2005). The reporting framework is based on the NPSA (2006) model for coding and analysing harm in healthcare.

The process guides practitioners to consider two elements of the harm caused: step one is the assessment of the impact and consequences of an incident (Table 6.2) and step two considers the likelihood that the incident could happen again to another patient (Table 6.3).

Table 6.2 Consequence Scoring of Adverse Incidents			
Score	Consequences	Physical Harm	Length of stay in hospital
1 Green	Negligible	No obvious harm/ injury	Minimal
2 Green	Minor	First aid treatment Non- permanent harm up to 1 month	Increased length of stay 1-7 days
3 Amber	Moderate	Medical intervention required Semi -permanent harm up to 1 year.	Increased /length of stay 8-15 days
4 Red	Major	Extensive Injury Major permanent harm.	Increased length of stay >15 days
5 Red	Catastrophic	Death	Service closure

(Adapted from NHS Tayside AIM Policy, 2009:7)

Table 6.3 Likelihood of Recurrence of Adverse Incident			
Score	Likelihood	Occurrence	
5	Almost certain	Will undoubtedly recur, possibly frequently	Daily, weekly, monthly
4	Probable	Could occur several times	Quarterly
3	Possible	May occur occasionally	Annually
2	Unusual	Not expected to happen but might	2-5 years
1	Remote	Can't believe this incident would ever happen	5-10 years

(Adapted from AIM Policy, 2009:7)

As demonstrated, in Box 6.1 on pg 144, and Tables 6.2 and 6.3 above, logging an adverse incident report is a complicated business. Each member of staff making a report is required to make subjective judgements regarding the impact of the incident on the patient's condition and to review the likelihood that it could happen again. The result of the process is subjective guesswork and a wide variability in the types and scoring of incidents are seen as logged within the Adverse Incident Management (AIM) system (NHS Tayside risk Management Annual Report, 2005/2006). Errors by staff recording and scoring harmful incidents occur in around 30% of the reports logged within the AIM system (Internal Audit Report, 2006). Criticism of the subjective guessing around the level harm reported in adverse incident reports has pervaded the literature over the last decade (Bagian *et al*, 2001; Ricci *et al*, 2004; Chang *et al*, 2005 and Evans *et al*, 2006). Nevertheless, adverse incident reports have some value, if only because the incident is actually recorded: you 'cannot fix what you don't know about'. The concern is around the repetitive nature of the incidents reported, demonstrating a lack of learning and change as a result.

The voluntary adverse incident reports by staff offer an opportunity to take a closer look at patient harm, in an attempt to identify the necessary changes to prevent recurrence. Staff consistently report incidents where the level of harm caused is more

serious, for example, in repeat operations, medication errors and adverse drug reactions. The practice of focusing on the more harmful incidents can lead to a false sense of security and the practitioner thinking they will not cause or contribute to these severe incidents.

Rare events happen rarely; this may lead to professionals believing ‘it will never happen to me’. Humans drive the nature of the health care and we have an innate ability to be fallible, as was demonstrated in the discussions of the human factors models of Reason (1998), Rasmussen (2003) and Amalberti *et al*, (2006) (Chapter 3). Regardless of the subjective nature of recording adverse events, a key question the reporter could ask themselves in making a decision to report an incident is: ‘would I like this to happen to me or my family?’

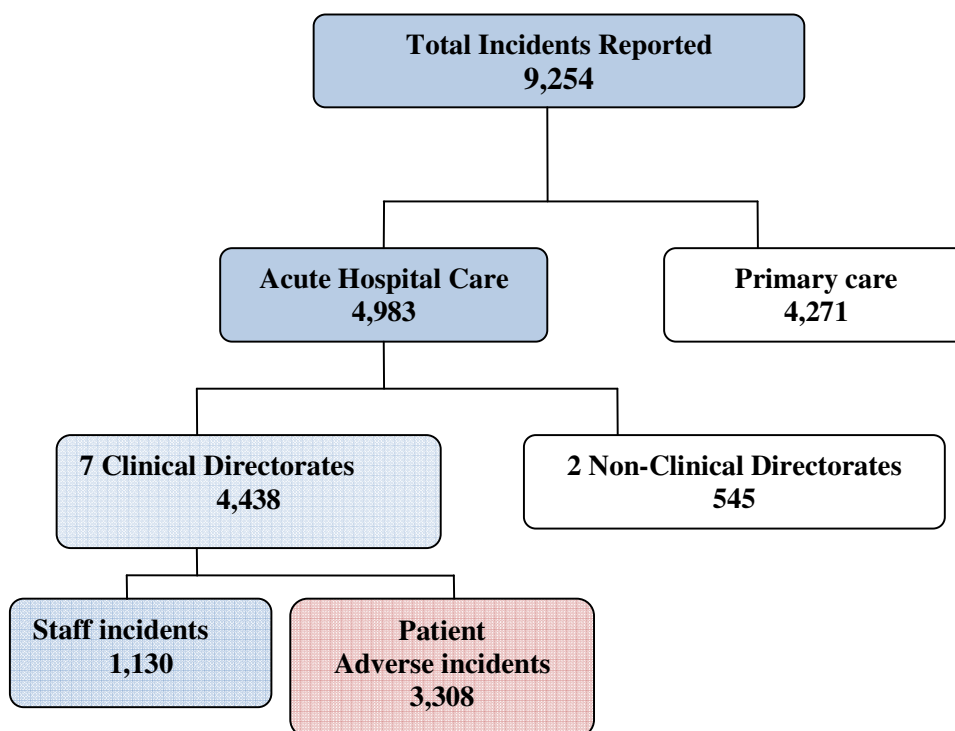
6.7.4 Numbers of Adverse Incidents Reported

Moving on to the type of reports recorded in 2005/2006 within the NHS Tayside AIM system, the next section will consider:

- The numbers of incidents staff logged during that time
- The professional and staff groups reporting incidents
- The type of incidents reported
- Evidence of practice changing as a result of incidents reported

During the period of my empirical work (June 2005 to July 2006) staff captured 9,254 adverse incidents within the NHS Tayside AIM system. As the focus of my study is harm to patients by staff drifting into error in-hospital, I have excluded from my review, all non-clinical incidents and those incidents from Primary Care. The data from in-patient incidents from all 7 Clinical Directorates of the 3 acute hospitals systems are presented in Figure 6.4 and Table 6.4.

Figure 6.4 NHS Tayside Incident Reports 2005/2006



(Adapted from NHS Tayside Risk Management Annual Report, 2005/2006)

Table 6.4 Patient Adverse Incidents Reported June 2005 - June 2006	
Clinical Directorate	Number of incidents
Critical Care	458
Medicine and Cardiovascular	1142
Musculoskeletal & A&E	357
Support Services	321
Specialist Services	244
Surgery & Oncology	324
Women & Child Health	462
Total	3308

(Adapted from NHS Tayside Risk Management Annual Report, 2005/2006)

6.7.5 Who Reports Adverse Incidents?

Adverse incidents are captured electronically by employees using an e-form within the locally developed (AIM) system. A secure staff email account permits access. Of the 14,000 employees 12,300 (88%) had access to the system in 2006. To date in 2010 the number is nearer 95%. However, there are a few individuals who may choose not to sign up for an account due to a fear of technology or a worry that they do not have the competence to use it. All medical staff (doctors) have an email account. Employees without such an account must ask a colleague to make a report on their behalf or submit a paper copy to the local manager for electronic capture.

These additional steps can make it difficult to capture all incidents, as individual staff would need to disclose incidents to another staff member and rely on that individual to report the incidents factually, on their behalf. During 2005/2006 only 50 incidents were reported in this way, compared to the 3,308 incidents recorded electronically. These low numbers of reports suggest some staff are uncomfortable with this method. In addition, submitting the information through the manager is a route rarely used as this also involves an additional step and a trust in the hierarchical management structure. Competence in the use of the system is necessary before access is granted. Therefore, two and a half days' training must also be completed. The system requires individuals to login to maintain confidentiality but this does not provide anonymity.

In the aviation and nuclear industry, several studies have shown that anonymity increases both reporting and engagement of employees in improving safety as they believe they will not be blamed as whistle-blowers for making the reports because they cannot be identified (Flin, 2007).

Many studies have supported the benefits of anonymous reporting of adverse incidents in healthcare (Vincent, 1999; Cohen, 2000; Leape, 2002; Pietrobon *et al*, 2007; Harris *et al*, 2007; Kaldjian, 2008). Like in industry Wu (2002) and Ricci *et al*, (2004) found staff believe they will not be 'blamed' as a consequence of their anonymous reports. Anonymity versus confidentiality was recently reviewed

throughout the NHS in Scotland by QIS. The report concluded that, in healthcare anonymity is not useful, as organisations must have a professional accountability system to track and review all incidents and those who make the reports (QIS, 2007). Therefore, as a result, the data recorded in adverse incident systems in Scottish hospitals are recorded in confidence and reporters are identifiable.

In addition, some of the empirical work in industry suggests that staff are encouraged when organisations 'do something' with the information from reports and change happens as a result of their efforts (Benn *et al*, 2009). The claims are based around the feedback mechanisms regarding action taken as a result of the reports.

NHS Tayside's annual report for adverse incidents in 2006 reveals that nurses are the most likely professional to log an adverse incident report. I would suggest that there are several reasons for this; nurses are the largest group of employees making up around a third of the workforce and they form the group most involved in direct patient care.

Summary points regarding the incidents reported show:

- At 2,250, over two thirds (68%) of the reports were made by nurses and midwives
- 662 reports (20%) by managers
- Only 65 reports (2%) were logged by medical staff and
- 331 incidents (10%) were reported by non-clinical and other staff groups

Since bedside care is delivered primarily by nurses (Wilson *et al*, 2008), I would suggest, time spent logging reports has the potential to reduce clinical care safety by taking nurses away from patients' bedsides. Not only does this activity take time away from providing care but also from the supervision of clinical care, particularly in a teaching hospital environment where there are many staff in training (Kane *et al*, 2007).

Logging a report can take between 15 and 30 minutes to complete, dependent on the experience of the individual in using the IT system. It took nurses an average of 22 minutes to complete a report (Annual Adverse Incident Report, 2006). Extrapolating this information to the 2,250 reports means 825 hours per year away from clinical nursing care or 22 weeks work for an individual nurse. This may add to the burden of safety and increase error producing conditions. Medical staff on the other hand are the least likely to log an adverse incident report and yet they are arguably just as likely to be involved in a patient safety breach.

6.7.6 Medical Staff Reports

Doctors reported very few patient adverse incidents. Of the 65 reports made by medical staff, only 11 referred to harm to patients (Table 6.5 below). All of the patient incidents doctors reported described serious harm requiring additional care in either re-work; repeating tests and procedures or something that increased the patients' length of stay in hospital. The low numbers of doctors' reports in NHS Tayside is not atypical. Several authors have found a reluctance of medical staff to formally record adverse incidents (Wolff *et al*, 2001; Lawton and Parker, 2002, Evans *et al*, 2006 and Rowin *et al*, 2008). I would suggest, the tendency for the media to 'blame and shame' healthcare staff for high profile errors, is part of the problem in this regard.

The media interest in creating front-page news with harm in healthcare was addressed in Chapter 5 Section 2.12.

Table 6.5 Medical Staff Patient Adverse Incident Reports 2006			
Reported	Incident	Patient impact	Notes
Wrong medication	3	Increased hospital stay Additional medications Reversal of adverse effects	Patient received multiple incorrect doses of several medications wrong IV infusion
Missing Information	2	Treatment delayed	Medical records missing X rays missing
Wrong body part identified for operation	2	Near misses	Corrected before procedure
Procedure aborted	1	Needless operation Repeat operation	Operation commenced. Organ visualised procedure aborted equipment not available.
Tests repeated	2	Complex test repeated Additional blood samples required	Wrong patient identification on samples
Total	11		

(Adapted from NHS Tayside AIM Report, 2006)

As demonstrated in Table 6.5 above, the remainder of doctors' reports were related to themselves. They were more likely to log reports of personal harm or injury from violent and aggressive patients and relatives, accidents, falls or harm from equipment and needle stick injuries. One of the reasons for a lack of medical reports may be a failure of the Organisation to feedback any changes put in place because of the reports submitted. Staff may believe that, if no action is taken following an adverse incident report; there is no point of logging a report at all. Several authors site a lack of feedback of information as a reason that staff (particularly doctors) do not engage in adverse incidents reporting (Huehns and Fletcher, 2010). However, managers fare a little better on making patient safety reports.

6.7.7 Manager Reports

Managers reported 662 incidents in the NHS Tayside system in 2006. Most of the incidents related to staff involved in patient incidents and made reference to hospital systems issues, staffing levels and activity in the units at the time of the incidents. The issues reported by managers included reference to immediate action taken to prevent recurrence. The managers' reports focused on many of the latent conditions (Reason, 1990) and systems issues (Reason, 2000) compared to the nursing incidents that reported directly harmful incidents to the patients from unsafe acts and unintended actions (Reason, 1990).

6.7.8 Other Staff Groups Reporting

Other than nursing and medical staff, a number of other disciplines are involved in acute healthcare service provision for examples: Audiologists, Dieticians, Occupational Therapists, Operating Department staff, Physiotherapists, Podiatrists, Radiographers and Speech and Language Therapists. Collectively these groups reported 331 incidents involving patient harm. The types of incidents reported by staff are detailed in the following sections.

6.8 Type of incidents reported in the incident management system

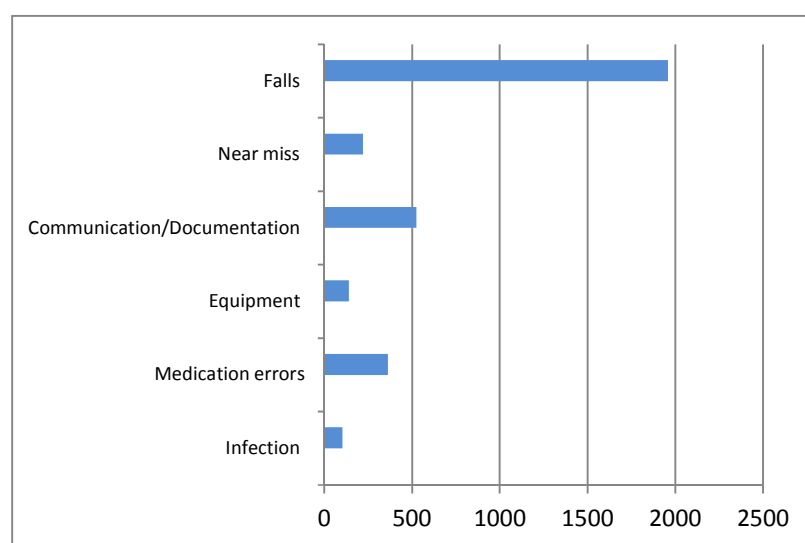
The literature suggests the type of incidents reported gives an indication of how important staff views the harmful incidents (Kreckler, 2009). The top 6 most frequently reported incidents in NHS Tayside in 2006 were:

- Patient Falls
- Communication and patient record issues
- Medication errors
- Near misses or 'good catches' (an incidents that was avoided because of the intervention of individual practitioners)
- Lack of medical equipment
- Infection control issues

All adverse incidents are codified in the AIM database using 220 different types of incident codes. In addition to the local manager dealing with individual patient

incidents, the RM department staff analyse and produce reports of all adverse incidents recorded. The categories and number of incidents reported from May 2005 to June 2006 are presented in Figure 6.5 below with further details regarding these incidents in the following sections.

**Figure 6.5 NHS Tayside Patient Incident Reports
May 2005-June 2006**



(NHS Tayside AIM Report, 2006)

6.8.1 Falls

The majority of medical patients admitted to hospital are over 65 years old (ISD, 2009), and the medical wards in any acute hospital are some of the busiest in the system and almost always fully occupied. Many of these wards care for frail elderly patients with complex long-term conditions and high-level dependencies that require intensive nursing care. The patients in medical wards usually stay in hospital, on average, 10 days (ISD, 2009). Of the 3308 patient-related adverse events reported in NHS Tayside more than half were slips, trips, or falls involving elderly patients on general medical wards.

NHS Tayside implemented wide scale improvement program in 2005 to reduce patient falls in all medical wards as a result of fall reports. This program introduced a falls risk assessment for all patients admitted, increased support aids, high-low bed

replacements and environmental improvements to the wards; for example new flooring and replacement of furniture. Following the introduction of this scheme there was a 6% reduction in the numbers of falls incidents reported (NHS Tayside Falls Report, 2006). There are also suggestions that falls incidents in hospital correlate with the complex medication regimes of elderly patients (Krauss *et al*, 2005). Yet, not all patient harm relates to falls as my empirical work will show.

6.8.2 Mis-Communication/In-Complete Information Issues

Effective healthcare depends on human interaction with patients and between professionals. The second most frequently reported incidents in 2006 in NHS Tayside involved mis-communication and missing information resulting in patient harm. Many of the documentation issues highlighted omission as the principle cause involving a failure to write instructions within patients' individual care plans. Missing out steps in the patients care affects patients and staff alike; patients do not get the care that they need and staff do not provide care as they should which can lead to adverse incidents. Limited or incorrect information about a patient's current condition was cited in over 500 reports. The public expectation is that professionals will talk all the time about safety and safety issues, and will document each treatment intervention accurately. The reality in a busy complex healthcare environment can be very different. Missing information and untimely alteration to the medication record are linked to the large numbers of medication errors (Vira *et al*, 2006).

6.8.3 Medication Errors

Nearly 3 million medicines are prescribed for patients everyday in the UK (Huehens and Fletcher, 2010). It is no surprise then, that at least one patient experiences a potentially serious drug error everyday (Taxis and Barber, 2003). The literature suggests between 24-48 % of all adverse incidents are medication related (Barker *et al*, 2002). Medication errors (any error related to the giving of medicine to a patient) are a significant policy issue on the patient safety agenda both nationally and internationally (WHO, 2005; NPSA, 2009). Prescription errors, (those that involve mistakes in the prescribing documentation) writing the wrong dose: wrong drug:

wrong time; being the most frequent (Dean *et al*, 2002). Other issues that contribute to the making of errors in practice involving medications are regularly featured in the literature such as: look alike packaging and/or sound alike medicine names; and high hazard medications like insulin, opiates, anti-coagulants (blood thinning products) and cancer treatments (NPSA, 2007).

Around a third of all adverse incidents in NHS Tayside related to medication errors. Approximately, one third of these medication errors involved medical equipment usually an infusion device (a drip counter). This level of occurrence correlates with Taxis and Barbour's (2002) work mentioned above. Local audit evidence regarding medication concurs, suggesting that two thirds of all prescriptions on medical admissions units had at least one error recorded and required intervention and amendment (Thomson, 2004).

In the UK, patient safety strategies have targeted medicine prescribing and high hazard medications as high priority areas. NHS Tayside, as part of the Safer Patients Initiative, has improved prescribing for two high hazard medications: anti-coagulation and insulin (for diabetics). Data from the results demonstrated a 90% improvement in prescribing on admission to hospital and 25% reduction in anticoagulation and insulin errors (The Health Foundation, 2008; Rushmer and Voigt, 2008).

The adverse drug events (ADE) reported in the AIM system cover a wide range of medicines management issues including prescribing the wrong drug, wrong dose, wrong time, omission of medications and wrong time of administration. The impact of these incidents for the patient covers a large spectrum of outcomes and ranges from no effect to severe harm. A few examples of identified harm were detailed in the incident reports as follows:

“The baby received an antibiotic 10 times the dose required.”

“The patient was given an injection of salbutamol instead of a IV infusion [drip] the injection was of ten times the recommended dose.”

“The insulin infusion was administered too fast in 2 hours instead of 10 and the patient began to lose consciousness.”

“The patient’s clotting results were not checked and the warfarin prescription should have been amended [increased]...the wound developed a large haematoma (bruise) which was very painful for the patient and eventually after 4 hours requiring an operation.”

“The antibiotics were not given during the operation and the patient developed a wound infection.”

(NHS Tayside AIM Report, 2006:46)

The final comment raises the high profile issue of healthcare associated infection.

6.8.4 Infection Control Issues

One in ten patients gets an infection as a result of hospital admission (NAO, 2004). Reducing healthcare associated infection (HAI) is a national priority (SGHD, 2008). The policy within the Organisation is that, all positive blood stream infections are reported by medical staff and investigated. Over 100 hospital acquired bloodstream infections were logged 2006 (NHS Tayside Annual Report).

6.8.5 Medical Equipment

Moving on to medical equipment, there is a UK system to report all adverse incidents that involve medical equipment (MHRA, 2010). Medical equipment was involved in 140 of the reports in Tayside. Over half of these involved an infusion device (a drip counter). The local medical devices unit log all medical device malfunctions. Of the 140 reports, 130 were returned to the departments with no fault identified suggesting operator error. The need to improve communication, education and competence in relation to the operation of medical devices within the Organisation is recognised (Johnson *et al*, 2007). There is a policy intention to reduce the number of models of medical devices and a training program for all professional in the operation of such devices in practice within the Organisation. The key problem is that lessons from

previous incidents are not always passed on (Johnson *et al*, 2007) because hospitals do not have robust communication systems to tell everyone about the faults.

6.8.6 Near Misses

One of the most underreported harmful practices in healthcare are the incidents that almost harmed the patient, but were caught ‘in time’ (QIS, 2006). The ‘near misses’ or ‘near hits’ or ‘good catches’ are incidents that did not happen. Harmful conditions and practices are noticed ‘just in time’ and individuals recognise and intervene to prevent the incidents from taking place. The reporting of ‘near misses’ offers a real opportunity to learn and prevent recurrence of the conditions and omissions that take place. Over 200 staff took time out to record a near miss incident. There is real opportunity to target potential harmful incidents through near miss reporting. It is recognised in the literature (Shaw, 2005) that ‘near miss’ reporting is a preventative proactive component of patient safety improvement. Yet, they are difficult to capture and staff are more likely to wait until severe harm occurs before reporting an incident (Kessels-Habraken, 2010).

6.9 Summary of NHS Tayside Adverse Incidents Reports

The purpose of adverse incident reporting in healthcare is to capture a formal record of harmful incidents and take action where appropriate to prevent recurrence. Further investigation or ‘root cause analysis’ (RCA) is undertaken for the more severe incidents (around 10% of the total) to explore the details of what happened and take action. Within NHS Tayside, all incidents causing significant harm have further investigations and reviews carried out to identify what happened and how the systems can be improved. Resolving the changes particularly issues at system level can also, take a long time to change practice throughout the entire organisation. In 2006, the follow-up actions took between 3 - 9 months to complete dependent on the scope and scale of the issues.

Often ignored is the fact that, data from voluntary reporting systems should not be used as a proxy for the ‘true’ adverse incidents rates derived from such systems (Reason, 2001; Flin, 2003; Vincent, 2006). As demonstrated in the NHS Tayside

report, the incidents logged are biased and cannot be used to measure progress in safety or compare hospitals (Thomas and Peterson, 2003; Pronovost *et al*, 2007).

A local evaluation report of the AIM system revealed that users identified: the process takes too long; is very complex and there is limited feedback following a report. Each incident is acknowledged; however formal feedback only occurs if further investigation is carried out within an RCA.

One senior doctor suggested:

“Rarely does make a difference. There is no good feedback mechanism. It takes far too long. I am not going to interrupt my work just to make a report. I have made a report before it took me more than 40 minutes. I’m not really clear what to report and have not seen any changes as a result of the reports people make.”

(NHS Tayside AIM Report, 2006: 13)

I would suggest that one of the issues staff encounter is a sense of disappointment at the repetitive nature of the reports made. As seen in Chapter 2, (section 2.8), there is a real repetitive nature and ‘sameness’ about all voluntary adverse incidents reports, year on year. Following investigations and reviews very similar issues recurred in over 70% of subsequent adverse incident reports in Tayside, noted in the annual reports over several years (NHS Tayside Annual Audit Report, 2006). The top six issues have been the top 6 issues for over a decade. The repetitive nature of harm is ‘**the issue**’ that many patients complain about. When something goes wrong and patients complain, often, the main concern for the patient and their family is that it does not happen again to someone else.

6.10 Complaints

The complaints system in NHS Tayside deals with over 800 complaints a year from patients and their families or carers. Put into context, only 1% of patients formally complain and of those less than 1% are not resolved locally, requiring escalation to the Scottish Public Service Ombudsman (SPSO, 2010). The issue from a patient

safety perspective is that the same themes in complaints emerge each year with the top three relating to:

- Lack of communication with patients and families regarding the patient's condition and next steps
- The attitude and behaviours of staff
- The quality of clinical care

Similar to adverse incidents, the same issues are reported week after week demonstrating limited learning and change from the use of these systems. What is concerning is the lack of change in response to the information patients and their families provide in complaints letters, as demonstrated through the repetitious nature of the complaint themes both at local level, and publicly upheld by the Ombudsman, as failures in the Scottish Parliament (SPSO, 2010). A small number of complainants are not satisfied with the NHS or Ombudsman's response and they take their grievance further, by seeking financial recompense through the NHS claims process.

6.11 Claims

Around 70% of the claims against the NHS are successfully defended by the CLO (Chapter 2, Section 2.10.2). From an NHS Tayside perspective in 2005/2006, there were around 25 successful claims costing around £350,000. Due to the confidential and legal nature of claims information it is not widely available within the Organisation. However, it is generally recognised that there is a failure to learn from claims information (SPSO Annual Report, 2008/2009). There is a repetitive pattern recognisable in the issues raised including; a failure to diagnose and treat correctly; failure to communicate the intention of clinical treatment, repeat procedures, failure to obtain full informed consent, wrong treatment, incorrect procedure and varying degrees of harm to the patients including permanent harm and disability.

6.12 Summary of the NHS Tayside and the current Patient Safety Systems

From a patient safety perspective, levels of harm are not comparable between hospitals, as there is no mechanism to determine what a 'safe' or 'unsafe' hospital system looks like. The Organisation uses traditional methods to detect and address the levels of harm through the reactive methods of: adverse incident reporting; complaints and claims and patient case record reviews. The main tool is the use of the adverse incident data.

Yet, the information available can only tell part of the story. Underreporting is always assumed in all three methods (Evans, 2006; O'Shaughnessy *et al*, 2007). Few people engage; less than a third of the workforce, mostly nurses. The focus of NHS Tayside's efforts in safety so far has been *post hoc*, dedicated to capturing error, not necessarily targeted at preventing harm. By focusing on error the drive to improve safety is lost; as counting the errors and trying to reduce the numbers becomes the goal.

Despite the involvement of the senior leaders supporting incident reviews and being aware of the severe incidents through automated alerts; patient safety remains an issue; with wrong site surgery, adverse drug incidents and many similar incidents recurring over time.

As detailed in section 6.4 above, the Organisation has moved through troubled times and replaced almost all of the senior leadership team over the past decade. The new Executives established detailed methods of improving RM and patient safety systems. The implementation of policy in NHS Tayside focuses on improving safety with the use of RM processes. As a senior manager, researcher and author of this thesis I now recognise fundamental flaws in that approach. As I have highlighted in Chapter 3, risk is inevitability and unpredictable in healthcare. Yet, RM tools and techniques are the main approach to reduce harm in healthcare.

The Organisation claims to have patient safety as a priority issue yet, much of the internal activities are not reducing harm over time. Nevertheless, the will to change and improve safety was demonstrated in their participation in the Health Foundation's (HF) Safer Patient Initiative (SPI), setting a new direction. A list of the key interventions was provided in Chapter 1 (section 1.5). The last section of this chapter will detail NHS Tayside's involvement in SPI and introduce the vehicle for my empirical work, the PSLWR.

6.13 The Safer Patient Initiative (SPI)

As detailed in Chapter 1 and summarised as an introduction to PSLWR, the SPI programme was the brain child of the HF; a London based not for profit organisation that invests in innovation and research in practice in the NHS. In June 2004, the HF called for interested organisations to apply for a £1 million grant to improve patient safety within acute hospital healthcare settings. The intention of the programme was to create a UK hospital collaborative to work simultaneously on a range of patient safety improvements throughout a range of hospital services.

At that time, as the senior manager responsible for risk and safety within a large NHS hospital system, I was eager to apply. I was frustrated by the lack of improvement with the current reactive patient safety systems, as I have already alluded to in this Chapter. I recognised the opportunity within SPI, to improve safety throughout the entire Organisation. I took ownership of the research grant application and submitted an application on behalf of NHS Tayside.

In October 2004, following a competitive process, in which there were 52 other UK applicants, NHS Tayside became one of only 4 UK health systems to be successful in securing a grant from the HF as part of SPI. The implementation of PSLWR was part of a suite of interventions intended to improve safety. The programme had a range of patient safety interventions to be implemented throughout all three of NHS Tayside's acute hospital systems, including PSLWR. (A summary of the patient safety interventions within SPI is attached in Appendix 6.2).

6.14 Patient Safety Leadership Walk Rounds

The aim of the PSLWR process is to bring Senior Leaders (Executive Directors) and frontline staff together to have a 'conversation' about local patient safety concerns. The 'conversations' take place in the local staff departments and are based on a schedule of questions relating to local concerns and recent practices, that may have harmed or potentially could harm a patient. The process was tested and implemented in several hospital systems in the USA before becoming one of the safety interventions introduced in the UK throughout the SPI programme. PSLWR were introduced to the Brigham and Women's Hospital, Boston, USA, by Dr Alan Frankel in January 2001. As a result of the safety 'conversations', the intention is to take collective action to improve and change some of the systems considered harmful.

In NHS Tayside, PSLWR were introduced to the Organisation in March 2005 as a part of the SPI programme. At least one PSLWR took place in one of the hospital departments each week between May 2005 and June 2006. All available staff in the department at the time of the PSLWR, were invited to take part. Although during the PSLWR staff could raise as many patient safety issues as they wanted with all issues being recorded, only three would be selected for specific follow-up action. I believe that the limitations I applied helped to make the PSLWR process manageable and created an opportunity to take action quickly as a result of staff suggestions, thus creating more timely feedback and action as a result. Taking action quickly is a crucial point as many staff were already despondent with the reactive incident reporting system and openly criticised the lack of feedback from that system.

Actions to improve patient safety that were agreed during PSLWR, were allocated to any one of the participants or an individual within the Organisation with a particular responsibility for the issues raised. I designed an IT administrative tracking system (ewalk) to manage the data regarding the safety issues raised by staff and to monitor the action taken as a result. To satisfy organisational management and governance arrangements, a program to monitor the completion of the actions taken was discussed weekly with the senior leadership team and shared with all participants.

I was able to link my managerial role to my research role and host the PSLWR process within the RM Department. I considered the RM department to be 'best placed' to be involved as they already had corporate wide responsibility for several safety systems including the incident reporting system, reviewing adverse incidents and providing RM reports. As the PSLWR process had been used only in the USA up to that point, I had to customise the limited tools available to suit the local organisational context, structure and resources available to undertake my empirical work.

6.14.1 The PSLWR Process in the Context of NHS Tayside

The IHI and the HF allowed each hospital to design their own local PSLWR system. Therefore, from the beginning I was able to use the PSLWR process as a research undertaking. I developed a research protocol (Appendix 6.3) to guide the implementation. I planned one PSLWR per week and a schedule of PSLWR was planned 6 months in advance. Two weeks of the year were excluded over the holiday season at the end of December 2006. The protocol included details of how to plan the PSLWR in advance including: arranging the Executives' availability to visit; providing a list of all departments within the hospital and identifying a lead contact person within each local area. A list of key PSLWR questions about safety were adapted and developed from the USA work (Appendix 6.4)

The PSLWR process was additional work for the Organisation. Planning the PSLWR took required around 2 hours per week, including preparation time to set up the visits. Setting up a PSLWR included: calling and emailing departments; contacting Executive Directors and Personal Assistants and sending out introductory leaflets to the departments. In addition to my digital recordings of the discussions held during each PSLWR, I took notes to capture and emphasise key points from the dialogue. The written notes were used to feedback the key patient safety issues discussed to those taking part and to agree follow-up action. Following the PSLWR, a summary report of the discussions was returned to the lead contact in the department within 48

hours. The rapid feedback was designed to verify the content and share the key discussion points with all of the local team.

To support Executive level ownership of the PSLWR process, the Chief Executive of NHS Tayside decided that a PSLWR could only be cancelled by the frontline staff. If an Executive Director could not attend because of other diary commitments the Executive Team were responsible for finding a peer to replace them. In March 2005, I met with the Executives as a group to discuss the PSLWR question schedule (Appendix 6.4). As a result, of the discussions, the PSLWR questions were amended removing the American healthcare terms and practices. Before my study, there were no tools for an Executive training program for Directors to practice or receive guidance on asking the PSLWR questions. I developed a system to suit the internal infrastructure and managerial availability of the staff involved.

I prepared a PSLWR programme of visits one year in advance involving over 60 departments and 300 local frontline staff. Following the pilot PSLWR those involved influenced the development of a staff information leaflet, and enabled appropriate revision of a few questions to guide the safety conversations.

During the PSLWR process any allegations, real or alleged, of intentional harm were removed from the from the PSLWR process. as part of the escalation process within the research protocol.

In accordance with the protocol for arranging PSLWR, all departments were notified one month prior to the visit and the introductory leaflet sent out. During the PSLWR process staff were asked if they had received and had time to read the PSLWR introductory leaflet. Over 80% of the participants had the opportunity to read the introductory leaflet. For those who did not, one executive covered the aim, process and outcomes at the introduction of every PSLWR. The introductory letter was received in all departments, advising that all staff within the area at the time of the visit were invited to participate. Other disciplines visiting the ward, at the time of the

PSLWR, were also included, for example: a pharmacist, physiotherapist, cleaner, porter or laboratory technician.

Staff were invited to join and leave the discussion as patient activity demanded. The local team members could take part in some or all of the PSLWR discussions. Although, many individuals leaving and joining the discussion could have been disruptive to the flow of dialogue, this was not the case. Patient care had to be the priority, for safety reasons. The ability to be flexible helped to include more of the staff available on the day of the visit. Conversely, the flexibility could also allow staff to leave the conversation at crucial times without finishing the discussion.

Each PSLWR took around 45 minutes to complete. A lead contact in the department to be visited was identified and they had the opportunity to reschedule the visit if the patient activity was high and staff could not be released to participate. Only 2 PSLWR were postponed due to patient activity from the 40 in the purposive sample.

In summary, I was able to achieve one walk round per week involving at least one Executive and frontline staff. Within NHS Tayside the PSLWR system was easy to set up; the process was agreed quickly, pilot tested and implemented within 1 month.

6.15 Summary

Chapter 6 described NHS Tayside, the case study organisation, its history and leadership arrangements in context. The leadership intention to create a more open and honest approach to dealing with risk and harm within local healthcare services was detailed. Understanding the contextual nature and circumstances in which adverse incidents occur is essential to limit drifting into error by recognising where it occurs and, as a result, to improve safety; this being the focus of my empirical work (Singer *et al*, 2003; Provonost and Sexton, 2008; Sorra *et al*, 2008). The challenge in patient safety terms is to explore additional methods that may offer a proactive method of detection of ‘drifting’ to prevent harm before it happens while engaging the wider community of professionals in the process.

My research focuses on the nature of these discussions: who took part, what they said about patient safety and their outcomes. However, before the detail of the empirical work is explained it was important for me to gain a detailed understanding of the broad issue of patient safety in the NHS and the approach to safety and risk within the organisation. The following Chapter will elaborate on the methodology and methods used to undertake my study.

Chapter 7

Methodology and Methods:

Exploration of Patient Safety Leadership Walkrounds in NHS Tayside 2005-2006

“Knowing what you want to find out leads inexorably to the question of how you will get that information.”

(Miles and Huberman, 1994:42)

7.1 Part One: Methodology

The starting point for this study was the desire to examine in detail the implementation of a new method (PSLWR) to detect and address patient harm within a Scottish healthcare system. The in-depth analysis of literature in Chapters 2, 3 and 4 identified the gaps in healthcare systems that hinder the disclosure of patient harm, concluding with the research questions to be addressed in my empirical work.

The chapter will be presented in two parts: part one will explain the methodology for the study, followed by part two, where I will detail the methods used to carry out my research. To frame the chapter, I have presented the key themes for discussion in Figure 7.1 below

Figure 7.1 Chapter 7 Discussion Themes



7.2 Research Objectives of the Study

My research objectives and research questions (re-presented from Chapter 1, in Box 7.1 and 7.2) led to the choice of a qualitative case study to examine these changes in their natural setting.

Box 7.1 Research Objectives

- To collect preliminary data on the introduction of a new method to address patient safety within one Scottish NHS healthcare system.
- To update and extend the limited existing data on the use and implementation of the PSLWR processes
- To update and extend the methods of detecting error and harm in healthcare
- To use this information as a means of informing both local and national policy and practice

Box 7.2 Research Questions

To achieve the research objectives above, 4 research questions were designed:

- To what extent would staff engage in the PSLWR process and discuss patient safety issues?
- To what extent could the PSLWR generate discussions:
 - identify new or additional information regarding patient safety?
 - related to staff taking shortcuts underpinned by Amalberti *et al*, (2006) theory of ‘drifting into error’?
- To what degree would/could the actions agreed during PSLWR discussions be implemented and/or complete?
- What were the perceptions and reflections of the participants within NHS Tayside of the PSWR process?

The first objective was to collect preliminary data on the introduction of the PSLWR system within a UK health system. The PSLWR were first introduced to the UK in February 2005, as a component of the SPI programme. NHS Tayside’s involvement offered the ideal opportunity to conduct empirical work regarding the detailed implementation of the new PSLWR system. The second objective was to add to the existing data regarding the implementation of PSLWR. Empirical data from America, using PSLWR, has focused on measuring the safety culture of healthcare systems through longitudinal studies (Pronovost, 2005; Frankel *et al*, 2006) and types of adverse events and their cause. My study aimed to take a different approach by focusing on the reflections of those taking part in PSLWR and to consider the types of issues raised by them and the completeness of agreed actions, following these conversations.

The third objective was to add to and extend the data on detecting error and harm in healthcare. Most healthcare organisations rely on voluntary reporting to address local patient safety issues and harm (NAO, 2005; House of Commons, 2009). My intention was to explore the use of PSLWR to reveal new aspects of harm and the circumstances in which harm can occur. In addition, I wanted to consider if this was new or different information regarding patient safety within NHS Tayside.

The fourth and last objective was to use the data and results to inform both policy and practice of the use of PSLWR in a UK healthcare system. My study is capable of providing valuable information regarding the design process and implementation of PSLWR in other hospitals throughout the UK. This is relevant in 2011, as all UK countries are beginning to implement patient safety interventions, particularly in hospital. I will continue in the next section exploring the issues of methodology as related to my study and the methods subsequently used. In particular, I will explain congruence with my ontological beliefs which surrounded the need for participants to have their voice heard, without my bias.

The remainder of the chapter will consider the rationale for my methodological choices and describe how the case study was carried out.

7.3 Methodology

The methodology is usually determined by the research problem and incorporates the assumptions used by the researcher in their research; the way the research problems are defined: all of which influences the way a study is carried out and the likely nature of the findings. My empirical work is about people, their thoughts and their actions around patient safety in healthcare; specifically how those thoughts and actions might lead them to 'drift into error'. When considering the methodology, I began by reflecting upon the two main research paradigms. The term paradigm refers to the progress of scientific practice based on people's assumptions about the world and the nature of knowledge which then gives direction about how the research should be conducted (Collis and Hussey, 2003).

Henning *et al*, (2004) defined a paradigm as a theory or hypothesis. My understanding of a research paradigm is an interpretation of a framework within which theories are developed. Paradigms fundamentally influence how you see the world, they determine your perspective, and shape your understanding of how things are connected. I consider that, I hold a particular view of the ‘world’. My view influences my personal behaviour, my professional practice, and ultimately, the position I have taken with regard to the subject and the conduct of my research, including, the way in which I have written this thesis..

Guba and Lincoln (1994) explain in simple terms:

“Research paradigms define for the researcher what it is they are about, and what falls within and outside the limits of legitimate research.”

(Guba and Lincoln, 1994:108)

One of the issues I had in understanding the research paradigms was the variety of terms that different authors use to determine, what are basically: two main research paradigms. For clarity, I have presented my interpretation of Guba and Lincoln’s (1994) work in Table 7.1 and following on from that, I will refer to the most common terms of quantitative and qualitative research.

Table 7.1 The Main Research Paradigms	
Positivistic paradigm	Phenomenological paradigm
Quantitative	Qualitative
Objectivist	Subjectivist
Scientific	Humanistic
Traditionalist	Interpretivist

(Adapted from Guba and Lincoln, 1994:108)

I found Guba and Lincoln's (1994) suggestions particularly helpful in this regard, that to define a particular research paradigm, a choice can be summarised by the responses that a researcher would give to the following three fundamental questions:

1. The ontological question i.e. what is the form and nature of reality?
2. The epistemological question i.e. what is the basic belief about knowledge and what can be known?
3. The methodological question i.e. how can the researcher go about finding out whatever s/he believes can be known?

From my perspective and in answer to the three questions above, my research was subjective, value laden and I would be heavily involved in the research process. My aim was to study people within the context-laden environment of an acute hospital NHS setting. Underpinning my qualitative research paradigm is a variety of different assumptions, considering my ontological and epistemological position was the next step.

7.4 Ontology and Epistemology

My research is supported by the ontological and epistemological position selected. Ontology can be described as 'what is considered as truth' (Denzin and Lincoln, 2005). The ontological assumption of a research study is determined by the researcher's view of the world as being either:

- objective and external to the researcher or
- closely linked to the researcher, socially constructed and determined by the people involved.

My research design is supported by an underlying interpretivist ontology and epistemology. I am, in Guba and Lincoln terms, closely linked to the research interventions and the people involved determine the outcomes. The main reason for selecting the interpretivist paradigm was the assumption that 'reality' is created in the meanings that individuals or groups give to the processes, activities and relationships as they interact with others. Reality in a complex healthcare environment is value

laden; as the service is driven by a wide range of people making the perspective subjective. The ontological position determines the epistemological stance that social processes require, focused on exploration in their natural settings, close to the item of study (Bowling, 2002).

Epistemology is concerned with, the study of knowledge and what is accepted as valid. This involves the relationship between the researcher and the research. The epistemology of my qualitative research is based on the belief that people's attitudes, beliefs and preferences affect how individuals see and interpret the world and therefore, this then impacts on the ways in which they behave.

As a researcher and an employee of NHS Tayside, I was closely connected to the research process, interacting with participants at every stage. I also accepted that my role as a senior manager, a professional and PhD researcher within NHS Tayside might influence the study. My knowledge and experience as a clinician and my role in monitoring patient safety might have a positive or negative effect. At the time of conducting the empirical work for my thesis, May 2005-June 2006, I had managerial responsibility for the RM and incident reporting systems within the Organisation. I had personally designed and implemented many of the systems and processes that staff used to identify and report patient safety issues.

As mentioned earlier in this thesis, with all of this in mind, one of my considerations was that, the participants might be keen to point out where the systems were failing in some way. Conversely, they might believe that, sharing events that caused harm to patients with senior managers and executives would have a negative effect on them as individuals. Such exposure might be viewed as a personal failing; they may feel blamed and as a result, might choose to withhold patient safety information. Therefore, the methodology of this research is more typically described as qualitative because it is value laden by the processes and interactions of the participants. Qualitative research can study people in their natural environment on their own terms. It is all about exploring issues, understanding phenomena and answering questions

In planning my empirical work, I considered a positivist paradigm or quantitative approach as inappropriate for my study because it assumes that reality is singular, independent and separate from the research and the researcher. In addition, the core activity of my PSLWR study was to talk with staff about safety. My intention was not to be separate from the research intervention but rather to be integrated and become part of the PSLWR process.

While recognising the validity of quantitative approaches, it is my contention that, creating numerical values and applying them to my research would not have enabled an appropriate level of insight and understanding of the detail of discussions that staff had about patient safety. As highlighted in Chapter 2, a focus on counting events does not necessarily improve safety. Quantitative methods are not as well suited to measure the complex aspects of healthcare such as organisational change, clinical leadership which are critical to health care delivery. In addition, Rice and Ezzy's (1999:251-252) work supports my choice in explaining the use of both qualitative and quantitative methodologies. As they suggest:

"There are many situations in which qualitative research methods are highly inappropriate, such as those which require epidemiological data, when randomized-controlled trials will provide broad-based information, or when generalization across large populations is needed. Rather, qualitative research methods are valuable in trying to understand and interpret the meanings people attach to the experiences of health and healthcare. When it is important to know about this, then qualitative research methods need to be used."

(Rice and Ezzy, 1999:251 and 252)

To confirm the reasoning of my choice in more detail, I reviewed Creswell's (2003) model (presented below in Table 7.2) of qualitative and quantitative paradigms as applied to the key aspects of my research, which led me to a clear choice of a qualitative research paradigm.

Table 7.2 Features of Qualitative & Quantitative Research	
Qualitative	Quantitative
All research ultimately has a qualitative grounding	Measurement is either 1 or 0
The aim is a complete, detailed description.	The aim is to classify features, count them, and construct statistical models in an attempt to explain what is observed.
Researcher may only know roughly in advance what he/she is looking for.	Researcher knows clearly in advance what he/she is looking for.
Recommended during earlier phases of research projects.	Recommended during latter phases of research projects.
The design emerges as the study unfolds.	All aspects of the study are carefully designed before data is collected.
Researcher is the data gathering instrument.	Researcher uses tools, such as questionnaires or equipment to collect numerical data.
Data is in the form of words, pictures or objects.	Data is in the form of numbers and statistics.
Subjective - individuals' interpretation of events is important, e.g. uses participant observation, in-depth interviews etc.	Objective – seeks precise measurement & analysis of target concepts, e.g., uses surveys, questionnaires etc.
Qualitative data is more 'rich', time consuming, and less able to be generalized.	Quantitative data is more efficient, able to test hypotheses, but may miss contextual detail.
Researcher tends to become subjectively immersed in the subject matter.	Researcher tends to remain objectively separated from the subject matter.

(Adapted from Creswell, 2003)

Recently, there has been empirical recognition of the valuable contribution that qualitative research makes to the exploration of the social aspects of healthcare and people dominated interactive processes (Curry *et al*, 2009). Despite the longstanding debate in the literature about the processes and practices of qualitative research (Bogdan and Biklan, 1982; Guba and Lincoln, 1994) there is general agreement that it focuses on words and meaning rather than the quantitative focus of numbers and frequency of events.

Related to my PSLWR research, many qualitative researchers operate under different epistemological assumptions from quantitative researchers. For instance, qualitative researchers believe that the best way to understand any phenomenon is to view it in its context. They see all quantification as limited in nature, looking only at one small portion of a reality that cannot be split or unitised without losing the importance of the whole phenomenon. Ritchie and Lewis (2003: 211) explain in the following way:

"Although there is still some debate, the general consensus is that qualitative research is a naturalistic, interpretative approach concerned with understanding the meanings which people attach to actions, decisions, beliefs, values within their social world, and understanding the mental mapping process that respondents use to make sense of and interpret the world around them."

(Ritchie and Lewis, 2003:211)

Dixon Woods *et al* (2005) argue that, the aim in qualitative research is to understand the quality of social life. In pursuit of this, richly detailed material is produced. This detail has been termed 'thick description' which Denzin (1989:83) points out:

".....Goes beyond mere fact and surface appearances. It presents detail, context, emotion and the webs of social relationships that join persons to one another. Thick description evokes emotionality and self-feelings. It inserts history into experience. It establishes the significance of an experience, or the sequence of events, for the person or persons in question. In thick description, the voices, feelings, actions and meanings of interacting individuals are heard."

(Denzin, 1989:83)

Thick description often contains ideas or concepts that cast new light on the activity under study, and which might help understand similar activity elsewhere. The PSLWR were designed to explore patient safety issues as experienced by staff at the patients' bedsides; told in their own words. Not merely descriptions of 'unsafe acts' but providing context of the complexities and circumstances of the healthcare environment and sharing perspectives from within the ward or department where they work. My research design was contextualised primarily through 'thick rich description' within the PSLWR case study (Rousseau and Fried, 2001 and Weick, 2007).

In summary, the research design of my study fits a qualitative research approach as the focus is to ask participants to discuss and reveal sensitive patient safety issues in practice. The phenomenological approach provided me with the opportunity to develop a rich and perceptive view of the participants and their thoughts and views on patient safety, *their* interpretation of events and issues in this context. Interpretivism presented further opportunities. It opened up my research area to investigate safety in context, combining the influence of policy, the Organisation, its history, and most importantly the participants and the ways in which all these elements the interaction with each other. In addition, the sensitive use of an interpretivist approach has been recognised for its ability to aid exploration and appreciation of interactions undertaken by, and the cognitive processes involved for the participants (Fearfull, 2005).

My discussions so far in this Chapter have highlighted the value of qualitative research in the search for new knowledge in healthcare. Yet, qualitative research is not the principal paradigm in healthcare research. The medical model of Randomised Control Trials (RCTs) and quantitative methods dominates the healthcare environment (Montori and Gyatt, 2008). These methods rely heavily on large sample sizes for statistical significance, counting the frequencies of events in treatments, and often take many years to carry out.

7.5 Research in Healthcare

Although qualitative approaches are not absent from research in healthcare (see for example Mayer, 2000; Kuper *et al*, 2008; Holloway and Wheeler, 2009; Priest and Roberts, 2010) positivist ontology is usually prominent through the use of RCTs for the application of scientific treatments in many applied research programs (Bower and Gilbody, 2010; Harvey *et al*, 2010). An RCT is a type of scientific experiment, most commonly used in testing the efficacy or effectiveness of healthcare services (such as medicine or nursing) or health technologies (such as surgery, medical devices or medicines). RCTs involve the random allocation of different interventions

(treatments or conditions) to subjects. The most important advantage of proper randomisation is that:

“it eliminates selection bias, balancing both known and unknown prognostic factors, in the assignment of treatments.”

(Moher *et al*, 2010:869)

Implementing the evidence into practice is another matter entirely. There is also a growing body of knowledge suggesting the application of evidence based medicine from scientific trials is difficult and incurs lengthy delays with several authors pointing out that these can be between 10 and 17 years (Haynes and Haines, 1998; Cook, 2008; Lugtenberg *et al*, 2009). In addition, there is wide variation in practice in similar hospitals and wards, even when the evidence and professional bodies agree which of those practices should be standardised and generically applied to specific patient groups or diseases (Weiser *et al*, 2009). The variation and unreliable application of healthcare practice provides a rich contextual background for exploring why healthcare can be unsafe (Leatherman, 2003, McGlynn *et al*, 2004)

7.6 Separating the “What to do?” from the “How to do it?”

Continuing the qualitative/ quantitative debate the literature suggests, RCTs drive the understanding of the ‘what’ needs to be done to improve patient outcomes (Berwick, 2007; Gawande, 2007) but it is the ‘how’ to do it that is often unclear from this type of research. In practice, one example of the application of RCT evidence has identified the type of treatments required to prevent coronary heart disease or ‘heart attacks’. Research on this matter, recently published and reported, highlights treatment with low dose Aspirin; and Statin medications can reduce the likelihood of these events in some patients (Patrono and Baigent, 2009; Pignone *et al*, 2010). However, many patients are not screened to identify their individual requirement for this medication or do not take the medication as prescribed, and the evidence is therefore not applied (Kedward and Dakin, 2003; Schwartz *et al*, 2008). Add to that, the challenge faced by clinicians to keep up with the published evidence (as detailed in Chapter 4) as well as implementing evidence-based care for their patients (Olle and

Borrego, 2010). For many, it is impossible to keep track of the rapidly expanding medical and scientific literature, let alone feel confident in the critical appraisal and application as part of their evidence-based treatment strategies. The difficulties of applying and sustaining standardised practice then begin to emerge.

The human elements of these exchanges are crucial to implementing change in clinical practice. Some of the literature suggests that healthcare itself is more than the application of scientific rules (Davies *et al*, 2007). The literature demonstrates that, the context in which healthcare is provided has an impact on the safety and quality of that care (DoH, 2009). Each individual and team operates very differently within the complexities of their own sphere of practice. I was drawn to qualitative research because in addition to the other factors above, it stresses the subjective aspects of human activity by focusing on the meaning, rather than the measurement of, social phenomena (Krauss, 2005). Qualitative methods assist in the study of people in their natural setting with a array of influences that affect how they react, behave and participate, sometimes referred to as social phenomena.

7.7 The Notion of Social Phenomena

It is widely recognised in the study of people in their natural environment, that the ways we think and act are influenced by our own interactions with, and by the behaviours of, those around us (Snow, 1999; Denzin and Lincoln, 2005). Particular situations are deemed to be important because they influence behaviour. People often behave differently in one circumstance than they might in another (Woods, 2009). In addition, several authors point out the environment and context play a large part (Becker, 1986; Silverman, 2000a and b; Creswell, 2007). The way in which we think and act has a bearing on the outcome of our activity.

As demonstrated in previous Chapters, there are many influences on the behaviours of individual healthcare staff, both consciously and subconsciously; the ways in which our actions and perceptions are articulated in practice.

Markey (2007:733) describes this well:

“Conscious interaction, in the sense of ‘thinking’ or conceptual activity, is questioned as a scientific basis for such limitation of the social. Firstly, we are unable to determine with sufficient scientific accuracy how much and what part of collective behaviour is of this reflective type. Secondly, people experience between themselves a large number of influences of which they are unaware. At best, with our present knowledge, they are rather vague, indefinite, and insecure differences.”

(Markey, 2007:733)

Linked to the notion of social phenomena are the discussions from previous Chapters. In Chapter 3, Section 3.11, the Theory of Human Error and Unsafe Acts (Reason, 1990) demonstrates how easily we can be influenced by the environment and those around us; to be drawn into danger and make simple mistakes that cause harm. The influence of social construct continued in Chapter 3, Section 3.15, with Rasmussen and Amalberti *et al*, (2003) model describing the ways in which, we can ‘drift into error’ both consciously and sub consciously either to get the job done or as we are distracted during a task. Collectively, the human factors theories provide critical reasoning to support the idea of how we are all influenced by our own thoughts, deeds and experiences and how we interact with others and the environment around us. This is the notion of social phenomena. Add to that, the theory of healthcare as a social system discussed in Chapter 4, Section 4.6.3, where the reaction and interactions provides healthcare staff with a sense of identity, albeit, under the influences of hierarchies’, professional boundaries and silos (Firth-Cozens, 2002). A clearer picture begins to emerge of the social influences between healthcare staff and the environment around them. These interactions are the focus of my case study in NHS Tayside.

In summary, my research objectives focused on exploring the implementation of the PSLWR within NHS Tayside. The need to consider the nature of participation and the perceptions of those involved in the PSLWR led to a case study approach. Health services research is performed in a wide variety of clinical settings, involving a range of often, autonomous practitioners influenced by the context in which they work. These social influences come from many sources, those around them and the ways in which they themselves and others interact. The human aspects of change in healthcare

can be studied using qualitative methods. In addition, I considered the notion of the context in which people interact was critical to my empirical work as it examines how individuals and teams discuss patient safety issues in the ‘real world of hospital care’.

In the second part of this Chapter, I will now detail the case study methods used to collect the data in order to address my research questions and fulfil my research objectives. The context of the case study fits very well with the intention to explore the staff interactions within the PSLWR.

7.8 Part Two: Methods - Case Study

A case study is, generically, a story, a research approach used to look at individuals, a small group of participants or a group as a whole (Gomm and Hammersley, 2002 and Yin, 2003). Case study research collects data about the participants using participant and direct observations, interviews and protocols to try and understand the dynamics within a particular setting with emphasis on exploration. The case study method was ideal to study the PSLWR within NHS Tayside. A case study is one way of doing social science research and Yin (2003:13) defines it as an empirical enquiry that:

- *Investigates a contemporary phenomenon within its real life context especially when*
- *The boundaries between the phenomenon and the context are not clearly evident*
(Yin, 2003:13)

The term ‘case study’ has been the focus of much debate in the literature over the years (Gomm *and* Hammersley *et al*, 2002; Yin, 2003; Stake, 2005; Baxter and Jack, 2008). Several authors (Alexander and Bennett, 2005; Gerring, 2003; Hancke, 2009) agree with Yin (2003) that a case study approach enables an in-depth investigation and analysis of a social phenomenon within its context and points out that generalization of results, where attempted, from either single or multiple designs, is aimed at theory and not to populations. The value of case study research in healthcare is increasingly recognised as it helps to explore receptive and non-receptive contexts for organisational change (Pettigrew *et al*, 1992). Considering Pettigrew’s *et al*’s

model my semi structured interviews and discussions with staff during PSLWR (akin to focus groups), would examine the 'receptiveness' of the PSLWR method as a means of detecting and addressing harm. Flyvbjerg (2004, 2006) emphasises the value of case study research and the contextual richness of such research for learning:

"to use the case as a process for learning therefore emphasizing the importance of this and similar methods: it is only because of experience with cases that one can at all move from being a beginner to being an expert."

(Flyvbjerg, 2004:421)

"Context-dependent knowledge and experience are at the very heart of expert activity. Such knowledge and expertise also lie at the centre of the case study as a research and teaching method; or, to put it more generally still, as method of learning."

(Flyvbjerg, 2006:219)

Emphasis within the literature on the use of case study research for learning is relevant to this research.

The intense focus facilitated by case study method can also reveal unanticipated outcomes that enable understanding of "*why such interventions succeed or fail*" (Keen and Packwood, 1999:51). A key strength of the qualitative case study is that, it enables a detailed study of particular contexts however, it can raise issues about: the extent to which the study findings are particular to that setting or have a broader applicability. Applicability is relevant to my research, as many other healthcare organisations are now attempting to implement PSLWR.

7.9 Types of Case Study

There are many different approaches to case study research. The approach used in my research can be described as exploratory; such a use of case studies is made where there are few theories or a deficient body of knowledge (Collis and Hussey, 2003). Case studies in general terms, have been defined in terms of: their reflecting a primary interest in a specific case (Stake, 2005). My research extends that view because the NHS Tayside case represents the first organisation to implement the

PSLWR process in the UK and because it permitted an in depth enquiry, the like of which has not, until now, been seen, not even in the USA where the PSLWR originated. This focus of in-depth analysis in case studies is emphasised by Flyvberg (2004:421)

“Concrete experiences can be achieved via continued proximity to the studied reality and via feedback from those under study. Great distance to the object of study and lack of feedback, easily lead to a stultified learning process, which in research can lead to ritual academic blind alleys, where the effect and usefulness of research becomes unclear and untested. As a research method, the case study can be an effective remedy against this tendency.”

(Flyvberg, 2004:421)

7.10 Selection of the Case

The empirical work on PSLWR to date has focused on implementation in USA hospitals. The UK SPI programme (2004-2006) provided the opportunity for my study to take place within one of the first hospitals to implement the PSLWR process. Rowley (2002) suggests there are two dimensions of case study design; holistic with a single unit of analysis or embedded with multiple units of analysis. Each of the designs can then be used in either a single or multiple cases.

Table 7.3 Case Study Design		
	Single case	Multiple cases
Holistic Single unit of analysis	A	B
Embedded Multiple units of analysis	C	D

(Adapted from Rowley, 2002)

For my research, I have chosen a single case study with multiple units of analysis, category C in Rowley’s (2002) model. Using a single case study is a strategy that adds rigor, breadth, complexity, richness and depth to any level of inquiry (Yin, 2003; Collins and Hussey, 2003; Flick, 2009).

Several layers of context can be identified within my case study research:

- The NHS as an entity where a new focus of patient safety as a priority was emerging in policy and literature
- The NHS in Scotland as a component of UK healthcare with devolved responsibility for healthcare delivery.
- The organisation NHS Tayside as the only Scottish system participating in the SPI
- The 2 hospitals systems within NHS Tayside where the PSLWR took place
- The sub-units of data analysis focused on directorates, departments, staff group and level of responsibility

Denzin and Lincoln (2005) emphasis the benefits of this single case study approach suggesting that balance and variety; and cases within a case provides greater opportunity to appreciate the detail of a single case versus a broad representative selection of cases. Rowley (2002:21) recommends a single case study when the case provides:

“a critical test ... is unique or has something special to reveal.”

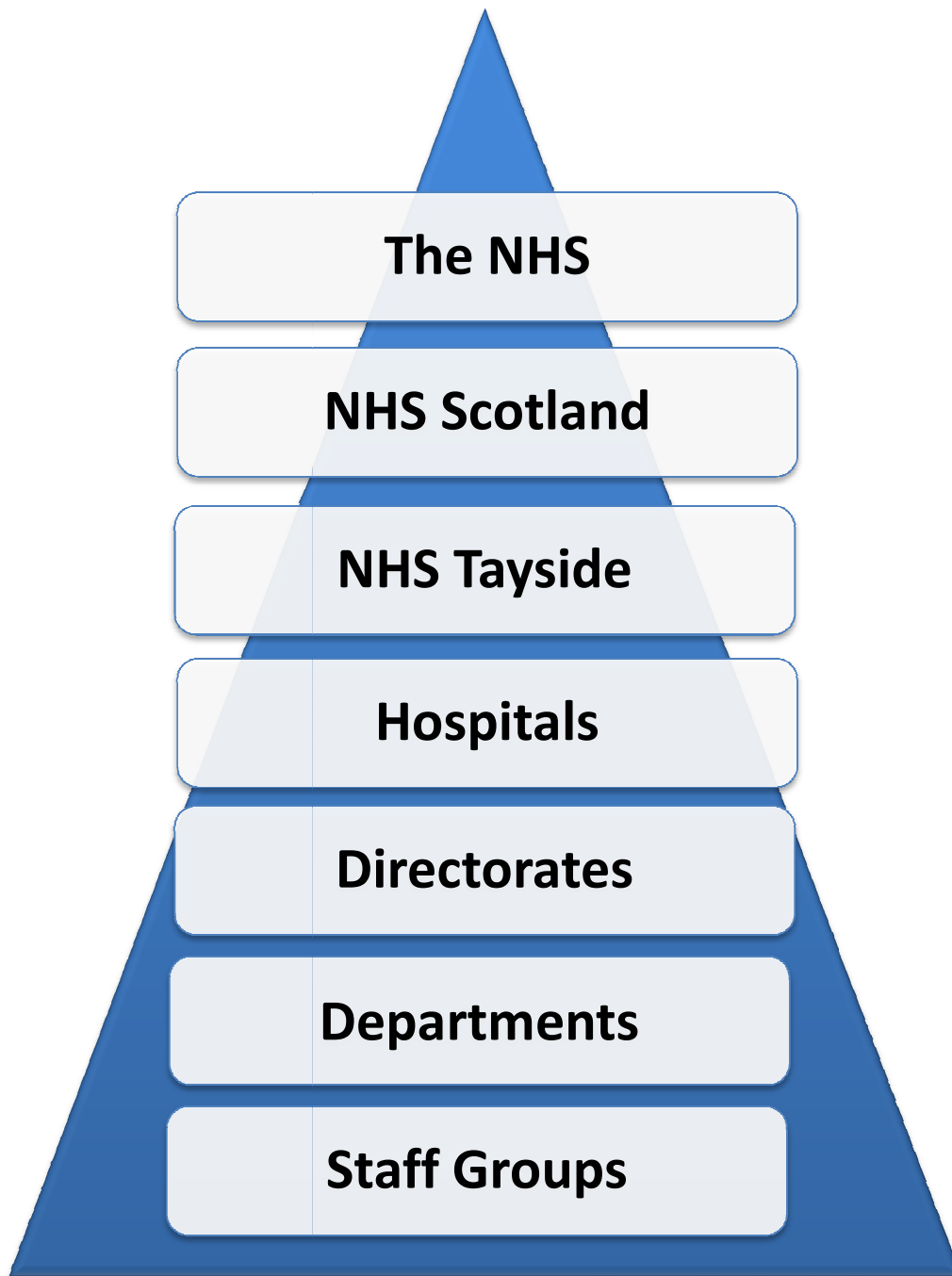
(Rowley, 2002:21)

The unique features of NHS Tayside fit well with this view. To define the framework of these different levels of context within my case study research a model was adapted from Yin (2003) and is represented in Figure 7.2 below.

7.11 Levels of Context within the Case Study

At the highest level my case study is within the context of the UK NHS. The nature of the emergent focus on patient safety as a priority in UK healthcare policy was referred to in the literature review in Chapter 1.

Figure 7.2 Framework of case study



The next level is the opportunity to examine the PSLWR process within a Scottish NHS context. As detailed in Chapter 5, each country in the UK operates within a devolved governmental structure with different healthcare service arrangements.

The third level was related to NHS Tayside as one of the 14 territorial Health Board regions in Scotland providing healthcare and the only health system in Scotland participating in the SPI programme from 2004 to 2006. Another reason for selecting Tayside was a professional one. As a manager and researcher within NHS Tayside, I had levels of access available to me that might not have been available to other researchers that permitted a truly in-depth study.

Within the Tayside region two main acute hospitals provide care. I collected and analysed data from the PSLWR that took place on both hospital sites. I did not intend to compare results from separate sites, as levels of participation and patient safety themes raised by staff might be dissimilar, due to the different types of hospital services provided on each site.

Many different directorates and departments make up the health services of NHS Tayside as detailed in Appendix 6.1. Using the department and directorate level identification within the case study permitted explicit safety concerns to be raised in relation to the specific clinical and non-clinical tasks within individual services.

Finally, staff groups and individual disciplines would give an indication of the role and remit of participants, in addition to the safety concerns of such groups.

7.11.1 Elements of Case Analysis Rejected

The empirical component of my research took place from May 2005 to June 2006. At that time, I also considered including the 3 other UK hospital systems implementing a PSLWR programme. I rejected this idea following information and a discussion with the patient safety managers from the other sites. There were several barriers to collecting the data from the other sites:

- Access to staff and the PSLWR data was restricted and confidential within the differing NHS systems
- Additional ethical approval on each site would have delayed the data collection processes significantly.

Therefore, as a result of these challenges, I chose to focus my study on the experiences with NHS Tayside, with the potential to influence all NHS organisations attempting to implement PSLWR. In summary, the intention of this study was not to compare one system with another but to undertake an in-depth analysis within one hospital system. The focus was to benefit from the deeper understanding and learning opportunity of examining the new PSLWR process to be gained using a single case study approach (Yin, 2003; Collins and Hussey, 2003; Denzin and Lincoln, 2005; Rowley, 2002; Flick, 2009).

7.12 Using Multiple Methods within a Case Study

Qualitative researchers employ several methods of collecting empirical materials. Case study research often uses multi methods and Eisenhardt (1989) suggests the combination of multiple methodological practices. As there were many processes in the development and implementation of the PSLWR, three methods in particular were selected to support the research design and evoke data from the processes: participant observation; participant interviews; and record/protocol analysis detailed below.

- Participant observation and discussion within the PSLWR in a focus group setting to investigate the disclosure of safety issues and analyse the narrative themes and clusters of key safety topics (the PSLWR process is described in Chapter 6, Section 6.15)
- In depth semi-structured reflective interviews with participants to consider their views of the PSLWR process The framework of questions is presented in Appendix 7.4
- Record/Document analysis to explore the actions agreed during PSLWR and subsequent follow up and completeness (an example of the PSLWR report is provided in Appendix 7.1)

7.13 Obtaining Ethical Approval

In the context of research such as mine, involving healthcare staff as participants, requires ethical approval to ensure robust governance of the research process and findings. The process of ethical approval also constitutes a particular method. In accordance with the NHS Central Office for Research Ethics Committees (COREC), procedures for research involving NHS participants (both patients and staff) require ethical approval. Ethical approval was sought and obtained in advance of the study through the Local Research Ethics Committee for NHS Tayside. The local research ethics committee's responsibility is to review research proposals with the aim of protecting the rights and safety of research participants and enabling ethical research which is of potential benefit to science and society. If a research project takes place within the NHS, the local Research and Development (R&D) office advises on whether the project is deemed to be research and thus requires management within the Research Governance Framework for Health and Social Care. They can also confirm whether or not ethical review by a Research Ethics Committee is required, and advise on local governance (the ethics approval letter for my research is attached in Appendix 7.2).

The ethical approval process involves an application to the local committee providing details for the research proposal, timeframe, the location, proposed interventions, expectation of the participants and anticipated outcomes, any risks to the people taking part in the research and finally the escalation or exit strategy if something goes wrong that compromises the patients or participants. For my research, key ethical considerations were:

- To obtain fully informed written consent from participants for both the PSLWR and the semi structured interviews. To satisfy the requirements I provided an information leaflet prior to the PSLWR giving details of how the data from the PSLWR and the interview would be used and stored.

- Confirmation with participants that their discussions and disclosures about patient safety were confidential but not necessarily completely anonymous. During the PSLWR and interviews I documented for further analysis the role and designation of participants.

Before commencing all the PSLWR included in the study the participants were informed of the study's objectives. An introductory leaflet was sent to the area prior to the visit. Each participant was also asked to sign a consent form before participating to secure agreement to take part and to agree to share the key safety issues of the discussions with the wider organisation as well as wider learning from PSLWR process. Participants' names were kept confidential, however, the professional group and area of work were recorded. The rationale for this decision was to enable consideration of the participants discussions and disclosures by departmental team, profession and staff group. The PSLWR discussions were the core means of collecting my research data using a participant observation method.

7.14 Method 1: Participant Observation and Discussion

There is no perfectly transparent or neutral way to represent the natural or social world (Hammersley and Aitenson 1994). However, Holloway and Wheeler (2009) suggest that, to understand participants' experiences, it is necessary to become familiar with their world. In healthcare settings Scott *et al*, (2008) also suggest that it is important for the researcher to gain an even deeper understanding of the organisational context and recognition of the role of group membership in the applications and use of research. Reminiscent of Gummesson's work (2000) (highlighted in Chapter 1) this 'pre-knowledge', suggestive of pre-understanding, is essential in case study research and supports my rationale for choosing a participant observation method.

The unique feature of my case study fieldwork encompasses enhanced reflexivity in my research. As Gummesson (2000) has made clear, it is important to harness pre-knowledge and pre-understanding as an opportunity for the development of enriched

knowledge and understanding rather than allowing them to stifle such an opportunity. As a participant observer in PSLWR, I became the main research tool, interacting with groups of healthcare staff to evoke discussions about safety. Hammersley and Aikenson (1994) suggest participant observation is most useful when:

- there is a strong emphasis on exploring a particular social phenomenon rather than setting hypotheses
- there is an opportunity to work primarily with unstructured data that have not been coded at the point of collection
- the investigation focuses on in depth analysis of single cases
- analysis of data that involves explicit interpretation of meanings and functions of human actions is produced from verbal descriptions and explanations

As a manager responsible for risk management within the system in which my research was set I had to differentiate my managerial role from looking for certain problems to; experiencing and observing them (Reinhartz, 1979).

I designed a research protocol (presented in Appendix 6.4) to guide the PSLWR discussion. At each of the PSLWR, I digitally recorded the discussions and conversations each of which were subsequently transcribed during the period of the research. The transcription of conversation is a time consuming process however, local administrative support was available for transcription. Each PSLWR discussion took around 40 minutes to complete and approximately two hours to transcribe. Once I had the typed transcriptions, I listened to all the recordings (n=38) while reading the transcriptions to check for factual accuracy. When all the data was complete I devised a thematic coding system (Crabtree and Miller, 1999) to identify key safety themes within the discussions. I was particularly interested in staff discussions regarding 'short cuts' they might have to take to complete all the patient care required.

The literature suggested in Chapter 3, Section 3.15, that all individuals drift into unsafe activities in their attempt to cope with the complexities of life (Rasmussen, 1997; Amalberti *et al*, 2005). This study attempted to find out if staff could be identified as enacting Amalberti's theory of drifting into error. Thus I included a question about the perceived need to take shortcuts in practice to 'get the job done'. This was important, because I believed that, in the context of the PSLWR, and the opportunity to talk about their experiences, staff might recognise and disclose harmful/potentially harmful situations or conditions in their experience or practice not recorded by them through any other means.

7.15 Testing the Research Instruments

Before commencing the study, I attended four PSLWR to observe the process and review the outputs of the discussions with those involved. My research protocol indicated that, in addition to the recording of the PSLWR discussions, key points from the PSLWR discussions were hand written. This process produced summary highlights of the participants' discussions that I could to share with them at the end of each PSLWR and use to agree the three safety actions to be taken forward. The digital recording equipment and transcription process were tested during these 4 'pilot' PSLWR. Following the 'pilots' several changes were made to the process:

- As part of the PSLWR process described in Chapter 6, Section 6.16 an introductory leaflet was sent to all departments pre-visit to inform and encourage participation (Appendix 7.3).
- For the duration of this study an additional section was added to the leaflet to give an introduction to the research process and objectives.
- At the same time a letter of introduction was sent to all departments within the hospital sites describing the research objectives and describing the opt out process.
- At the beginning of each PSLWR, the research protocol was reaffirmed to the participants and all those agreeing to take part were asked to sign a consent form.

- The interview questions were tested on one Executive leader, one member of the senior medical staff and two nurses. The order of the questions was changed following nurses' suggestions, as they believed that the revised order would influence active discussion. The questions themselves remained as first drafted.
- The semi structured interview format was tested on 5 participants revealing the questions time allocated for the interview and questions structure and order were appropriate.

7.16 Sampling

Between May 2005 to June 2006 54 PSLWR took place. Following the lead of Denzin and Lincoln (1994), a purposive sample of 40 PSLWR was selected for analysis (presented in Table 7.4 below). A purposive sample is a sample selected in a deliberative and non-random fashion, to achieve a certain goal. Denzin and Lincoln put it:

“Many qualitative researchers employ...purposive and not random sampling methods. They seek out groups, settings and individuals where ...the processes being studied are most likely to occur.”

(Denzin and Lincoln, 1994:202)

My intention in choosing my purposive sample was to think critically about the parameters of the population and include responses from as wide a range of professionals as possible. The occupational areas from which my participants were selected (see Table 7.4 below) were those generally found in busy hospital departments, where a large number of different disciplines and staff groups work. PSLWR conducted during morning, afternoon and night shifts were also included. The sampling continued until the point of data and theme saturation (Pope *et al*, 2000) was reached and nothing new was revealed from the transcriptions. The different kinds of saturation, relative to occupational group, were identified including the role of participants for example doctors, nurses, porters and types of safety issue raised. The sample included PSLWR from all seven Clinical Directorates within three acute hospitals sites of NHS Tayside. Two PSLWR were postponed by frontline staff

due to high patient activity within the unit to be visited. This left 38 PSLWR for in depth analysis.

Table 7.4 PSLWR March 2005 - December 2006	
Directorate Service Area	Number of PSLWR Analysed
Medical & Cardiovascular	8 (1 postponed)
Surgery	6
Specialist Services	4
Operational Services	5
Critical Care	6 (1 postponed)
Orthopaedics & A &E	3
Women & Child Health	4
Clinical Services	4
Total	38 (Sample 40)

7.17 Method 2: Semi Structured Interviews

The second method of data collection used was semi-structured, reflective interviews **to** explore the views of the participants of the PSLWR. Reflective interviews were carried out with participants from all of the 38 (Table 7.5 below). The purpose of the reflective interview is to obtain descriptions of the lived world of the interviewees with respect to *their* interpretations of the meaning of the described phenomena, such as PSLWR (Roulston, 2010). This technique is used to collect qualitative data by setting an interview to allow respondents with the time to elucidate on their opinions on a particular subject. The purpose of the interview process, in my study, was to encourage participants to reflect on their involvement in the PSLWR process and consider sharing their views on the use and function of this activity, as a means to improve patient safety and reduce harm.

Table 7.5 Numbers and Role of Interviewees		
Designation of interviewee	Interviews conducted	Unable to attend
Executive Directors	9	3
Senior managers	5	1
Middle managers	5	1
Medical staff	10	2
Nurses and allied health professionals	15	3
Non-clinical staff	10	2
Total	54	12

Thus, semi structured interviews were undertaken with a range of staff groups. The intention was to include as wide a range of participant views from as many disciplines represented in the participating sample as possible was fulfilled as Table 7.5 above demonstrates.

The objective was to understand the respondent's point of view rather than make generalisations about behaviour. The question framework is presented in Appendix 7.4. The interviews took place in the local area of work for the interviewee. The interview interviews discussions were digitally recorded and transcribed.

A semi-structured interview method has several advantages:

- areas of ambiguity can be clarified with participants to enable those taking part to clarify, understand and respond
- the interviewer can control the context while allowing time and space for the interviewee to develop points
- they can be audio recorded and this renders data collection more accurate but note that a recording process can also intimidate participants
- observational evidence provides additional information about the topic being studied

7.18 Using Semi Structured Interviews

I selected semi-structured interviews as the primary research method in the second phase of the study to enable me to begin to understand participants' construction of meanings in the context being studied (Green, 2000). The semi-structured interview approach (as opposed to highly structured or unstructured types of interview) is capable of yielding the greatest breadth of data on the research issues (Fontana and Frey, 2000). They can elicit interviewees' own concerns, not anticipated by the researcher. However, it is well recognised that interviews are not neutral tools of data gathering. Generalisation of findings and research bias are identified by several authors as barriers (Rice and Ezzy, 1999; Yin, 2003; Fontana and Frey, 2000 and Silverman, 2000). For my research the benefits of using interviews outweighed the barriers as the interviews allowed a new perspective on PSLWR directly from those taking part.

7.19 Semi structured Interview Sample

As the participation of senior leaders in the process was crucial, all executives who participated in the PSLWR were interviewed (n=10). The PSLWR process was designed to connect the senior leadership with the front line. However, I was keen to establish a view from the middle managers in the organisation as PSLWR have the potential to exclude the middle manager. Therefore, their inclusion and their view of the process provided another perspective. As a result a small sample of directorate middle managers were included (n=4).

Given that the general and surgical wards were purposive focal points for the detection of harm; nurses and medical staff made up the majority of participants (n=25). All interviews were conducted as close to the interviewees' place of work as possible in local offices and departments with the intention of making them feel comfortable in their own surroundings. I was also aware that removing the clinicians from their workplace could compromise safety. The interviews were transcribed by an administrator and I listened to and checked each transcription to evoke the data, drawing themes and clusters from the discussions.

7.20 Method 3: Record Review

During each PSLWR discussion, the front line staff and executives agreed to take action around three key patient safety issues raised. The responsibility for these actions was allocated to a named individual and followed-up by the risk management department to check the changes had taken place and to ensure that they had received attention and closure. To make the monitoring of all actions simple to complete, I designed a web based database (E-walk) to electronically monitor progress and outstanding items (an example of the PSLWR report from E-walk is presented in Appendix 7.1). The data base was the source of my analysis to review the actions prioritised and agreed by those taking part during the PSLWR discussions.

7.21 Measures Taken for Accuracy of Data Capture and Entry

Rowley (2002:24) suggests two key tests to establish the quality of empirical social research in qualitative research:

- **Construct Validity:** establishing standardised operational measures for the concepts being studied; using multiple sources of evidence; linking data collection systems and involving key informant in the case study design. During my research, I attended all PSLWR to reduce subjectivity; informed and involved the participants in the study design and used multiple sources of evidence from different disciplines, wards and departments linking them all directly to the research objectives and research questions.
- **Reliability:** or transferability is the extent to which the operations of the study and data collection can be repeated with the same results. I used a research protocol to guide the research design and data collection; designed a data base and kept documentary evidence of the PSLWR discussions and interviews.

Attention was paid throughout the design and execution of the PSLWR recordings and the interviews to the issues of validity and reliability to ensure the data were of high quality. The key contact in the local department was responsible for the

recruitment of local staff to the process. A key contact was identified on initial approach to the staff within the ward or department. It was not necessary for the person identified to be the most senior person responsible for the area but they has to be available on the day of the PSLWR visit. Participants were asked at the end of each PSLWR, to validate the key points of the discussions. In addition, I returned the transcriptions within 48 hours by email, to each local key contact. My intentions were two fold: I wanted the participants to feel part of the new process and to be involved in the safety solutions agreed and to validate the data content by asking the key contact to share the transcription with the participants. The key contact was asked to confirm receipt and secure agreement that the transcript was a true and accurate record from participants or to indicate where the participant did not think that to be the case. This information was then logged as a complete return. A meeting with Chief Executive to discuss the study and any implications of any negative findings also concluded with a letter of support.

7.22 My role

In the Chapter 1 (section 1.7) I emphasised my role in, and the potential for, research bias and contamination of the data (Poggenpoel and Myburgh 2002). My research design was intended to reveal the complex, cultural context of the NHS, within which the participants are positioned as having an authoritative voice (Spector-Mersel, 2010). I had the opportunity to bring together the institutional knowledge of participants and access the social interactions, to explore first hand staff views on patient safety (Gummesson, 2000). I concur with Gummesson's theoretical argument when he suggests that in such environments 'pre knowledge' and 'pre-understanding' are essential to offer unique and positive opportunities in case study research.

As an NHS Tayside employee taking part and a researcher of PSLWR, I am a component ingredient of the patient safety problem and the solution. As the Head of Safety Governance and Risk, I had responsibility for the organisational systems; such as the incident reporting systems, claims and complaints systems to mitigate risk and improve safety. It could be argued that, my presence at PSLWR could have hindered

conversations, as a result of my organisational role and responsibilities. On the contrary, similar to the statement made by the Director of Finance's and used to open this Chapter, I believe the frontline staff saw my attendance as an opportunity to tell me face to face where the patients' safety problems and failing system issues were and ask me directly: what I was going to do about it!

In the beginning, for the 4 pilot PSLWR, the literature around the process conducted in America provided by Dr Frankel was used to draw up the draft questions used by the executives to begin the PSLWR. It became clear from the pilots that a complete redesign was required to suit the context of the local health systems. For example: the order of the questions; who would ask them and how the actions would be agreed to take forward safety improvements.

Prior to my study, the design and application of the operational elements of setting up a PSLWR system were not available. This may be due to the trademark name of Walkrounds™ and the for-profit nature that Dr Frankel has on the Walkrounds™ system in America. As a result, it was never the case of simply implementing a pre-existent process. I had to design and adapt all the internal processes as components of the research methods. The tools of implementation included introductory letters (Appendix 10.1); introductory information leaflets (Appendix 7.3); a visiting schedule (Appendix 7.5) and PSLWR questions to guide the Executive discussions (Appendix 6.4).

7.23 Summary

The methods chosen to conduct my research had to be appropriate to the questions being asked and realistic in relation to the resources available. As with all research methods, there are advantages and disadvantages. The need to collect data from a primary site in the SPI programme and the set up of the local system made the case study choice and methods practical and feasible. My objective, of trying to get as close to the participants as possible and to gain insight to their understandings and experiences on matters of patient safety, risk and harm made this qualitative approach

wholly appropriate. The study also had to be appropriate in terms of ethical acceptability. A crucial aspect of any research method used is the degree of fit between the ontological and epistemological assumptions underpinning the research questions and those underpinning the research method (Fullop and Allen *et al*, 2001).

The nature of my research objectives and research questions meant that it was appropriate for this part of the research to adopt a largely realist interpretivist approach. This epistemological position supported qualitative methodology and methods.

This chapter has discussed the rationale for a qualitative case study and has described how the case study was carried out. The next two chapters will report the findings.

Chapter 8

Results: Part I

“It’s difficult when there is so much going on, mistakes are bound to happen and when they do, everyone is affected. Talking about some of the reasons for these errors during PSLWR helps a great deal. We can then take action as a team to prevent further patient harm.”

Staff Nurse (9)

8.1 Introduction

My study was driven from the beginning by a desire to understand why detecting patient harm in healthcare is so difficult and explore why healthcare staff drift into error. The reality of discussing and acting collectively is realised in the process of PSLWR and is expressed in the staff nurse’s comments introducing this chapter. The PSLWR designed by Frankel *et al*, (2003) was intended to bring people together to talk about patient safety. During my research the PSLWR discussions were planned to evoke disclosure of adverse incidents, the drifting into error, or at least a consideration of the circumstances that could lead to patient harm.

The previous chapter outlined the methodology and specific methods used to collect the data in my study to answer the research questions and achieve the research objectives. The next two chapters will present the findings revealed by the research questions. Part I of the results will focus on the data gathered directly from the PSLWR discussions and relates to the first three research questions:

- To what extent would staff engage in the PSLWR process and discuss patient safety issues?
- To what extent could the PSLWR generate discussions:
 - to identify new or additional information regarding patient safety?
 - related to staff taking shortcuts underpinned by Amalberti *et al*,(2006) theory of ‘drifting into error’? What did they say?

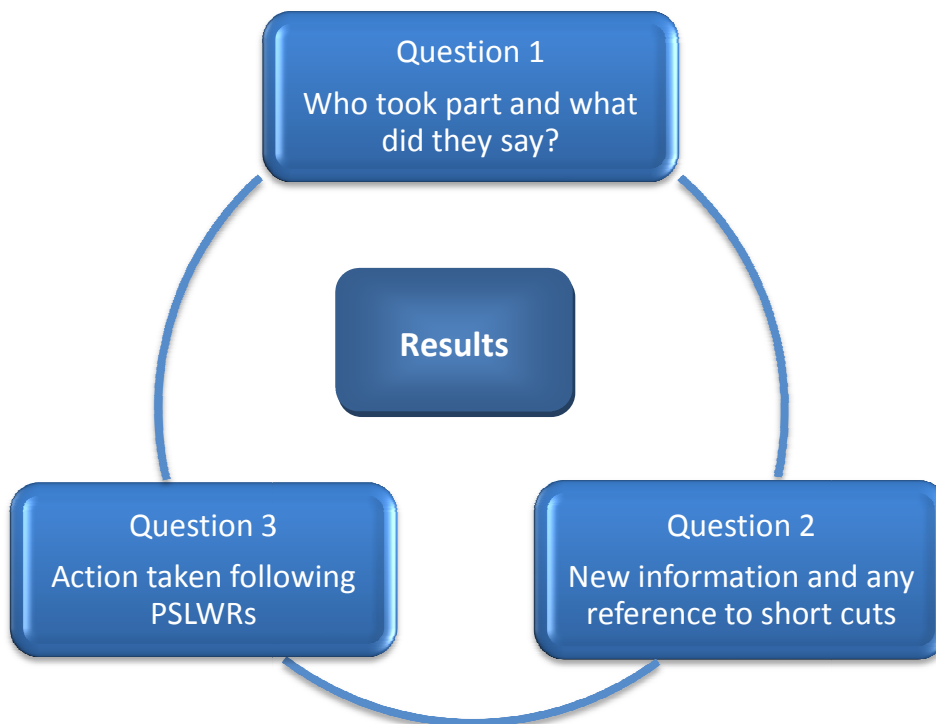
- To what degree would/could the actions agreed during PSLWR discussions be implemented and/or complete?

Part II of the Results (Chapter 9) will address the fourth research question regarding the thoughts and perceptions of the participants regarding the PSLWR process:

- What were the perceptions and reflections of the participants within NHS Tayside of the PSLWR process?

To provide a framework for this chapter the data from the research questions were mapped in themes (presented in figure 8.1 below).

Figure 8.1 Results
Key Themes from Data Analysis in PSLWR



8.2 Who took part in PSLWR?

The 1st of my research questions set out to find out if staff would take part in the PSLWR. Creating safer hospital care requires all staff to take part (Stainsby, 2005; Pronovost *et al*, 2006). As highlighted in the literature review (Chapters 2, 3, 4), there are many reasons why it is difficult for all staff to be involved in patient safety. My PSLWR were designed to bring the Executive Directors (the decision makers) of the organisation together with frontline staff, (the change agents) those delivering direct patient care to have open discussions about local safety issues.

To recap from the previous chapter, from May 2005 to June 2006, 40 PSLWR took place within the clinical and non-clinical departments of NHS Tayside as part of my empirical study. Each PSLWR engaged a group of staff in patient safety discussions and took approximately 40 minutes to complete. Frontline staff postponed just two of them due to high patient activity (the areas were too busy). A purposive sample (n=38) was selected for analysis. The aim in the sample was to include as many different areas of the hospital environment in an attempt to include as wide a range of staff from all disciplines. A diagram of the organisational directorates involved is presented in Appendix 6.1.

A total of 218 staff took part in the 38 PSLWR selected. Two executives and between 3 and 8 staff took part in each PSLWR. At least, one member of the medical staff participated in all of the PSLWR that took place in clinical areas.

As part of the PSLWR discussions a report from the discussions was recorded including the designation and discipline of those who took part. Each PSLWR presented an open invitation for any staff member to take part therefore, the numbers and designation of participants was important as this would indicate willingness to use the new process in some way.

The data regarding role and designation were analysed into key participant groups presented in Table 8.1 below:

Table 8.1 Participants by Designation	
Designation	Number of participants
Executives	12
Qualified nurses	62
Unqualified nurses	15
Senior medical staff	20
Middle Grade Medical staff	8
Junior medical staff	14
Medical Students	10
Nursing Students	14
Local managers	14
Pharmacists	4
Physiotherapists	4
Non -clinical Operational service staff	26
Clinical service staff	15
Total	218

The participant groups above (Table 8.1) were grouped into 5 main categories:

- Executives and managers
- Nurses including those in training
- Doctors including those in training
- Non clinical staff (porters, cleaners, ward clerks, ward assistants) and operational clinical service staff (laboratory staff, auxiliary nurses)
- Others including Pharmacists and Physiotherapists

Each of the participant groups and the relevance of their participation will be discussed in detail in the next sections.

8.2.1 Executives

The Executive Team members were a mandatory part of the process and without their attendance, a PSLWR it could not take place. All members of the NHS Tayside executive team took part in at least one of the PSLWR within the purposive sample. Table 8.2 below presents each Executive's role and key responsibilities.

Table 8.2 Executive Role and Responsibility	
Designation	Role/ Responsibilities
Chief Executive NHS Tayside	The Accountable Officer
Chief Operating Officer	Lead Executive for Service Delivery
Director of Workforce Planning	All aspects of Human Resources
Director of Nursing	Professional Leadership for Nursing
Director of Finance	Regional Health Budget
Director of Operations	All non-clinical services: estates, catering, cleaning
Medical Director	Professional Leadership of Medical staff
Director of Planning	Strategy, Development and Performance
Director of Change and Innovation	Commissioning, Service Development

The purposive sample included all of the 9 NHS Tayside Executives Directors. To ensure the process became embedded as a regular weekly occurrence the intention was to hold at least one PSLWR per week. Securing 40 minutes to one hour in any NHS Senior Executive's diary, on a weekly basis is difficult. The complex nature of the healthcare environment makes a significant proportion of their day unpredictable. The manager of the Chief Executive's office suggested approximately 30% of the diary could change and be rescheduled in any given day (NHS Tayside CEO Diary, 2010). This unpredictability, coupled with the high volume activity of an NHS Executive's day makes scheduled time difficult, but not impossible. As set out in the PSLWR protocol, detailed in the previous chapter, the PSLWR sessions were 'protected' in the weekly diary of each executive. This weekly commitment from executives in NHS Tayside to the PSLWR process is impressive as leadership for safety is highlighted in the literature as critical to the success of improvement in safety interventions (Flin and Yule, 2008; Powell *et al*, 2008).

My expectation was that the executives with a clinical background, for example the Director of Nursing and the Medical Director, would engage with the PSLWR system more readily than others. This assumption was based on their accountability and responsibility for the professional work force and their own experience as clinicians. On the contrary, this was not the case and all Directors took part at least once per month sometimes twice or more, depending on the PSLWR schedule and the availability within the each Executive Director's diary. Worthy of note in this organisation, is that both the Chief Executive and the Chief Operating Officer have clinical nursing qualifications and experience. This is unusual in NHS Boards. Their individual commitment, senior position in the organisation and clinical experience might have had an influence on their own commitment to the process and their ability to influence the engagement of other executive team members.

The non-clinical Directors of Finance; Operations and Workforce showed a particular interest in the PSLWR process by taking part in over half of all the PSLWR in the sample. I would suggest the PSLWR presented a unique opportunity for those individuals in particular, to meet with frontline staff. In a 'typical hospital day' a non-clinical director's work is primarily concerned with 'inputs' and 'outputs'. For example within NHS estates services, the focus is on building and maintenance; cleaning and catering; in finance it is on accounts and balance sheets. PSLWR offered these individuals a 'window' into the everyday life of frontline hospital work; the 'real' business of treating patients; to consider the decisions they make at Board level and the impact those decisions have on frontline patient care.

8.2.2 Managers

The local managers participated in over a third of the PSLWR. Frankel *et al* (2003) suggested that such participation is an important point to note as discussions and decisions between Senior Executive and frontline staff can undermine middle local management processes and decisions. So, having the managers present was helpful when local actions were identified to make sure they were included and involved in the planned change to reduce patient harm.

Conversely, it could be that the managers' presence could have negatively influenced frontline staff participation, as they may have felt less free to speak about issues that the line manager had not dealt with. Indeed, there was evidence of 'manager control' in one of the first PSLWR studied where there seemed to be a reluctance to participate and to talk about safety. As will be seen, further analysis of the transcripts revealed the main discussions were led by the local managers and by clinicians.

Meeting with nursing staff had particular relevance for the executives as we will see in Chapter 9, Results Part 2, where the Directors' reflections are analysed. Given the direct influence nurses have on patient care their involvement in the PSLWR process was critical.

8.2.3 Nurses

Nurses play a key role in patient safety. They are usually one of the first of the healthcare disciplines to engage in and often lead the way in improving patient safety (Tregunno *et al*, 2009). As a workforce, nurses make up the largest professional group of employees within NHS Tayside, accounting for around 35% (n=3,564) of the total proportion of staff and they represented over a third of all participants in the PSLWR. In addition, on a daily basis nurses also provide the highest proportion (50%) of direct clinical care to patients within the hospital setting (Needleman *et al*, 2002) and are often the drivers of change in clinical practice. For example, if treatments change, nurses are the most likely professional group to be involved and instigate direct changes to a patient's care plan. This, high volume/high influence group within the workforce is closely linked to patient care and patient safety. Therefore, it came as no surprise that they would be the staff group most involved in the PSLWR discussions. Given their lead role in patient safety nurses are also most likely to log a formal incident reports when things go wrong (Hutchison *et al*, 2009). In Chapter 6, Table 6.4, I presented the data from the NHS Tayside incident logging system showing that over 8000 adverse incidents were logged by nurses in 2006-2007. This figure represents almost three quarters of all events recorded in the system.

However, nurses are a varied group in terms of roles and levels of experience. A wide range of nurses took part in PSLWR, from the most senior charge nurses to new student nurses only a few months into their clinical practice placements. This suggests that talking about safety was important to all nurses regardless of the nature of their clinical experience. Within the PSLWR sample that I analysed (n= 91), 25 of the most senior clinical nurses (Senior Charge Nurses) took part. In the nursing hierarchy, the senior charge nurse is the most senior nursing professional, responsible and accountable for the delivery and quality, of nursing care within his or her working area. The involvement of senior nurses and nurses in training in PSLWR, offers a demonstration of nursing leadership to improve patient safety. The discussions during PSLWR offer the opportunity to role model and teach the student nurses that, patient safety is a priority in the provision of nursing care. However, the PSLWR were designed to bring all healthcare staff into a conversation about safety. As the literature demonstrated it is not nursing but medical staff that seem to have difficulty in engaging in the systems to improve safety (Lawton and Parker, 2002; Evans, 2006; Rowin *et al*, 2008).

8.2.4 Doctors

While the public may assume that doctors are the leaders of decision making and clinical care (Wegwarth *et al*, 2009) empirical evidence suggests that they are not yet leading the patient safety agenda (Stieger, 2007; Hutchison *et al*, 2009; Ocloo, 2010). The evidence in relation to their formal engagement in patient safety, particularly, in relation to reporting adverse incidents is stark (Kaldjain *et al*, 2008; Rowin *et al*, 2008). Very few medical staff engage in formal safety activity unless, they are personally involved in a serious harmful event and they believe litigation may follow (Fahrenkopf, 2008; Brady, 2008; Leonard, 2010).

However, my empirical evidence suggests that medical staff were willing to participate in PSLWR. In the sample studied over a quarter (n=40) see Table 8.1 of participants in PSLWR were medical staff. One issue that might have influenced the doctors' decisions to participate is that, very little preparation is required to take part

in the PSLWR process. Taking part simply involves, stopping work momentarily to discuss about patient safety. Recording and engaging in other patient safety improvement events, particularly incident reporting, takes more time and effort. Logging a formal incident report within the IT system requires training in the use of the software technology, competence and knowledge to use the software and takes around 15 to 30 minutes to complete detailed in Chapter 6, Section 6.6.5. More importantly, discussing patient safety often requires the will to formally discuss, disclose and record your mistakes.

The involvement of medical staff, including medical students, highlights the attractiveness of this method as a means of beginning a valuable and sustainable conversation about patient safety. Junior Doctors' participation is also worthy of note as their reactions to this method suggests that it offers them the welcome opportunity to contribute to local team activities in an ongoing and developmental manner as they change clinical departments every 6 weeks. As the following narratives indicate, encouraging all learners to participate in patient safety discussions promotes a culture of openness and creates a system where disclosure of safety issues may become the norm:

“Theory and practice is the age old problem, what they teach us over there [the university] on how to be safe, is not necessarily what happens in safety practice over here [the hospital]. The theory makes it sound easy, the reality is another matter. This kind of informal process might help to open discussions on the gaps.”

Medical Student (1)

“Patient safety is not an issue that gets major attention on the theory side. I was surprised at all the attention it gets in practice.”

Student Nurse (7)

“Well I don't know how to make a report; I can't make an incident report myself, as I am not actually an employee. But that doesn't make me immune. I am part of the safety system; there should be a mechanism that I can personally participate in. I don't think we spend enough time on safety within the curricula this is a good way to have a short burst conversation pick out a few ideas and move on with work.”

Medical Student (5)

In a teaching hospital, it is important that there is synergy between the learners experience in practice in the clinical areas and the theory taught in the university class. These connections are essential for the students to learn how to convert their theoretical knowledge to evidence based practice, to deliver high quality reliable care.

NHS Tayside is a teaching hospital system with over 600 students of all disciplines in training each year. These students have a vital role within the service and contribute to service delivery quality and safety. As can be seen from one of the narratives above, one issue within the organisation is that learners have no official way to make a patient safety report. The organisational incident reporting system is not available to them. Because of, what could be termed as, their 'semi-detached' status, the participants in training had a unique perspective and often 'untainted' view of the organisation. As a group, they were very keen to try out this new process in the organisation, commenting specifically, on the differences in safety practices theoretically and practically. This willingness of students to participate might also have had an influence on the non-clinical staff involvement.

8.2.5 Non-Clinical Staff

Non-clinical staff have, in general, limited opportunities to discuss patient safety. Access to make formal reports using the electronic local incident reporting system was not available to all non-clinical staff at the time of the study. The relatively spontaneous nature of the PSLWR offered all staff the opportunity to participate. Non-clinical departments seemed surprised at first that this process would include them and they could play a role in patient safety, but welcomed a visit from the Senior Executives. As a group they were very keen to participate in PSLWR and add to the patient safety discussions.

One element of the study that stands out is the ability of PSLWR to engage all levels of staff within the hierarchy demonstrated in the engagement of the porters. The porters especially liked the PSLWR process and were very enthusiastic about what they could detect in patient safety terms and how patient safety could be improved

through points identified by them. During the PSLWR to discuss safety with the porters' service, eight members of the team took part (this proportion was two thirds of the porter workforce available on that day from the team of twelve). Each individual porter contributed to the discussions and suggested ways in which the service could improve. Within this PSLWR, 32 safety issues were discussed indicating 12 areas of improvement throughout the organisation. One porter suggested, they were a group that had been overlooked by the patient safety programme so far, but who had a significant contribution to make:

“Well we know a lot about safety; all patient transfers involve a porter to transport the patient from one area to another. We can give comment on a number of issues[including] bed type, medical devices, blood transportation, time taken for tests X-ray etc., even how patients are feeling sometimes? They'll [the patients] tell us things during the transfer they may not tell other staff. I believe we can be the 'eyes and ears' of patient safety. We visit all departments within the hospital both clinical and non-clinical and hear a lot of things that might not be heard otherwise...including unsafe issues. The porters have lots of patient safety intelligence about the organisation... both good and bad.”

Porter (4)

The porters comments above demonstrate how employees, often those in 'lower' positions in the hierarchy can have a higher 'organisational intelligence'. They often develop a deep understanding of how the organisation 'works' in relation to the reality of daily activities and behaviours within the hospital. Nursing auxiliary's demonstrated a similar level of hospital system knowledge. Like the Porters, they felt marginalised regarding patient safety yet, believed they had something to contribute.

Nursing auxiliaries participated in many of the PSLWR in the clinical areas. Narratives recorded from members of these groups suggest that, several simple changes could be made to improve patient safety within their areas of work:

“Patient safety is a huge issue here. I'll be happy to talk about it, but unless we are at the team meetings it can be difficult to put forward your ideas. There are a lot of patient falls here. I don't think the risk assessments are actually making care better ... Yes we record it as an adverse event and try and guess what might cause it, but often we record it over and over and nothing changes.”

Nurse Auxiliary (7)

“Thanks for asking me to join. Are you sure it’s me that you want? I’m the ward assistant ...oh patient safety...well I think the thing that causes a lot of bother is the patients’ name [identity] bands. If the patient doesn’t have their band on and can’t communicate, there can be lots of mistakes. Well...I could mention a few; we’ve given the wrong meal to a patient [a diabetic]. I’ve also taken a patient for the wrong test, we discovered it just in time and I only stayed with the lady because she was scared. I’ve never reported these, I don’t know how to, the staff nurse does though; I suppose I could have told her. I just thought all’s well that ends well. Isn’t it?”

Ward Assistant (14)

The disclosures of the three members of staff above highlight important points to improve within patient safety. Including ward assistants and ancillary staff in the PSLWR discussions offered new opportunities for them to contribute by sharing their practical ideas for changing practice as well as demonstrating the richness and usefulness of their organisational intelligence, a factor that is brought into stark relief through the means of the PSLWR.

The fact that they are capable of making such a contribution, if not confident in their ability to actually make verbal and written reports demonstrates their key role in improving patient safety. The PSLWR uniquely recognises their contribution in this context to be acknowledged within the hospital system. Some of the responses included reference to the difficulties they face in formal reporting; another issue is that the organisation had no alternative means of finding out; other than through the PSLWR discussions. From the comments above it is apparent that porters, cleaners and ancillary staff were not normally involved in patient safety improvements. My assumption is based upon their surprise at the invitation and acknowledgement of asking them to participate, demonstrated in their ‘thanks for asking me to contribute’ and ‘here’s what I think I can add’ type of comments.

8.2.6 Pharmacists and Physiotherapists

The participation of Pharmacists and Physiotherapists is another unique feature of the PSLWR. Pharmacists and Physiotherapists are essentially visiting professional groups to the clinical area. They are not necessarily allocated to the same clinical area each day and as such may have no affiliation to the local ward team. Physiotherapists

play a key role in rehabilitating the patients to undertake physical movement and assess patients' abilities to cope with daily living activities before discharge. Pharmacists ensure that the patients' medication lists are correct in hospital. Pharmacists play a key role in monitoring the accuracy of the doctors' prescriptions in relation to the dosage, frequency, route and the contraindications that multiple medicines can have. Both Pharmacists and Physiotherapists belong to a central hospital department and as such visit many clinical teams in several hospital areas each day. As a result they have little opportunity to participate in the local teams' safety activities. The PSLWR gave them the ability to interact with the local department staff and offer ideas as to the current safety issues and how patient safety could be improved:

“The medications lists are a nightmare in ward 15[acute medical admissions unit] in particular. Most of the patients are elderly and on several medications. The list can vary between 15 to a high of 40! With lists like that a lot of errors happen...the doctors make several mistakes routinely...wrong dose, wrong time, wrong route...prescribing medications that cannot be taken together...it's a minefield. If only we could get them to use the new medicine reconciliation form that would help.”

Pharmacist (7)

In that dialogue from the pharmacist, the individual is blaming the doctor, suggesting that, as the prescriber, s/he is the only individual who might engage in the use of the medication reconciliation form, when in fact, several disciplines can and do use the form.

8.2.7 Participation in PSLWR

Taken together, 77% of participants were involved in providing direct patient care; including nurses, medical staff and learners in these contexts. The results reported and analysed within this thesis suggest talking about safety through the PSLWR process was of interest to all of the staff involved, whatever their role or level in the hierarchy. Another marker of showing 'willingness to participate' was demonstrated in the low number of postponed PSLWR. In the sample studied, only 2 (from 40) PSLWR were rescheduled by the ward areas due to high patient volume and activity. Participants' comments demonstrated their preference for PSLWR discussions in

comparison to the formal reporting methods. Several of them spoke specifically, and in positive terms, about the new process of walk round discussions in comparison with formal incident reporting:

“This seems a good way to talk about safety. I feel safer. Seems less threatening than an incident report. I feel like I'm telling on someone or even myself when I make a formal report.”

Staff Nurse (3)

“I like this way of talking about safety it's difficult to keep up with all the safety information...the patient safety walkrounds are helping us to focus and share information. I think the best thing is the way we are having team discussions. I actually get more ward staff telling me about near misses as a result of their participation in the walkrounds. Why? Well I think they feel safer...I certainly feel I will not be blamed for the events that I've missed (not reported) and it's a quicker way to deal with things.”

Staff Nurse (15)

“It's easier to talk isn't it? You don't have to do anything just talk, no writing, no computer...”

Staff Nurse (7)

“Well this is a refreshing change for the better too. The opportunity to discuss safety with the senior team is great. I wouldn't know how to bring something to the attention of any of the senior leadership of the hospital. But this process brings us together to talk about patient safety....a good start!”

Senior Consultant Doctor (24)

“It's about time we had discussions just about patient safety. This is an efficient way to discuss it rather than making a formal report for everything; I don't have time to make a report every time I see or am involved in an error. Oh I know I should but it's just not physically possible.”

Senior Consultant Doctor (20)

As can be seen from the above narratives, the opportunity to talk about patient safety instead of making a formal adverse incident report was a major feature of the discussions with staff across the spectrum of professional involvement regarding the PSLWR process. The issues of access to the formal reporting system and the time taken to make reports were all highlighted as during the discussions as barriers to patient safety. All of which are negated by the straightforwardness and immediacy of

the PSLWR. The next section will highlight the safety issues staff identified during the PSLWR process.

8.3 Participants views on Patient Safety

The second of my research questions focused on the content of the discussions during the PSLWR with regard to safety, taking shortcuts and new information revealed by this method.

“I have noticed that the wrong surgical procedure was going to be done to a patient and if it wasn't in the ward where the staff nurse was really approachable I may not have spoken out. I couldn't report it [new information]. I would feel I was telling on someone who made the mistake and I make mistakes too. No harm came to the patient so I suppose that's ok”.

Junior Doctor (9)

The ‘no harm came to the patient so it is ok’ theme is a recurring one identified by a many staff in my empirical work. In above example it is the ‘no damage done so we're off the hook’ idea that's coming through strongly. I would suggest this culture of failing to recognise the importance of near misses is an opportunity for the organisation to learn. Will approaches change if people fail to engage with the near misses and only engage with the situation that's demonstrably gone awry?

Participation is only the first step. The PSLWR are designed to establish an ongoing joint discussion about local safety. The second research question involved a study of the transcripts to determine what staff said during the PSLWR in relation to:

- actual disclosure of adverse incidents that they were willing to talk about
- the impact of short cuts; to identify any recognition of situational awareness during any adverse incidents (Amalberti *et al*, Theory of Drift, 2005)
- participants' knowledge of the current system incident reporting
- new information revealed by PSLWR previously not part of the knowledge of the organisation

8.3.1 Actual Disclosure of Adverse incidents

In developing the questions for the PSLWR (Appendix 6.5) I framed them in such a way as to stimulate local conversations about patient safety concerns. Over 354 issues were raised by local staff as patient safety concerns during the PSLWR (n=38).

The disclosure of events may have been helped by framing the question as “How will the next patient be harmed?” The tone here is that participants are being asked to reflect upon events that have not happened. However, many participants described ‘actual’ events that had caused recognised harm. In rationalising the manner in which the participants interpreted the safety of the PSLWR discussions, I have concluded that their interpretation was one that helped them to share their information feeling somewhat secure that they would not be judged for past events. I believe this was as result of the design of the PSLWR focused on preventing harm for patients in the future. The themes identified were mapped to the most frequently reported events in the incident reporting system and are also reflected in the literature as major concerns to the patient safety agenda (McGlynn, 2003; Leatherman and Sutherland, 2004, Vincent, 2010).

Using thematic analysis, 4 key themes frequently emerged from the data:

- Medication errors prescribing and administration (Kane *et al*, 2010)
- Concerns regarding infection control (Reilly *et al*, 2007)
- Environmental issues (Frankel *et al*, 2005, Armstrong *et al*, 2009 and Birnbach, 2010)
- Communication issues leading to errors in patient care (McGrath *et al*, 2009)

In combination, these lead to a fifth theme:

- Drifting into error (Rasmussen, 2003 and Amalberti *et al*, 2005)

Each of these patient safety themes is explored below, illuminated through participant narratives, before I discuss how drifting into error can be recognised.

8.3.2 Medication Errors

As earlier chapters have shown, the literature highlights around 42% of all adverse incidents reported are medicine related (Zandieh *et al*, 2008; Leape *et al*, 2009). Specific authors suggest a maximum of between 10 to 20 % of these adverse drug events are ever detected or reported (Franklin *et al*, 2009 and Likic and Maxwell, 2009). My study found 25% of events disclosed during PSLWR (n=82) involved medications. The safety events discussed within the PSLWR involved different aspects of the medication process: prescribing, storage, access, administration and patient identification had a role. Both nurses and doctors gave examples of medication errors. The issue of medication events raised also described many of the contextual factors influencing the event: the ward environment, complexity of patient care, chart layout and bed occupancy, all played a part. The following narratives, in addition to demonstrating circumstances within my case study and participants' thoughts on those circumstances, also indicate similarities with other significant instances that have been widely reported elsewhere and referred to earlier in this thesis.

"The medication trolley was so full of different types of similar drugs [that] I have given a patient the wrong medication. Two similarly named patients were on the same drugs."

Staff Nurse (51)

"It's just so easy to give the wrong thing; the packaging looks the same from the drug companies. We have at least 6 medications in the drug trolley with identical packaging. We probably pick up the wrong box every day but notice just in time before a mistake is made. None of these events would ever be reported."

Staff Nurse (34)

The above quotes demonstrate how easy it is in practice to perform an error which can sometimes lead to harm to the patient. The mistakes described reflect similar

issues regarding the identification of drugs as seen in the fatal case of Wayne Jowett (see Chapter 1, Box 2. 4).

Within the general PSLWR discussions about medications errors, there were several examples of ‘near hits’ where the patient was almost harmed but intervention at the last minute prevented an adverse incidents:

“It’s the constant changes to the medication sheets that’s [sic] a nightmare. I could actually do that as my only job. I know the alterations keep all the medications correct for each patient...I’ve made some howlers doing this and been corrected by the nurse on duty. At least they pick it up...No I don’t know how to report that.”

Junior Doctor (11)

“The new prescription sheets were difficult to follow when they came out. We made errors every day. Usually, most often, there is just a delay in the patient receiving the medication. It was just so difficult to follow.”

Staff Nurse (33)

“Medication errors are the biggest problem no doubt about it. Then the next issue is the number of times in a day that we make alterations to prescription. These would be impossible to count. They [the mistakes] could end up as errors. We are trying to implement a safer medicines reconciliation system, well we’ve done a few tests with a few changes to ensure every patient gets the correct medication every time. It’s helping a lot. The pod locker [personal medication cupboard at each patient’s bedside] and personal medications for patients were meant to reduce errors but they’re still there. There’s lots of near misses everyday, particularly with inaccuracies in the prescription sheets.”

Senior Clinical Pharmacist (1)

“Changing the medication chart is my job and not only making the corrections but sharing the errors with the Junior Doctors who have made the errors...the problem is, I don’t have time to record all these in a report. There are often issues on every single patient prescription chart. I would never have the time to report all that. I don’t even have time to pass on all the errors to stop them happening.”

Senior Clinical Pharmacist (2)

“Many of the medication charts are impossible to read and it’s so easy to make a mistake. It takes so much time to check. Sometimes you have to ask a colleague or just have to take a best guess as to what it says given your own knowledge”

Nurse (41)

"The issue in the last week has been the discharge prescriptions. It really is a safety issue as many patients have waited over 4 hours to receive the medications from the hospital pharmacy. This creates problems in accommodating them while they are waiting for their relatives to come to collect them and most importantly the medications that they miss during this holding period. I haven't reported any of this and a few people have been quite unwell during the wait sometimes requiring a bed (again) for a short period. If I were to report all of these, I would never get my work done. It happens at least half a dozen times a day. We are trying to work with the local clinical pharmacist to develop a faster system but that's only my area. What about the rest of the hospital?"

Staff Nurse (1)

Well, when it's really busy in here it's hard just to think straight never mind give all the right medications. I know you're not meant to give out more than one medication at a time but I don't have time to run back and forward for everyone so I do it [i.e. dispense multiple medications to several patients]...so far no mistakes "

Senior Staff Nurse (38)

A normal day looks like this...5 admissions and perhaps 5 discharges home, the phone goes non-stop...doctor's rounds, students, learners, medication rounds and meal times, then throw in visitors. Have I forgotten anything? It's chaos. Now does that sound like a safe system to you? It scares me thinking about it and I live with it every day. Take your pick! The problem with medications is they need a bit of concentration and there are so many interruptions".

Staff Nurse (27)

"Sometimes I don't know why we don't make more mistakes it's a bit like auto pilot in here...you know the feeling when you drive to work and don't remember the route...well that's what like on a regular basis...especially with all the IV's."

Junior Doctor (8)

"It can be quite scary coming to work when you know you are responsible for someone's life."

Senior Charge Nurse (18)

Medication errors were raised in over a third of the PSLWR; several participants commenting on the context in which these events happen, busy ward, interruptions and detailed repetitive work. The implications of these issues were clearly understood by those sharing their safety concerns but the incidents were rarely recorded, largely due to the time that would be required to do so given the need to correct for the

mistake, and the volume and complexity of work in which participants are involved. As a result, there has been little opportunity for change.

Staff commented on errors such as ‘wrong time’, ‘wrong dose’ in the prescribing of medications critically linking these to the newly designed medication chart, thereby suggesting that the new chart introduced more errors. Although not identical, in the case of Kerstin Parkin (Chapter 2, Box 2.3) it was the introduction of a new system and the staffs’ unfamiliarity of that system that caused the devastating effects. The chaotic and complex environment (see Chapter 4, Section 4.10) also supported by Kernick (2004) and Resar, *et al* (2009), exacerbated in particular by interruptions, has a direct effect on the safe administration of medicines (Westbrook *et al*, 2010). Although the systems are designed to be as safe as possible, the quotes above show that shortcuts are inevitable due to the increasing service demand (Culyer and Cullis, 2009; Mannion, 2009 and DoH, 2010) and the impact of professional role changes and less staff available (Directive 2003/88/EC; DoH, 2004a and Tooke, 2008).

Participants complained about the lack of training and consultation in the development and use of the new medication document introduced over the past two years. The document was tested and piloted in 4 areas throughout the organisation then several thousand copies printed and distributed to all departments. The suitability of using the chart in all departments was not tested in all areas. One participant referred to this approach as the:

“Spray and pray method. Circulate everywhere and hope that it works.”

Staff Nurse (15)

The issue is not with the individual chart but the assumption within the organisation that one chart used for medication can be replaced by another, even although it is not a like for like replacement.

Patients and their carers' are not the only people to suffer harm as a result of adverse incidents in healthcare. Staff are also affected as they believe they did not intend to cause harm but it nevertheless happens. A few individuals shared this experience during PSLWR. The literature describes such a scenario as indicative of there being a second victim in harm situations (Wu, 2000). There is currently no formal system within NHS Tayside to support staff following adverse incidents unless the event is fatal, then the Organisation usually offers some guidance. However, such staff are also likely to be involved in an enquiry and potentially open to prosecution in such an event, 'drift' and negligence essentially going hand in hand in such an outcome. To extend this I would suggest that the drift into error/negligence link appears, until now, only really to have taken seriously in the event of a fatality. The PSLWR is designed to prevent or at least minimise such incidents. For less frequent harmful events no such system exists. The following quotes demonstrate the personal impact of such events on individuals:

"I was trying to deal with the complications [bleeding following a procedure] but I just didn't know what to do next. Actually, I was really stressed about it. But after the event I wanted to talk about it but everyone went back to work as if nothing unusual had happened. I don't know if I should say this but when I went home I cried."

Junior Doctor (7)

"I gave the wrong injection to a patient with no side effectsthe hardest thing was explaining to the patient and her family, I felt absolutely awful...that was years ago before we had all the rules about reporting. I felt so bad I didn't come to work the next day, I just couldn't face it. I was sick with worry."

Staff Nurse (55)

"I have made a mistake and gave a man a dose of IV antibiotics that were not meant for him [no adverse effect]. I explained to his family which was tough and he died a few days later...no link to the mistake but I was really upset about it all. I was really junior at the time and kept thinking, "What if that was my dad? You just can't help it. I do feel responsible for my actions."

Middle Grade Doctor (7)

The middle grade doctor's comment above demonstrates an example of staff understanding of the contribution that they make in the prevention of healthcare

acquired infections. Several participants talked about infection control as a key focus of patient safety improvement in hospital.

8.3.3 Infection Control

Recent literature suggests that, the widespread use of broad spectrum antibiotic prescribing and the failure to remove intravenous (IV) lines both contribute to increased infections by reducing patient resistance to these treatments. In the UK, 11% of all healthcare associated infections are related to Peripheral Venous Catheters (PVC) (Reilly *et al*, 2007); which are, at their most serious, fatal (Pujol *et al*, 2007). Controlling infection is a national priority within the performance management system of the NHS. Several participants commented on infection control as a main issue for patient safety in their service:

“There's a big focus in practice in hospital to reduce the use of antibiotics in here and we all know that the evidence base suggests wide spread use increases resistance to MRSA and Cdiffie [microbes that cause infections]. The problem is the IV's are kept in too long ‘just in case’ we need it. Then what happens is the IV site on the patients hand gets red and swollen then infected...Some of it's our problem though, I need to check more but I don't have time and the nurses should remind me too.”

Junior Doctor (6)

The Junior Doctor above infers that such infections are the nurses' fault because they don't remind him to review and instruct removal of the peripheral cannulae. Although, there are nurses trained to insert peripheral cannulae into the patient, in the main this is the responsibility of medical staff. Monitoring the function and use of peripheral cannulae is the responsibility of doctors and nurses alike.

A total of 42 infection control incidents were disclosed during the study. Many of the discussions regarding infection related to the individual practitioners' ability to apply the evidence based standards and policies every time to every patient (McGlynn, 2003, Leatherman and Sutherland, 2004). Issues of non compliance with infection control standards are usually monitored and reported by the infection control team; senior doctors or nurses. However, the infection information disclosed through the PSLWR discussions suggests that, the process enabled learners and service staff

(cleaners, kitchen staff, porters etc.) to make a contribution around breaches in practice. These staff groups are the least likely to have access to the incident reporting system, and yet they had extremely important contributions to make:

“Well I'm fairly new here and I see some things here that could be better. The hand washing can always improve. It's quite daunting to challenge experienced staff about their practice. I see people every day that don't take every opportunity to wash their hands. I don't report...well not formally in an incident report but I have raised it at the local handover reports. I'm of the opinion if I don't raise it and talk about it and try to get people to change, infection rates will go up and patients will suffer that could be my family members.”

Student Nurse (13)

“Well it's easy to see where some of the problems are especially on the hand washing front. We [the domestics] are ideally placed to tell who does it properly and who does not because we are in the clinical areas where the staff are working and see when they don't do it right. I think sometimes they think we are invisible or maybe they think their practice is. I don't know how I would raise that.”

Ward Domestic (18)

Domestic staff are responsible for the cleaning services within the hospital and therefore heavily involved in the infection control procedures. They, as a group, are also well placed to contribute to the patient safety agenda. An important point to note is the hierarchical position of the individual concerned, the quality of their insight, the lack of opportunity (technically and socially) for them to have reported such incidents and the fact that the PLSWR provides unprecedented opportunities for such insight – and commitment. This kind of issue cuts to the heart of the team aspect of the PLSWR.

Some discussions revealed conflicts between the organisational infection control policy standards and the ability to put these standards into local practice. Specific discussions referred to the ward environment and the feedback of infection control information. This situation poses an issue for the PSLWR process as it is aimed at bringing the strategic and operational parts of the organisation together to plan safety improvements; its role is not simply to emphasise the weaknesses of the current policies.

Participants suggested the policy direction may be impossible for the front line to comply with.

“We don't have enough accommodation in accordance with the infection control policy...I think we should report that more because putting infected and non infected patients together is asking for trouble but it is getting better.”

Charge Nurse (60)

“Infection control is an issue. We don't get feedback quickly enough regarding a positive infection. Often we don't find out that a patient is infected until their results come back after they've gone home. How can I keep infected patients separate if I don't know they are infected?”

Staff Nurse (19)

“We had an issue with our hand hygiene compliance rates. We were getting on great then all of a sudden our infection rates went up...what we discovered was the staff were putting on gloves as a substitute for hand decontamination or hand washing. A bit of re-education and we were back on track...I should have reported it really but we need another mechanism to share such solutions...it's probably happening in other areas too.”

Charge Nurse (23)

The issue of differing staff behaviours affecting hand hygiene was raised and a solution offered for engaging doctors in the process:

“Hand washing was a real problem here but we found out [through audit] that medical staff were the worst culprits. So, at the next ward round I asked the senior consultant to demonstrate hand washing before and during the round. I did have him practice the day before and remove the 5 mistakes he made...The outcome was good through. He looked good, a good role model was created and the whole group were reminded of what needs to be done...we need to be able to share that. Good practice is not really material for an incident report.”

Senior Charge Nurse (21)

The Charge Nurse's example highlights another unique opportunity for PSLWR not only to illuminate 'unsafe' practice but has the potential to identify share solutions to patient safety issues for wider organisational learning (Powell *et al*, 2009).

Although patients were not routinely included in PSLWR, three patients came forward to take part and shared information during the PSLWR process. Collectively, they had a view about cleanliness of the environment:

“People say it’s dirty but it’s not. The cleaners do a good job but they always get the blame...whose fault is it if somebody else makes the mess?...I could write a book about safety...but I think the patients could help. Why not ask every patient on discharge how clean the place was? How pleasant people were... Like a hotel does.”

Patient (1)

“Well you hear a lot about the cleanliness of the hospital in the news and everything ...I ask the staff if they’ve washed their hands especially the doctors. I don’t think they like it much but it’s my leg their touching and it I’ll be me that’ll get an infection.”

Patient (3)

The circumstances of one particular patient participant draws the potential dangers of lack of cleanliness, in combination with a building infrastructural issue, into stark relief, thereby demonstrating the importance of a ‘whole approach’ such as is offered by PSLWR:

“I couldn’t get to the disabled toilet facilities because the hinges are on the wrong way and my wheel chair doesn’t fit in. This caused a lot of problems. I had to crawl on the floor to reach the toilet. That was an infection control issue for me and the wound I have.”

Patient with amputation (2)

Infection control issues and solutions loom large within hospital environments. As the above narratives clearly demonstrate, the PSLWR did capture comments, but perhaps more importantly they also generated suggestions for improvement regarding infection control interventions, these coming from staff and patients alike. More local monitoring by frontline staff, sharing of breaches in practice at shift handovers and faster feedback of positive infections were suggested. Infection control in healthcare has had significantly bad press and these positive comments drawn from the PSLWR provides a more positive solution-focused aim that is also patient centred, in line with recent Scottish Government Policy (SGHD, 2010). Infection control involves a great

deal of environmental issues which lies in the domain of the Health and Safety. Nevertheless, participants raised several new issues about their daily working environment.

8.3.4 Environmental Issues

The environment plays a big part in patient safety. The literature suggests (NHS Institute of Innovation and Improvement, 2007) that, neat, efficient and clean areas improve safety. Ninewells Hospital was opened in 1973 and is now over 36 years old. Shocking though this might be for many; this physically ageing building and environment cannot always cope with the today's technology in healthcare. Some of this technology, as will be seen, is far from 'High-Tec' and even basic equipment was criticised by participants. One nurse in particular felt very strongly about the emergency call system:

“We use the emergency buzzer at night to call for additional staff from another area for patient assistance but we discovered the other night that it can be muted by the adjacent area. What good is that? We'll be desperate for support to help a patient in an emergency and no one will hear our call.”

Charge Nurse (4)

There are two levels of alarm call to summon assistance to the patients bedside are available within the hospital: one for routine help and one for emergency summons. The nurse call system is used for patients to call for assistance from the nurse at any time of the day or night. The patients use the system hundreds of times every day. There is only one mute system that staff use to shut off the noise of the buzzer particularly, during the night to avoid disruption for all patients. The call system was installed in the hospital when it was built therefore, requires complete replacement throughout the hospital. As a result of this conversation during PSLWR the system was amended to ensure the emergency buzzer could not be turned off routinely.

For some, however, there seemed to be a sense of acceptance that less than perfect hospital conditions must be tolerated, leading staff simply to make what they can of their environment.

Participants described this situation in regard to problems using the most basic of technologies:

“There’s [sic] just not enough power points in the ward for all the equipment. I know the hospital is getting old but the technology is increasing. We are using extension leads but that’s a breach of health and safety. But what can I do I need to do the wrong thing or the patient won’t get any treatment at all. I have called estates but not logged this as a patient safety issue I suppose it is.”

Staff Nurse (4)

“Beds, oh the beds there are lots of issues with them every week. We don’t have time to report them all. They’re so old now and don’t always rise and fall as they should. That creates lots of problems with the elderly patients or those with reduced mobility. We have an issue with specialists beds required for our specific client group. The height of the beds also creates problems for the staff too as a manual handling issue [back problems].”

Staff Nurse (16)

“In the pharmacy reception we have a telephone that rings non-stop interrupting the dispensing technicians constantly. That’s when errors are made. I’d say there is an error or near miss everyday there as a result of the set up. We did report it the first few times but not now, we need action. The solution is simple and low cost. We need a new phone in a different location”.

Pharmacist (4)

Only one of the environmental issues, the hospital beds, had already been identified by the organisation as a safety issue scheduled for change. This finding further highlights the innovative potential of the PSLWR process; a number of issues being newly recognised and revealed as patient safety concerns to senior management. Of particular note is the comment that Staff Nurse (16) emphasised by having “*do the wrong thing*” to get the job done. This notion fits well with Amalberti *et al*, (2005) theory of drifting into unsafe practices.

8.3.5 Communication issues

Inadequate communication is one of the main problems within the health service in general (SPSO, 2010); it is central to patient safety and, in combination with patient misidentification, it is regularly identified as a key patient safety issue within NHS Tayside. The ramifications of this aspect are perhaps most clearly to be understood in my study within the context of the laboratory:

“If a sample arrives at the laboratory for testing and the request doesn't match the sample it must be rejected. This may be an urgent sample, from an elderly patient difficult to get blood from, because of frail veins ...or a tiny neonate who cannot afford another drop of blood. The rule is the same all are rejected and must be repeated so lots and lots of samples are repeated...[average 100 per week]....The outcome is additional work, significant costs and further upset and pain for the patient.”

Laboratory Technician (21)

“Communication is a big issue here. I like the way the teams link up to do the safety briefings several times of the day, then we are more likely to write in the glitch book. I know some of these should be in formal reports but who's got time for that? The last time we had a PSLWR, two things we agreed to change were the disabled access and put in a new phone that was done within two weeks. That would never have happened if we had used the incident reporting system, well I don't think it would do you? [to other nurse]. No I don't think so.”

Junior Staff Nurse (57)

“Well this is a confidential conversation isn't it? I'm really upset about something that happened just last week. I knew it was going to happen and I tried to do something about it but the junior medical staff wouldn't listen. I knew the man admitted would need an operation but he had to wait from Thursday to Monday for someone take action and operate. Our 'failure to rescue' system didn't work. No one acted on the information available, particularly the Junior Doctors, and this at the moment is a big problem here. No I've not reported it. I came off duty and really hoped and prayed the man would be ok. I worried about it all weekend. Luckily he was on the list as an emergency on Monday when I came on duty.”

Junior Staff Nurse (22)

An important point to note from the above quote is that, the PSLWR information emphasised the confidential and partially anonymous nature of the discussion. In addition, the ethical procedures required written informed consent from staff to use their narratives for this study and further publications:

“Well, as a porter I have reported a few things but the number of times we get the wrong information about a patient being transferred would be too difficult to formally report as I don’t have time. If you could fix some of that it would be great, make my life easier and make the movement of the patients throughout the organisation safer. Clearer methods of communication would help.”

Senior Porter (17)

“Porters always get the blame. It can never be the nurses’ fault. I took a woman for an x-ray the other day and she looked really unwell ... well I'm not a doctor, but I could see, I've been long enough at this game to see, that she was not right. She had difficulty breathing even with oxygen on. When we got to the x-ray department the radiographer wouldn't do the X-ray because she had no one to help her position or stay with the patient during the procedure. I'll tell yeh... I was mad and felt really sorry for the poor old dear. I didn't have time to report it but I discussed it with my colleagues on duty that day. We all agreed...But no, I didn't report it. You learn to live with that in here.”

Porter (19)

The above comments demonstrate that PSLWR enable the disclosure of new information from an otherwise discounted group particularly in relation to the drift into unsafe practice, in this case the porter simply taking it for granted that this type of situation occurs and, while not accepting it willingly, going along with it nevertheless because there is apparently no option. Using the terminology discussed in the literature review, this ability to drift into unsafe practice (Amalberti *et al*, 2005) was a major theme of discussion in over 60 % of the PSLWR (n= 23). Participants seemed to have a degree of awareness of the nature and dangers inherent in some of their behaviours, actions and inactions but appeared unwilling or unable to stop and correct these as the risk outweighed the benefits of changing their practice. For example, if they stop taking the shortcuts they will never get all the work done. The PSLWR discussions suggest that unsafe practice is endemic in NHS Tayside hospital care. All discussions, narratives from which have been examined above, had aspects of a natural drift of individuals and teams into error provoking conditions.

In the following section, I will explore how the drift towards and even into error might be recognised and therefore arrested.

8.4 Recognition of Drifting into Error

The term ‘situational awareness’ describes: a process where an individual is aware of what is happening around them (Nullmeyer *et al*, 2005). Thus, being situationally aware helps individuals to understand how information, events, and their own actions will impact on current or future events. Limited or inadequate situational awareness has been identified as one of the primary factors in accidents attributed to human error (Wright *et al*, 2004; Nullmeyer *et al*, 2005 and McCarthy, 2006). The PSLWR explore participants’ understandings of the implications of taking shortcuts and drifting into ‘illegal normal behaviour’ (Rasmussen, 2003 and Amalberti *et al*, 2005) that lead to harm:

"Happens every day... taking shortcuts ... well to me anyway especially with the bloods. The number of times I've taken the blood from the wrong patient or marked the bottles incorrectly...I don't think I could count it. What happens is, after the ward round decisions are made by the medical staff to do more diagnostic tests on patients. Then several patients might need blood samples taken and a form is required to go with each sample. It's really easy to make a mistake. I've had a row from the labs so many times...this has led to a number of issues for me and the patients...The worst is delayed treatment and more venapuncture [taking another blood sample] from frail elderly patients who are difficult to get blood from."

Junior Doctor (12)

"It's easy to drift into mistakes. The best example I can give was missing out a prescription for a patient for prophylactic [routine] antibiotics and then the patient got an infection. I don't know if it that was related to my mistake but, I felt really bad about it. I actually told the consultant and used the case at our weekly case review meeting to see if it was a common problem that we could learn from."

Junior Doctor (6)

"Hand washing is the best example of this, we are involved in hand washing audits or at least observations of hand washing are going on everyday and everyday several people fail to decontaminate their hands between patients. For some patients, this will not harm them, for others severe infections can be the outcome of simple failure in practice...failing to wash your hands and cross-infecting patients."

Nurse (14)

The circumstances and complexity of the ward environment can often make it easier for staff to do the wrong thing:

“I almost gave the wrong patient a dose of morphine once by mistake; we had two patients in the ward with similar names and similar medications. To save time I thought I would take them to the bedside at the same time, never again.”

Doctor (15)

“Yes I'm sorry to say we have harmful practices in our wards...usually it's when a million things are going on. On a couple of occasions I thought to myself that was a lucky escape. I marked the wrong leg once and the junior doc picked it up thank God, I'm afraid that I didn't report it I just thought everything was ok. Best leave well alone.”

Staff Nurse (33)

“The things that worry me are the time constraints and trying to teach the juniors [Medical Students] at the same time. That's both a good and a bad thing though...when you are teaching you have to be mindful you are a role model and explain the finest details of what you are doing...well what I mean is every step in the process if you like...I like when the students ask lots of questions. It's a pain at the time but it makes you talk through the steps and I've made a few faux pas at that point that were picked up by the students. I have never reported these in a formal incident report form, who would read it and would they feedback?”

Junior Doctor (4)

“Well I was involved in one incident where I think a more senior doctor should have come to examine and review the patient...the outcome for the patient was a delay in treatment and a deterioration of their condition for several hours. I could see the events unfolding but it was like slow motion. Afterwards I looked at the patients' charts and you could see where we all made mistakes.”

Senior Nurse (29)

“I don't know why but I made a mistake in a procedure I've done a thousand times [the delivery of the baby where extensive suturing was required] and yes the patient was harmed. The mum and baby were ok in the end but it was a close call and I had to get the senior consultant to sort it all out. I suppose you put it to the back of your mind that this is a patient, a woman, who may be affected for a long time by what I have done.”

Junior Doctor (5)

“It’s the medications, of course, in paediatrics the doses are so small and everything needs to be calculated for individual children dependent on their weight...I have made a few mistakes in calculation...No harm to the children but I’ve calculated it with a colleague together and we were both wrong. How’d that happen?”

Staff Nurse (51)

“There are issues involving short cuts when we are identifying patients. We are meant to use the patient’s ID band to match the name and CHI [Community Health Index] number...well it’s called positive patient identification but, sometimes, the patients don’t have their arm bands on and it is quicker to just ask them. The only thing is we have had patients say yes when asked a question or to confirm their details and they have agreed to a treatment / procedure that was not meant for them or two patients had the same name.”

Staff Nurse (55)

These disclosures describe not just the circumstances where drifting into error occurs but also the outcomes of such drifting, a slow incremental movement towards the edges of safe practice, and sometimes beyond. The literature describes the situations in which outcomes such as these occur as error provoking conditions (Reason, 2003; Vincent, 2006; Rasmussen, 2003; Amalberti *et al*, 2005). The issue of short cuts, as demonstrated in narratives above as revealed through PSLWR, present a dilemma for the organisation. Shortcuts can and often do increase efficiency and in healthcare saving money and meeting targets are rewarded. This is in conflict with a more detailed perhaps slower approach to a task, where the quality of the interaction with patients is important. The pressure of performance management often requires shortcuts for example: nurses discharging patients early or a doctor treating within the waiting times. Individuals and teams are required to fit in extra work in order to meet the national targets. This poses real conflict in the discussions when issues of performance pressure and safer systems clash forcing shortcuts and further fuelling a drift into error. This creates a paradox of rewarding efficiencies that require a drift into 'illegal normal' behaviour (Amalberti *et al*, 2006).

8.5 General Understanding of Reporting

As incident reporting is the mechanism currently used to detect harm, a PSLWR question focused on the local understanding of the reporting process. Promoting the reporting mechanism was also a component part of the PSLWR process. The majority of participants stated that they or a member of the local team could and have made incident reports. However, some local staff commented on the lack of access to, and training to use, the electronic reporting system. This was noted mainly in the areas where there was a large proportion of new staff or members in ancillary roles. Over 30% of the staff participating in PSLWR had no access to the formal reporting system. Three critical, key issues were raised consistently during the PSLWR discussions regarding reporting:

- The time taken to make a report and the system layout was criticised.
- Lack of feedback from reports.
- Limitations of the system to capture greater detail

These points will be addressed individually in the following sections.

8.5.1 Time Taken to Make a Report

The time taken to make a report was raised as an issue by both medical and nursing staff. A few individuals (n=4) had no problem reporting events in less than 10 minutes, if used frequently. The layout, content and set up of the software system seemed to create problems for others that made logging a report longer than it needed to be. However one nurse made a darkly humorous but nonetheless very good point in relation to frequent use:

“I'm not bad with the computer but I just don't seem to get it done quickly maybe you need to make a lot of mistakes and then you'd be a frequent flyer in the system.”

Nurse (28)

As was seen in Junior Doctor 4's narrative (in 8.4 above), another criticism was the lack of feedback once the incident report is logged.

8.5.2 Lack of Feedback

During the PSLWR there appeared to be tensions between local staff and managers during the discussions around feedback from reports. The formal adverse incident reporting system function and data analysis is discussed at the organisations' the adverse incident management group, every six weeks. Each Directorate area is represented. Many participants had a view that if the Organisation wants to encourage continuous improvement in patient safety using the incident reports to learn and prevent events, greater effort was necessary to improve reporting system:

“I have made a lot of reports but there is little or no feedback from whoever analyses the data. I must be one of the few consultants that uses the system as I think it does have lots of potential for learning...but only if we actually do something with the data.”

Senior Doctor (13)

“I do make report but not much changes so you get to the stage when you're busy...of ...why should I bother making a report? Nothing happens as a result. ”

Staff Nurse (41)

Frontline staff (those involved in direct patient care) believed managers could do more on two fronts: first to support and acknowledge the incident and secondly to provide feedback on where action was taken to improve a system as a result of a formal report. Nurses also complained that, while they filed the greatest number of reports, they might not have been involved with the incident:

“We usually get left to do it all. To make the reports on behalf of the doctors and others even if it was a medical issue.”

Staff Nurse (29)

The suggestion here is that, in addition to the frustration of having to take responsibility for someone else's task if the proper system is to be followed, nurses are actually removed from their vital frontline role in fulfilling the duties of some of their colleagues.

8.5.3 Detail Recorded in the System

The matter of detail within reports was discussed during PSLWR. Although over 200 categories of event are available in the system, recording additional/different detail is difficult. The IT system does have the capability to record full narrative details of each event losing much of the crucial information about the context at the time of the incident. Participants reported that less than 30 % of reports of serious events had a full incident review (also called Root Cause Analysis RCA) performed. Both frontline staff and middle managers believed that greater detail was necessary to understand the circumstances within which the events happen. That said, in general, most staff making reports believed that reporting events did serve a positive purpose and suggested that if the system was amended it might be more useful. Managers, frontline staff and Senior Executives recognised and acknowledged that more work was necessary in order to review and revise effectively the current incident management system.

8.5.4 Good Practice

The process of PSLWR was not only geared towards asking questions about errors and harm. The process was also designed to identify and spread good ideas about potential and actual improvements in safety, developed and implemented by local staff. As a result, the PSLWR discussed the issue of sharing examples of good practice about patient safety. My analysis revealed that many staff had difficulty in focusing on the positive aspects of what they had done to improve the safety for patients; any change to improve safety as a 'normal' part of their job. I would suggest their idea of discussing patient safety focused their attention on the 'bad 'things that happen' and not the solutions that many staff groups had developed.

8.6 Actions Taken as a Result of PSWR Discussions

Following the patient safety discussions, putting in place measures to prevent future unsafe/harmful actions was the primary objective of the PSLWR discussions. Therefore, agreeing actions at the end of the discussions and ensuring these actions were complete was a core activity of this process. I designed the local PSLWR

processes to agree a maximum of 3 actions for improvement per area visited. In areas where more than 3 safety issues were raised the additional issues were monitored by the local managers and has not been included as part of my empirical work.

As detailed in the narratives above, at least one event or system that had harmed or could have harmed a patient was identified in all PSLWR reports. During the PSLWR discussions staff indicated that over 90% (n=318) of the issues they raised had not been reported on incident reporting system. Over 150 new items were identified for further action (examples are presented in Table 8.3 below).

Table 8.3 Examples of PSLWR Actions			
Issue raised	Outcome	Impact	Time taken
Senior Executive Actions			
Availability of small medical equipment	Central equipment library established	Significant resource Business case proposal	6 months
Bed design inappropriate for client group	Information to support roll out plan for bed replacement program for all sites	Resource already allocated Roll out matched priority areas	2 months
Increasing Charge nurse Admin duties removing expertise from frontline patient care	Local charge nurse review	Hospital administration restructure Local review by CEO national led to policy review at NHS Scotland level	Initial 24 hours Full review 3 months National review 2 years
Emergency buzzer failures	All hospital site review	Replacement amendment component of capital plan	3 months
Middle Managers Actions			
Internal Patient transport failures	Multi service review managed by local managers and staff	Improved communication and service information better flow for patient throughout the hospital sites	2 months
Early rescue of deteriorating patients	Reviewed documentation and new system of monitoring compliance	Reduced emergency calls improved patient care	3 months
Patient identification issues	Improved laboratory submissions	Reduction in repeat tests reduced costs Business case for hospital ID system replacement	1 month and 6 months

Action by Local Staff in Wards and Departments			
Manual handling issues	New equipment Ordered	Improved for patients	1 month
Infection control	Improved monitoring tools	Improved infection control compliance	2 months
Service interfaces	Links with primary care mental health services	Improved patient transfers	2 months

Reports of the actions identified, were addressed at three layers within the Organisation:

- At local ward or department level
- By middle managers
- By Senior Executives

Actions were equally distributed among the groups. However, in the first 6 months the senior executives addressed over half of all actions identified. From my analysis of the PSLWR data base over seventy five percent of actions were complete within 6 months. Many of the remaining safety actions referred to some of the larger organisational issues requiring significant investment over £100,000. The executive actions had an impact beyond the areas in which the issues were raised initially and they frequently initiated organisational-wide change as a result. The Executive Team monitored progress on achievement of actions monthly and this process remains in place to the present day (July 2010) as part of the organisational patient safety agenda. In addition progress on all actions is sent to all departments.

8.7 PSLWR Discussion Analysis

This Chapter has presented the data from the implementation of PSLWR within NHS Tayside as a new method to detect and mitigate harm. Each PSLWR engaged a large group of staff in patient safety discussions, taking around 30 to 45 minutes to complete. Two Executives took part in each walk round and between 3-8 staff participated in clinical departments. At least one member of the medical staff participated in all of the clinical areas visited. Both staff and Executives were keen to participate in the walk rounds and frontline staff postponed just two of them.

To keep staff engaged and involved in the process, I established a system to feedback the transcript to all participants highlighting the agreed actions to all departments within 2 working days of the PSLWR taking place. I believe that rapid feedback about the PSLWR discussions promoted engagement and gives an example of where my role as a researcher and professional overlapped.

The PSLWR report (Appendix 7.1) contained participants' designations, departmental identity, and 3 agreed actions allocated to named individuals. Three actions were identified in each of the 38 PSLWR. At an unexpectedly high level of occurrence, all PSLWR local staff discussed openly, specific patient safety concerns. Although similar patient safety issues were identified from discussions, and those incidents that staff reported, new information regarding harm within the organisation was also disclosed. Of particular note are the following:

- Greater contextual details of events were revealed during the process of discussion facilitated by the PSLWR than recorded in the incident reporting system
- The staff were eager to participate demonstrated by the large numbers of individuals choosing to take part
- Thematic analysis revealed 5 main themes of discussion:
 - Infection control
 - Environmental issues
 - Incomplete information regarding safety
 - Drifting into error

8.8 Summary

In summary, the findings from the PSLWR discussions reveals a convergence of the literature with relation to: staff not wanting to report (NAO, 2005); feeling that there isn't time to do so and knowing that reporting slows things down (House of Commons, 2009); knowing that errors do not **always** result in significant problems (Beck, 1999; Noy and Ellis, 2003; Reason, 2003; Vincent, 2008 and Benn, 2009) and, therefore, taking all this into account, deciding to 'take a risk' (Rasmussen, 1993; Amalberti *et al*, 2005).

The most significant elements of the staff discussions were the levels of disclosure made during the conversations around safety. Such levels have never before been achieved through the formal mechanism of incident reporting in NHS Tayside. In addition, the new information around individual and team recognition and understanding of drifting into error was revealing.

The PSLWR introduced a new process for identifying, discussing and acting upon actual and potential incidents of harm within the organisation. A further level of analysis was undertaken within this study to explore participants' perceptions of the new PSLWR process. Engaging in patient safety activity is only one element of addressing patient harm. Staffs' willingness to contribute to a sharing of views and understanding the purpose and scope of the PSLWR system would be essential. In the next Chapter, I will present Part II of the results from the semi-structured interviews with participants revealing insight into their reflections of the PSLWR process.

Chapter 9

Results Part II:

Participant Reflections of the PSLWR Process

*“I’ve just realised today patient safety is what **my job** is all about”*

Director of Operations

9.1 Introduction

Chapter 8 presented the first part of my results: focused on the analysis of the discussions during the NHS Tayside PSLWR system. I critically reviewed and analysed the level of participant engagement evoking data from the dialogue between those taking part during the PSLWR. In Chapter 9, I will build on these results and explore through reflective, semi-structured interviews with participants their views of the PSLWR program. This chapter is dedicated to the 4th research question -What were the perceptions and reflections of the participants within NHS Tayside of the PSLWR process?

In the following sections, I will try to explain how participants perceived the new PSLWR programme with regard to utility and effectiveness. Healthcare staff will only continue to engage in the PSLWR if, when they share and disclose patient safety issues they receive feedback and action is taken as a result of their suggestions (Meurer *et al*, 2005). Therefore, as a second level of analysis a schedule of semi structured interviews with different levels of staff was planned to gain insight into their perception of the PSLWR process. To organise the chapter layout I devised a structured plan of the key themes that emerged from the semi structured interviews highlighted in Figure 9.1. In addition, the semi structured interview questions are presented in Appendix 7.4.

Figure 9.1 Results Part II: Semi- Structured Interview Themes



9.2 Interviewees

Reflective interviews were carried out with a sample of participants from all of the 38 PSLWR analysed in Part I of the results. My intention was to include the widest possible range of staff by discipline and to meet with a range of individuals who had taken part in the PSLWR in local departments to seek their views on the process. As my research could be carried out as part of my role of Head of Safety Governance and Risk, within the Organisation, I was able to dedicate around 8 hours per week to the interview process. Each interview took around 30 minutes to complete and all participants agreed to the digital recording and subsequent transcription of the interview discussions. The interviews with all participants were undertaken throughout May 2006 with the participants detailed in Table 9.1 below.

Table 9.1 Number and Role of Interviewees		
Designation of interviewee	Interviews conducted	Unable to attend
Executive Directors	9	3
Senior managers	5	1
Middle managers	5	1
Medical staff	10	2
Nurses and Allied Health Professionals	15	3
Non-clinical staff	10	2
Total	54	12

For ease of reference, I have grouped a number of staff roles the category of non-clinical which covers a range of roles and responsibilities including porters, laboratory staff, domestic staff, auxiliary nurses and ward administrators.

Key themes emerged from the interviews framed around the interview questions. I collated the interview responses around participants understanding of the following:

- The purpose and acceptability of the PSLWR process to those involved
- The feasibility of PSLWR-Did the organisation manage to design and deliver the PSLWR according to plan?
- Utility-Were the PSLWR helping to address patient safety?
- Inclusion and participation-Were the correct staff represented, included and involved in the process?
- Relevance-Was the process important to the local safety culture?
- Credible-Was the process accepted and realistic to the organisation?
- Timeliness-Was the time used appropriate for the discussion?

Patient safety would only improve using PSLWR if, as many staff as possible participated in the process. My research protocol included a schedule of weekly PSLWR to offer the opportunity for staff to access the process and the previous chapter presented the attendance. The next section will reveal the staff perception of the availability, inclusion and willingness of certain groups to take part beginning with participants understanding of the process.

9.3 Understanding Purpose and Acceptance of PSLWR

In general, the aim of PSLWR seemed to be understood by all levels of interviewees as ‘a coming together’ to talk about safety and to take follow-up action to address any of the issues that individuals raised. The senior leadership of the organisation began each PSLWR discussion and their job in this new system was to carry the banner of patient safety. The intended outcome was that action be taken as a result of these conversations and to do something differently to improve patient safety. To be effective the process of PSLWR would be required to be reliable and sincere and understood by those taking part:

“I think a bit of it is educational for the directors because I think it’s a two way thing. It’s about learning and understanding, about the stresses and strains that people face and are working under and about helping them to make their own judgements about patient safety. It’s about what we need to do and how we need to do it. Then it’s about supporting them if things go wrong. We seemed to get a real sense of ‘working together’ with the PSLWR process.”

Director of Workforce Planning

“From my own personal point of view, as senior nurse , it was good to be able to talk to the Executive Team directly because I can be 100% sure that what I said was passed on in my own words to people that can make a difference. I think it also helped build the morale of my ward staff, because they felt that...they [the executives] were interested in what was going on in our area and problems which can occur.”

Senior Charge Nurse (1)

As demonstrated above it was essential to the process that the participants both in leadership and frontline roles clearly understood the overall aim of the new PSLWR. The Director of Finance summarised his knowledge and understanding:

"This process brings a new dimension to the local safety programmes. I think the aim is partly to help me get a better understanding what the safety issues are in the areas I'm visiting. I'm an accountant. It's been extremely beneficial for me to make sure that I can make that connection between the financial issues and the decisions I make and the impact of some of those decisions on frontline patient care and safety. I now have a new view of the reality of what it looks and feels like on the ward."

Director of Finance

The positive focus of these comments from a non-clinical director is important particularly, his reference to the linkage and visibility that, the PSLWR bring to the world of management accounting. His comment of a 'new view' demonstrates recognition of a new level of understanding about patient safety. There was a real sense of welcome from the non-clinical directors, as the process was viewed as giving them an insight into what can be interpreted as 'the real world of healthcare at the sharp end'.

Several of the senior executives explained how their world of meetings and strategic decision making gave them few prospects to visit the frontline. The PSLWR gave them opportunities to see for themselves some of the patient safety issues that were emerging in service departments. I would suggest that, PSLWR demonstrated a level of 'organisational bravery' by offering staff a new opportunity to learn through taking a risk and discussing patient safety in a different way.

9.4 Leadership for Patient Safety in PSLWR

This emphasis of leadership for patient safety was fundamental for this PSLWR process to succeed. To achieve the aim of visible leadership in PSLWR the process had to be easy to do. The Chief Operating Officer (COO), both an Executive officer and a nurse by background, was able to give a clear understanding of the aim:

"Well, as part our patient safety program, I understand that this process was introduced primarily, as an opportunity for us to discuss and improve safety. But it's become much more than that. I am absolutely convinced this process is galvanising the organisation around safety."

COO

The NHS in the UK and in Scotland is primarily target driven and achievement of National targets is the responsibility and focus of senior leadership.

The NHS Board Chief Executive's (CEO) response makes this point:

“As a Board Chief Executive I keep in direct touch with frontline staff mainly through performance and delivery issues. The new process of discussing safety with them directly then taking action quickly, where possible, with staff is very powerful on a different level for two reasons:-. One, something changes as a result of this new activity and two, both executives and front line staff believe we are working together and they collectively are making a difference to the safety agenda without targets.”

CEO

This is a significant statement from the most senior individual within the organisation because without his support and understanding of the process nothing could change. His response emphasises the merits of the PSLWR process and one of the key components: the investment of time and discussion that helps to liberate staff to work collectively on safety. As opposed to: the resentment that more safety targets might produce. The CEO is accountable by law for the quality of healthcare and safety of the patients and staff within the entire organisation. He too, has a nursing background and seemed to welcome the regular contact with frontline staff through the PSLWR process. As can be seen from his narrative above, the CEO was clear about the purpose and suitability of the PSLWR. The Nursing and Medical Directors' shared that view:

“I welcome the PSLWR process it's different from the visits I do as the senior nursing leader. The opportunity just to focus on patient safety is important and gives us the chance to work together on the issues that are identified.”

Nursing Director

“From my perspective the visible leadership of the medical director taking part in the PSLWR sends a signal to the junior doctors that, I'm on their case... not in a hassling way but one which says, as the Medical Director, patient safety is a priority for me and should be for you too.”

Medical Director

In addition to the senior leaders, many of the nurses interviewed reaffirmed the positive influence a discussion with leadership had emphasising the purpose of PSLWR; with one nurse suggesting that the process:

"...gives the staff on shop floor a new level of access to senior management and leadership to put across their views and concerns in relation to safety. I really like the new process. It lets me have a say".

Staff Nurse (8)

However, some of the nursing staff seemed a little anxious in the first pilot of the PSLWR expressed in the suggestion that:

"We thought it would be like the normal senior management department visits -when something bad happens- you get a visit from the 'suits'."

Staff Nurse (4)

Another of the staff nurses commented on the difference between the PSLWR and the normal managerial visits:

"The majority of senior management visits before PSLWR were usually focused on two points a major successful event/large research grant award or; a serious adverse event that caused patient harm, usually the latter. Bad news makes them 'hunt in packs'. But quickly we realised the value and positive effect these PSLWR visits are having because things get done once it takes place."

Staff Nurse (6)

The response above demonstrates the PSLWR process as representing a change from the usual practice within the organisation around senior manager visits to wards and departments. Staff recognised the different purpose of PSLWR as compared to a 'routine' visit from the line manager. The senior executives recognised the need to be more connected to the patient safety agenda and were keen to involve as many staff as possible in the PSLWR. However, the areas visited for the PSLWR and the decision of who took part in them was not decided by the Executives. As described in Chapter 7, I devised and implemented a scheduling system to undertake a PSLWR at least once per week. The schedule was dependent on each Executive's diary time and

the ward departments staff availability and patient workload. Participants could choose on the day to take part.

In summary, my main aim in of this phase of the research of the PSLWR process in NHS Tayside was to discover if, it was understood by those taking part and the extent to which it could gain credibility in its operationalisation. I am confident that my empirical data demonstrates that those who took part quickly understood the purpose of the PSLWR process, expected changes to be made as a result of the process, and question if no such changes were made. I would suggest that this is due to three key points:

- As part of the research process the detailed briefing information that I devised for circulation to the local areas before the PSLWR took place helped introduce them to the purpose and scope of the PSLWR
- The pre-PSLWR briefing discussion that took place with the visiting team (executives and senior managers) immediately before entering the department helped to build background knowledge of the local departments safety practices and operational issues or concerns
- The introductory process that I designed to give all participants an overview of the purpose of the PSLWR process as a pre-amble into the safety conversation, might have had a positive influence on participants knowledge and understanding of the PSLWR

The next stage in the analysis of the participant interview discussions was to determine if the process was perceived as inclusive and encouraged all staff to participate. To continue, the next section will review the empirical results of the participants' views on who took part and who should be included in the PSLWR visits in the future.

9.5 Staff Participation and Inclusion in the PSLWR Process

During the initial set up of PSLWR an assumption within the senior leadership of the organisation was that, the Clinical Directors of Nursing and Medicine would lead the safety conversations. However, I decided that as a key component of the leadership emphasis within the research it was imperative that all of the executive team should play a role. As a result, the non-clinical Directors of Finance and Operations and Workforce planning were also invited to lead the PSLWR at least once per month.

The inclusion of the non-clinical directors brought a whole new perspective to the conversation. Nurses and junior doctors alike commented on how helpful this was to safety discussions:

"I was surprised to see the non-clinical senior managers here but their level of enquiry was very different from the people with clinical expertise..... they asked for more detail... seemed to want to really understand every element of the safety issues that we brought up. They wanted to go and look round the place to see for themselves what the safety issue entailed."

Staff Nurse (4)

"I was so impressed with the Director of Finance he seemed so interested and empathetic to the safety concerns that we had. I mean he was genuinely engaged and almost enthusiastic about his role in the process."

Junior Doctor (3)

"I'd never heard of the CEO[name] before let alone known that he is the Chief Executive. I felt so important and it made me feel my work was important too, as he came with me to the store to see for himself what I was trying to explain... I went home and told my family all about it. They then asked questions about patient safety too.... that got me thinking. We are patients too. I think the new PSLWRs are a great way to get everyone involved."

Auxiliary Nurse (5)

"The Director of Operations was fantastic. He wanted to see the problems we had with the environment. He listened to the issue of all visitors using the side fire door[to enter and leave the ward] and was very interested in the infection issues we have. He made no assumptions of clinical knowledge but wanted to get a real understanding of the safety problems. I was most impressed that he did something that day to change the situation."

Senior Charge Nurse (1)

The issue of leadership for safety as emphasised in the literature (Kunzle *et al*, 2010; Ginsburg *et al*, 2010; Richardson and Storr, 2010) is not just demonstrated, it is illuminated in the comments above. A range of professionals and support staff directly recognised the importance of engaging leadership in patient safety. The idea that leadership must ‘carry the banner of patient safety’ concurs with the emphasis the staff made on the behaviour and enthusiasm of the leaders that they met. The professional nursing staff drew attention to the deeper level of enquiry that the non-clinical directors had during the PSLWR discussions.

The executives overall seemed to believe that the ‘right’ people were available to join in the PSLWR discussions:

“I met a range of individuals on the PSLWR and the group seemed to represent the main staff groups providing care in that area.”

CEO

“I think the ‘right’ people were there and seemed pleased to take part.”

Nurse Director

“The nurses by far seemed to lead many of the walkrounds that I took part in. I know they are the largest employee group but their passion and visibility around patient safety was very noticeable to me.”

Director of Workforce Planning

9.5.1 The Nurses’ Views

It is no coincidence that nurses were the largest group to participate in PSLWR, as nurses are the largest employee group within the organisation making up some approximately 3500 staff. As the largest participant group, nurses had a view that the process should not just focus on nursing services or on the participation primarily of nurses. They welcomed the inclusion of non-clinical and administration staff and made particular reference to further involvement of a wide range of staff during the PSLWR process. A few of them suggested how this could be done:

“It was great to see so many nurses taking part and leading the conversations and suggestions we are certainly leading the patient safety agenda at present but it would be good to see other staff involved.”

Nurse Manager (11)

“Well a few of us [the nurses] had a discussion afterwards and maybe before they [the executives] come round the next time we should make sure some of the ward assistants and auxiliary nurses are available....I mean patient safety is for everyone isn't it .”

Staff Nurse (10)

“We could have been a bit more organised locally and made sure some of our external team members; like the pharmacist and physiotherapists; dieticians and porters, were able to come to the ward when the PSLWR took place....and then there's the doctors. We need them to be there.”

Senior Charge Nurse (12)

The last comment was one that triggered an additional level of enquiry of the empirical data around the perception of medical staff participation. Several interviewees' responses suggested there was an overwhelming sense that more of the medical staff should take part in more PSLWR.

9.5.2 The Medical Staff

Several different levels of staff and various disciplines of those interviewed commented that they had expected more of the medical staff to participate. Doctors were viewed as accountable for each individual patient's care and thus should lead patient safety. Although, one of the local doctors participated in the majority of PSLWR in the purposive sample (n=25) there was an overwhelming sense from those interviewed that more doctors needed to take part. Several nurses suggested that more medical staff representation in PSLWR should be encouraged explaining that:

"We had one junior doctor taking part but we need a few of the senior medical staff to take part in PSLWR... some of the seniors need to attend. Are they not leaders of patient safety? The buck for safety stops with them.”

Staff Nurse (5)

The nurse's comments above are correct in that the Chief Executive Officer of NHS Boards are identified by law as the Accountable Officer and responsible in the role for the safety and quality of all patient care

. Continuing with the nurses reflections a student nurse offered:

"We need more doctors involved in this process so that we can learn a lot together. Instead, as usual the responsibility to make them aware of what is going on lies with nursing staff...having to tell them, yet again, what went on at the PSLWR."

Student Nurse (2)

The above comment is an interesting reflection from a student nurse that, the traditional view and enactment of the medical hierarchy and their dominance in healthcare is alive and well today. A similar theme emerged from the perception of one of the senior nurses in his reflections of medical staff participation:

*"Where are the doctors in this? We had a member of the senior medical staff join the PSLWR for the first few minutes then, he sloped off somewhere else 'important' ...what **IS** more important than patient safety? I think we need to do more to make sure the doctors participate."*

Senior Charge Nurse (3)

The inclusion of medical staff was also an issue raised by one of the porters suggesting that a doctor on their PSLWR would have been helpful:

"I think the doctors have no idea what it takes to get a patient who's sick, transported for a test or procedure...we're supposed to 'in a heartbeat' just magically transfer the patient from A to B... a bit like Dr Who and the Tardis! The reality is, at times, far removed from their expectation. I would welcome a chat with the senior doctors and give them a glimpse of my world and the risks we take when moving patients around the hospital. Sometimes, if the patient is really ill... I worry like mad that something will happen to them on route. I think we should have more doctors involved in the visits [PSLWR] to the non-clinical area. They were the missing link for me."

Porter (3)

During the medical directors interview he completely agreed with the porters view and also voiced his disappointment in the medical staff's participation:

"I expected that the doctors would be busy, especially the senior staff with the reduction in junior doctors' hours and all that...it really has had impact on their work. However, as the Medical Director I certainly want to encourage participation. I've only met 2 doctors on 6 PSLWR, I'll need to do something to encourage them."

Medical Director

The above comments from both the Medical Director and the Porter were gathered from different interviews. Never the less their conversations highlight several important issues:

- Although from very different organisational view points, both the porter and the Medical Director thought it vital to include senior medical staff in the safety conversations that they had. These comments show that medical staff involvement in PSLWR is recognised as vital in a healthcare environment.
- The porters idea of improving safety by having a direct conversation (through the PSLWR process) with senior medical staff, he would not normally meet face to face, was a key learning point to improve the PSLWR process
- The Medical Director, the most senior medical professional in an NHS Board, draws attention to both his own responsibility for safety by accepting ownership to encourage more doctors to attend the PSLWR and he almost suggests that doctors might be too busy to take part
- Both the porter and the Medical Director expressed a strong view that they wanted more doctors to take part

However, doctors were not the only group that some individuals thought were missing.

9.5.3 Inclusion of Others

Overall, the process attracted a wide range of participants and those interviewed made a number of suggestions to include additional staff:

"I think inviting infection control staff would be helpful during the clinical ward PSLWR. Their expertise is critical to help us address our local infection control issues. Infection prevention is a huge patient safety issue."

Staff Nurse (5)

“The vascular laboratory staff were busy on the day of the PSLWR but a reasonable number of disciplines were able to attend. We managed to include technical staff, the clinical lead for the department and a nurse who wasn’t expected to be there. All in all a good representation for the PSLWR but as we talked about the patient safety issues in the reception area of the laboratory services ...we should have either gone to visit that part or included the reception staff at some stage.”

Laboratory Technician (1)

The laboratory technicians point for further local staff inclusion is an important one that can be addressed in two ways; **First** by the local staff making sure those involved in the safety issues have the opportunity to take part by stopping work for a few minutes and **secondly** by the leadership and visiting team asking a direct question at the end of the PSLWR if there are any further staff who should be included. The flexible nature of the process invited all staff to join the PSLWR if they were available. However, in reality, if an individual was busy attending to a patient they would not be able to stop what they were doing to allow the safety conversations to take place. On at least two occasions those interviewed commented on the way that the busy environment had affected staff participation:

“I was concerned that in one or two areas visited the staff were too busy to participate and that’s something we’ll explore further. In most cases, some of the PSLWR had a wide range of disciplines present a number of doctors did managed to attend. Perhaps even patients could be included in the future and maybe someone from communications and estates on particular PSLWR where we know there have been issues about the safety of the environment there. So that’s something we’ll need to consider.”

Director of Operations

The Director of Operations makes several valid points here in reference to the inclusion of staff that may directly be able to address or be involved in the follow-up of some of the safety issues previously raised in a particular area. More importantly, the inclusion of patients to discuss safety is an interesting one. The patients’ perspectives could be very different from those of the staff and would encourage a sense of ‘patient centeredness’ bringing a whole new dimension and perspective on safety. The inclusion of patients and their families is one I will discuss further in Chapter 12, section 12.24, where the benefits and challenges of involving of patients

and their families in patient safety will be addressed. This issue is highly relevant to the national patient safety agenda emerging from the very recent Scottish Government Policy on improving the safety and quality of patient care (SGHD, 2010).

Given that only a proportion of staff could participate, some interviewees gave thought as to how the wider message of PSLWR could be promoted beyond the normal newsletters and email correspondence:

“Perhaps we should include central NHS staff on the core team the communication team, estates, catering – if some of these services are compromising safety we need representatives from those services to come to the frontline too. When we return on a second visit to that area if catering was a problem we should take a member of the senior catering team to make sure they here first hand that the issues is resolved.

Director of Operations

The Senior Managers had slightly different and opposing views as a group when discussing participation including their own. The Senior Managers within the organisation often have a wide geographical spread of departments within their sphere of work and although they welcomed the dedicated time to discuss safety, many were also hesitant that they may not be involved in all the decisions made during PSLWR. Two of the middle managers interviewed felt excluded from the process as they were not able to attend the ward areas when the visits took place:

“I couldn't attend because of other commitments and that's OK but decisions were made without me and I felt a bit left out”.

Senior Manager (3)

“Well I wasn't too happy when the senior executive had arranged to sort something out that I really felt is MY job. It made me feel a bit inadequate and I felt a bit silly when the frontline staff told me how easy it was for him to fix it. It would have been better all round if I was included in that process.”

Senior Manager (3)

One senior manager believed that the local staff should get the opportunity to decide if they want the local manager to attend the PSLWR as:

"It may take some time to develop this process as staff may be unwilling to bring up something with the manager present, especially if that manager should have previously addressed the issue."

Senior Manager (4)

However, in the light of the fact that senior management presence did not appear to deter more junior staff from offering their views, a number of senior managers were surprised at some of the discussion from the frontline staff and how distanced they, as managers, felt at times:

"Demonstrates how removed we must be from reality sometimes".

Director of Workforce Planning

"I just did not appreciate until today how many of the safety issues that can emerge so quickly in one of my own areas. I am so glad the staff felt they could include me in the discussions. It really opened my eyes to some of the patient safety issues."

Department Manager (4)

Whatever the broad approach taken, including the managers in PSLWR could be viewed as both a help and a hindrance. If managers were included in the decision to take action following a PSLWR and the action was concluded quickly as requested by the ward team or department, the managers inclusion would be viewed as helpful. Conversely, the manager's presence might also stifle the conversations if they viewed staff disclosures of patient safety issues, as a failing on their part of the local management systems. A point they might not want to share with visiting the Senior Executives. The concept of inclusion is an important one if the PSLWR process is to be valued as a worthwhile exercise. The inclusion and collective effort of PSLWR was discussed by interviewees from different disciplines and viewed by senior managers as the most significant part of the process:

"This new approach to patient safety has collectiveness about it... a collaboration of effort... it feels like we are doing something together that doesn't happen very often."

Senior Manager (5)

The interviews also revealed some of the doctors' perceptions of senior leaders involvement as:

"An improved way to bring the decision makers to the frontline to see the impact of the choices they make. I think when they are up there [the main offices are on the 10th floor] making big financial decisions it's a long way away for the chaos of the accident and emergency department."

Junior Doctor (6)

Some staff did not know who the executive directors in the organisation were and few had met members of the executive team before. This fact was shared during the interview process:

"Well I've never seen the Nurse Director. I didn't know what she looked like. I think it [the PSLWR process] was a good idea whoever thought of it..... When the Nurse Director comes and listens to our patient safety problems and then helps to fix them I really felt we had done it together."

Junior Nurse (8)

"I had no idea who these people were. Perhaps that's why I was more free telling them about the patient safety problems we have. I'll probably never meet them again. There was a degree of anonymity... a sense of protection ...for my own safety in not feeling guilty about tolerating the unsafe practice"

Junior Doctor (3)

The Junior Doctors' comments above directly support Amalberti *et al*, (2005) theory of drift and the recognition that we do have an awareness of unsafe situations, albeit possibly within our subconscious state.

In summary, the hospital staff in wards and departments welcomed the opportunity to meet with the executives. Likewise the Executives were very supportive of the PSLWR process and impressed by the level of participation. However, many of those interviewed considered some important groups of staff were missing. The debate around absent members of staff however did not affect participants' views around the feasibility of hosting another PSLWR within their departments. The issue of use of PSLWR was recognised by all those interviewed as a positive move to

improve safety and seen as a simple process which was easy to take part in. The next section will elaborate on the issue of feasibility of PSLWR as a useful process for patient safety improvement.

9.6 Feasibility- Did the PSLWR Process Work?

Making the PSLWR process work has particular challenges in a large hospital system. My professional capacity to utilise the local administrator's skills in organising corporate wide systems, made my goal of planning a department visit programme to set up of the PSLWR achievable. This is an important point to note for other organisations considering the development of a PSLWR system. In any large hospital system there are administrative processes that deal with all organisational departments. As described in Chapter 7, the method of using existing organisational knowledge of the structures and processes made my scheduling process successful. From the clinical staff perspective, the PSLWR background information leaflets (described in Chapter 6, Section 6.16 and presented in Appendix 7.3) were distributed to the local area several weeks before the PSLWR visit. Several staff interviewed commented on the process being easy to be involved in:

"How hard can it be to stop for a few minutes and talk about safety?"

Staff Nurse (2)

"I found it easy to take part and the process was very useful. I didn't need to prepare anything ...or nothing formal anyway, just stand and chat for 10 or 15 minutes I liked it. The leaflet helped too ...so I knew a little bit about the process before we started."

Physiotherapist (1)

The process for PSLWR was mentioned throughout the interviews.

"I found the telephone call a great reminder. I received a telephone call the day before the PSLWR took place."

Staff Nurse (5)

"The introductory information ...a letter to participate with the date and time included was helpful to remind all staff. We pinned it on the notice board."

Auxiliary Nurse (4)

“The overview of the process before we stated was clear and the quick feedback information later in the afternoon was impressive”.

Staff Nurse (1)

“The process was not intrusive at all we just stood at the ward reception”.

Junior Doctor (2)

Two of the PSLWR were cancelled by frontline staff due to high patient activity. The postponement then created a problem of re-scheduling, as a repeat visit could not normally take place for some time due to the rolling organisational schedule planned 6 months in advance to secure executive director diary time. One nurse seemed particularly disappointed:

"I know we couldn't have the walkround that day because we were too busy but I was really psyched up for the Nurse Director coming. We have had particular nursing patient safety problems and it was not helpful to have that opportunity taken away... it was like the moment was lost ".

Senior Charge Nurse (3)

As has been demonstrated above, the participants interviewed agreed the process was easy to participate in and useful in addressing patient safety. Most clinical staff were not concerned about stopping work to chat but realised that they might have to drop out temporarily as their operational situation demanded. Indeed, several had to leave the PSLWR during conversations for a few minutes to attend to patient care issues. While many interviewees appeared to believe the process set up was acceptable and easy to participate in, they acknowledged that unless subsequent action was taken the new system would be of little use. The next section will explore the utility of the new PSLWR process.

9.7 Utility - Was the PSLWR Process Useful?

As explained in Chapter 6, Section 6.16 the PSLWR process was designed for the teams of staff participating to take action regarding the patient safety issues raised. Taking part was only one element. The staff would have to see the process as good use of their genuinely precious time and that action was taken to address the safety issues that they raised. I, and they, had to be sure that the time out was worth the

effort in patient safety terms. It could be viewed that stopping clinical work even for 20 to 30 minutes could have a significant detrimental effect on safety as the staff would have to catch-up on the tasks after the 'time out' to attend a PSLWR.. This did not seem to be the case as many of the interviewees emphasised the rapid outcomes in patient safety terms, from the conversations and agreement that took part. This suggests, despite some limitations the process was useful. The effect of the rapid results was recalled by several participants:

"On one of the visits we walked round the ward with the Director of Operations. It was good because the nurse was describing an issue which was happening repeatedly....a patient had wandered out of a fire escape and was found at the bottom of the stairs. We were able to take action immediately [that day] by having the door alarmed so that if somebody went out of it again staff would know right away. That, for me, is the essence of PSLWR."

Director of Nursing

"Things like the visitor chairs...we need individual chairs for each visitor because if there are no chairs they sit on the bed and that's an infection risk. We needed replacements and had been waiting for months. They were delivered within a week following the PSLWR discussion".

Clinical Manager(10)

"The process is very useful. We've moved on with issues that seemed to have been stuck for some time in the normal channels. Like the security issues and getting security door access cards. We've had both fire exit doors alarmed too as a result of the PSLWR."

Laboratory Technician (2)

"Infection control - we were trying to get more staff through the cleanliness champion education programme to teach some of the junior staff and improve our uptake on monitoring. Within a few weeks we got 3 places it was fantastic. It may seem like nothing but these little annoying things make a big difference."

Senior Charge Nurse (7)

The issues above demonstrate the impact of vulnerable systems theory and (Amalberti *et al*, 2006) and Reason's model of latent factors (2003) that suggest safety issues can lie dormant in the organisation often for a long time before they are identified or actually cause harm.

During the process, the Director of Finance shared that as the system for PSLWR evolved it gave him a real sense of pride, ownership and willingness to adapt the process to make it successful:

“I think it’s quite effective. I think it’s a good way to start off real discussions about patient safety. I expect even very modest changes in our style as we took part in more PSLWRs probably helped the staff feel more comfortable about opening up and discussing difficult safety issues. Word spreads. So, I think as we build our own competence in doing this it helps to encourage staff to talk about safety. The way that we pitch the questions or introduce the subject... we’ve maybe changed that over the last year.”

Director of Finance

The comments above emphasise a few issues worthy of further discussion: a real sense of building capability in executive practice and recognition that the practice of PSLWR was new and something that executives were relatively inexperienced at. In addition, there is also a suggestion that the Executives learned and adapted by reflecting on their own style of enquiry. Many of the interviewees expressed a wide and diverse use of the process to influence the Organisation in different ways. The Director of Finance suggested the process had begun to influence the way in which he considered Organisational funding:

“The process has been very useful for me to change how I plan and make investment decisions. For example our mechanism for replacing equipment has definitely been influenced and informed from the messages I pick up on PSLWR visits. I am also much more sensitive to the pressures that lead to use of agency staff etc. [a huge workforce spend] because I’ve had the opportunity to meet the staff at the ‘coal face’ and hear what they are up against.”

Director of Finance

There was strong agreement that the process was effective in different ways. The executives and senior managers had through this process found a ‘window’ into the service and everyday life at the ‘front line’. They also believed that, by focusing on a few, though perhaps not all, of the patient safety issues raised by staff, they were able to make a real difference by making changes quickly. Several of the frontline staff recalled the ability that the senior leaders’ involvement offered to enable patient safety issues to be ‘fixed’ quickly. Interviewees welcomed that, but believed some of

the issues should have been dealt with through the ‘normal’ organisational processes; for example more chairs in a waiting room and environmental repairs. However, the PSLWR process offered an opportunity to circumvent the ‘normal’ rules and procedures, leading to revelations as far as the Executive Team were concerned.

9.8 Opportunity to Disclose

The Executive Team members in particular were able to recall specific conversations about disclosures revealed from the PSLWR that made a personal impact on them as individuals. The COO recalled an issue raised by a senior nurse. Since the early 1980s, there has been a gradual erosion of clinical nursing time into administrative and management activity in order to gain career advancement. Nurses often had to move into management roles thereby moving away from the patient-centred matters that they’d actually become a nurse to be involved with (Davies *et al*, 2007). Nurses often resented that fact along with the associated one that less qualified nursing workers (e.g. Auxiliaries and State Enrolled Nurses) had all the direct patient contact. The impact of these changes depletes the availability of highly skilled nursing experts from the provision of direct patient care. This can affect patient safety in a number of ways highlighted by the COO:

“When I asked her ‘What is the one thing in patient safety terms I could do for her?’ she said ‘Give me my job back’. The nurse was a very senior, highly skilled individual. The hospital management system was using at least half of her working week for management activity instead of the clinical leadership expertise required for the safe and effective care of her patients. The response had a profound effect on me.”

COO

This conversation led to the COO changing the local management system the next day and raising the issue at National level. At National level, a Government Policy review of the Senior Charge Nurse role was undertaken by the Chief Nurse for Scotland and a new clinical nursing leadership strategy launched as a result (SEHD, 2006). Several interviewees mentioned this issue as it was highlighted in the patient safety newsletter.

The COO recalled another event that had a profound effect on him:

"A very junior nurse disclosed a 5 day delay in treatment and a lack of clinical decision making for a surgical patient. The delay resulted in emergency surgery for the man and made his condition critical. This was not reported through the usual channels and I was shocked that these kinds of events could slip under the wire. This type of thing fundamentally brings into question accountability in my hospital system; this is not merely another safety issue. I just had to intervene"

COO

The above example demonstrates the powerful effect the PSLWR conversation had on one of the most senior individuals in the Organisation and the impact a disclosure from one of the most junior members of staff can have to improve patient safety. The essence of the PSLWR is also visible from the direct connection of the junior nurse to the COO.

The Director of Operations recalled several events that culminated in a real sense of relevance and grounding of the patient safety agenda for the first time:

"The PSLWR gave me real insight into the complex clinical environments staff deal with. My focus before was the physical environment but now I have an understanding of a different view."

Director of Operations

Encouraging staff to discuss where care is compromised is the essence of much of the PSLWR discussions. The purpose in this section of analysis was to explore with some of the participants their belief that staff were free to discuss harm during the process. The Nurse Director shared her views on the level of disclosure from staff:

"In fact I get a feeling when you go in and speak to the staff they don't hold back, I don't get any feelings at all that they feel intimidated. I don't get a hint of reticence with people. I think when we say to people 'what did you get wrong last week?', they're pretty honest at telling you."

Director of Nursing

There were suggestions during the interviews that, often in healthcare, there are real assumptions that the work that nurses and doctors do is more important than non-clinical staff:

“I’m the cleaner in the ward and I see everything but I don’t think a doctor has EVER asked me about safety. I liked joining in the PSLWR as I felt that I belonged and that my work also helps to keep the patients safe. But it’s not all good news...I told them about the hand washing or should I say lack of it. All this monitoring of hand hygiene is a joke. I see what they all do...supposed to be professionals and highly trained. My four year old granddaughter has better hand-washing practices!”

Domestic Assistant (3)

Some of the hospital department staff interviewed thought it was a real opportunity for colleagues to be candid throughout the PSLWR with an attitude of 'they are on our turf now' and we will be able to 'tell it like it is'. Others talked about a slow start, building to a lively interactive conversation involving all those present. The Medical Director summarised:

“In ward X and Y, the individuals we met with were very capable, forthright and interested in the process because they want something to change and that liberated their inhibitions to disclose unsafe practice. I believe the PSLWRs have, like no other system, the ability to reveal the unknown.”

Medical Director

The new information regarding adverse incidents that, the Medical Director highlights above, demonstrates once more the capability of the PSLWR system to encourage disclosure. Conversely, the comments could be interpreted as 'fundamental attribution error' (Ross, 1977) where, the staff deflect responsibility and blame the systems. In Chapter 8 we saw how staff were encouraged by the PSLWR discussion to reveal the safety issues they were concerned with. An important part of my empirical work focused on the opportunity to explore with participants the challenges and changes they wanted to see regarding the PSLWR system. The following sections present their ideas.

9.9 Challenges and Changes to the PSLWR Process

Setting up the organisational system to undertake one PSLWR with at least two executives was a challenge for the administrative staff; securing diary time and arranging a schedule of visits takes time and resource. The staff interviewed considered a range of challenges and suggested several changes to the PSLWR system.

There were several comments on the timing and tracking of issues including the wider dissemination of the safety issues raised in individual departments:

“Monitoring the time taken to complete the actions we agree may be helpful to frontline staff. As we all know, there's normal time and NHS time which is ten times slower!”

Senior Charge Nurse (5)

“The challenges are what you are able to do about it.... the timescales to achieve the changes and how you manage to limit the actions to 3 main issues.”

Director of Nursing

“How do we share the information throughout the entire organisation? That's a challenge”

CEO

The issues of timeliness and continuity were raised considering the length of time spent on discussions (each PSLWR lasted between 30 and 45 minutes) and the opportunities staff have to settle into the conversations in such a short space of time:

“I think inevitably each PSLWR is variable and one of the challenges is that the meeting is short and it sometimes takes a bit longer to get people to start talking.”

Senior Manager (12)

In addition, one Director proposed, a revisit to the staff that he had met to follow up directly some of the promises he had made:

“I would like to see the same staff again and get feedback to follow up what has happened as a result.”

Director of Workforce Planning

Another challenge raised was the unusual situation of the clinical directors (medical and nursing) going to non-clinical areas and meeting non-clinical staff, and non-clinical directors meeting clinical staff. For example the Medical Director went to the Laundry; the Nurse Director to the Estates department; the Finance Director to the limb prosthesis manufacturing unit. All of the Executives were offered the opportunity to visit many parts of the organisation they knew nothing about and meet people they didn't even know existed. This placed them on unknown terrain, leading to experiences that were captured eloquently by the Medical Director:

“One of the biggest challenges was coming out of my comfort zone of talking to Doctors and going to new areas. I have enjoyed going into different parts of the organisation, parts/areas I have never been to before. Finding out about the safety challenges from different perspectives and opening up my thinking of how the whole hospital system fits together. Initially I felt like ‘a fish out of water’.”

Medical Director

The interviewees were focused on the positive aspects of how to make the system more successful and included practical suggestions for ways in which the different levels within the organisation could take responsibility for some of the actions:

- the Executives addressing the more strategic long term investment issues like large scale equipment replacement;
- the middle managers addressing the day to day organisational issues for example staffing concerns and
- the frontline staff taking action on local issues like training and changes to the ward environment.

The issue of spontaneity of the discussions and freedom for people to talk was both welcomed and criticised by the interviewees:

“One of the challenges is that often we have not discussed the safety issues as a team and an issue might be raised by an individual because it is their ‘pet subject’. There is a danger in that situation that the PSLWR becomes all about that one individual and their issue. The discussions have to be carefully managed and we [the visiting executives] briefed beforehand about any individuals that may try to hijack the situation for their own means.”

Director of Workforce Planning

“I like the spontaneity of it...staff just come out with things that they might not have done if they had actually had time to think about it beforehand.”

Staff Nurse (10)

Finally, dealing with the financial challenges that the safety issues throw up was raised by the executives and the Director of Operations in particular. The hospital buildings and maintenance plan addresses many safety issues, routinely. However, the PSLWR process regularly identified additional minor environmental safety issues. To address these issues NHS Tayside established a small annual budget of £10,000 to deal with small aesthetic or environmental building problems. Participants considered the changes and challenges to the PSLWR system to be relatively minor or at least non-threatening to the sustainability of the PSLWR system. The following section concludes the Chapter by considering the main findings of the semi-structured interviews with the participants.

9.10 Summary

This Chapter detailed Part II of the results focusing on the semi-structured interviews exploring participants’ views of the PSLWR process. Overall the PSLWR system was considered to be a helpful addition to the organisations approach to improving safety but it was not without its challenges. Key considerations are:

- Establishing an organisational PSLWR system appears to be relatively simple with some caveats; a good organiser is essential as is a committed Executive Team

- Both Executives and frontline staff found it easy to participate and found the system useful
- Those participating believed that disclosure of harmful events through this method happened as a direct result of the PSLWR discussions and might otherwise be unknown
- The opportunity to participate in PSLWR was open to all staff but the reality of wide participation across all disciplines was not fully achieved particularly in relation to:
 - medical staff where more need to be involved
 - non-clinical staff where more need to be involved
 - patients and their families who need to be involved henceforth

The findings drawn from these interviews suggest that, the PSLWR system that I have established in this empirical work presents a valuable opportunity for NHS organisations to explore and expose some of the patient safety challenges in a collective and inclusive way leading to new ways of improving those situations. With limited resource both Executives and frontline staff can use this method to learn find out about some of the patient safety challenges that staff do not routinely share or report.

The next chapter will discuss the findings of my empirical work in detail, mapping the results with the key literature from Chapters 2, 3 and 4. The following discussion will consider the unique contribution of this thesis to addressing the issue of patient safety and harm in hospital care.

Chapter 10

Discussion and Conclusions

“They tell you all sorts of things... many of them shocking, but there is real disclosure coming through using this process. I've never seen such a simple approach achieve so much, in such a short time. People will have things that are very personal to them that, they want to share; if they feel comfortable and confident; then they can raise them. Personally, I don't think the staff felt restrained at all by the process; quite the opposite; it's very liberating.”

Director of Finance

10.1 Introduction

My thesis has shown that detecting and addressing patient safety issues in the NHS has traditionally been difficult (NAO 2005). The formal complex nature of the NHS often prevents opportunity for open transparent discussions about harmful events. The presentation of my empirical work, in the previous two Results Chapters (Chapters 8 and 9), indicated the extent to which the PSLWR process has been able to address those problems.

To consolidate that point, I have chosen to open this Chapter with a short narrative from NHS Tayside's Finance Director, as I believe it epitomises the positive impact that PSLWR have had on both, the Senior Executives and the frontline staff. His quote demonstrates the personal enthusiasm and value he recognised in the PSLWR process. As a senior executive of a non-clinical function, the Director of Finance did not routinely (if ever) visit individual wards and departments, within the hospital, before PSLWR were introduced.

My design of PSLWR process presented executives with a new, first hand experience to engage with and listen to, staff accounts of patient safety issues and the ways in which they 'drift into error' (Amalberti *et al*, 2006). I will use this chapter to draw the threads of my thesis together by reviewing the research objectives, the methods used

and finally consider the main findings beginning with an ‘aide memoir’ of the research objectives, presented below.

10.2 Summary of the Research Objectives

In Chapter 7: Box 7.2, I identified four key research objectives to inform my research design:

- To collect preliminary data on the introduction of a new method to address patient safety within one Scottish NHS healthcare system.
- To update and extend the limited existing data on the use and implementation of the PSLWR processes
- To update and extend the methods of detecting error and harm in healthcare
- To use this information as a means of informing both local and national policy and practice

The extent to which I have achieved the research objectives above will be addressed through 5 main themes of discussion: keeping patients safe in hospital; PSLWR in the NHS; the design and method of my research; participation and disclosure; and finally the conclusions and implications of my research (see Figure 10.1 below).

Figure 10.1 Chapter 10 Discussion Themes



10.3 Keeping Patients Safe in Hospital

Patient safety policy, in the UK, has focused thus far, on counting adverse incidents *after* patients have been harmed (NSPA, 2005; DoH, 2008). PSLWR introduce a new proactive method of routinely seeking out harm in healthcare as a component of ‘normal’, everyday ‘business’ activity in the NHS. The implementation of the PSLWR, a comparatively simple system, to discuss patient safety was an idea ‘whose time had come’.

My review of the literature in Chapters 2, 3 and 4, confirmed that patient safety in hospital is a growing concern for healthcare systems (DoH, 2009; SGHD, 2010). More importantly, patient safety is **the** priority issue for patients. The policy literature suggests harmful events, in hospital, are frequently experienced by patients between 10% and 50% of the time (Leape *et al*, 1991; Leatherman and Sutherland, 2003; McGlynn, 2004; NAO, 2005). There is no doubt that not all harm to patients in hospital is identified, even within PSLWR. My research concurs with the literature to

show that there are difficulties with the current systems of capturing harm not least due to:

- the busy, multi-faceted nature of the hospital environment (Aurbach *et al*, 2007; O'Shaughnessy *et al*, 2007);
- the tolerance of risk in practice and staff ability to 'drift into error' (Beck, 1998; Giddens, 1991; Reason, 2003; Amalberti *et al*, 2006)
- the willingness or unwillingness and capability of staff to formally report adverse incidents (Bates and Gawande, 2003; Wilson *et al*, 2008; House of Commons, 2009).

However, my research revealed over 500 new adverse incidents that were not recorded in the formal reporting system in NHS Tayside. Thus, my results confirm, PSLWR were able to provide an additional method to supplement some of the current gaps, related to reporting (Wilson *et al*, 2008), feedback (Rowin *et al*, 2009) and action (Benn, 2009) following adverse incidents.

Even when the harm is absolute and causes the patient's death it seems difficult for clinicians to report the detail of such events (NAO, 2005). My research participants suggested the following explanations for such behaviours:

- a lack of preventative measures and action following an event resulting in the same issues being reported over and over again
- a failure to respond to staff concerns about safety in a timely manner and a lack of feedback for those who do take the time to make a formal report
- a failure of system wide learning across the hospital system to update practitioners on action taken as a result of reports in other areas
- numerous disconnects at local level between the variety of patient safety data systems: complaints; claims and adverse incident reports; with no real overall view of harm at organisational level

Traditionally submitting a safety report is an isolated and fragmented activity, reduced to one individual's account of the event. Even if conducted by an experienced member of staff, incident reporting cannot capture the full context of the event. Although a person making a report might accurately log the narrative description, the complexity and contextual background is lost. PSLWR brought the safety issues 'to life' in the natural environment of the physical ward or department. In addition, not all NHS staff has direct access to incident reporting systems. PSLWR offered a new method to engage different groups of staff, often, those who were isolated and disengaged from the other safety reporting systems. I would suggest, my method of PSLWR has extended the methods of detecting error and harm in NHS Tayside which is relevant to many other healthcare systems.

10.4 PSLWR in the NHS

The implementation of the PSLWR system brought together several staff groups including: healthcare staff at the frontline, dealing directly with patient safety issues and the Senior Executives; the decision makers of the organisation. Senior executives and non-clinical staff: porters; cleaners and administrators demonstrated a level of deep organisational intelligence about everyday practices affecting patient safety. Through the PSLWR process they were enabled, for the first time, to collectively and proactively discuss and address patient safety concerns within the hospital settings. One of the key findings of my study shows that, PSLWR offers **all** NHS staff the opportunity to 'talk about safety'.

A particular focus in the literature to improve safety has been the influence of the 'safety culture' within each healthcare organisation (Schein, 2004; Davies *et al*, 2007; Kennedy, 2001). Much of the empirical work, so far on PSLWR, has focused on using the process to measure the safety culture within healthcare organisations (Frankel *et al*, 2003; Graham *et al*, 2005). I chose a very different aspect of PSLWR and concentrated on the detail of the implementation process and the suitability of the PSLWR within an NHS health system. My research has adapted the PSLWR process

to a UK context. As a result, I have collected preliminary data on the introduction of PSLWR to address patient safety within one Scottish NHS healthcare system.

Before the HF introduced the SPI programme, in February 2005, PSLWR had not been used in any hospital in the UK. The PSWLR system had been only been tested and implemented in American healthcare systems. I was able to elicit this information directly from Dr Alan Frankel, the instigator of a PSLWR model. Kaiser Permanente, Partners Healthcare and Brigham Women's Hospital (all USA Health systems) introduced PSLWR to measure the safety culture within those organisations (Frankel *et al*, 2003; Graham *et al*, 2005). However, there was no intention within the empirical work at that time to describe the process, the utility or acceptability of the system in other healthcare contexts.

As detailed in Chapter 5, the NHS is not a universal health care system. There are several layers, with devolved Governmental departments in Scotland, England, Northern Ireland and Wales. The NHS in Scotland is a large bureaucratic organisation employing over 170,000 people (Scottish Government, 2010). The NHS Tayside proportion of the total is around 14,000 people, with over half of these in a non clinical role. Although the regional infrastructure in each country is different, I would suggest, when it gets down to individual hospitals there are many similarities in the internal day to day running of each hospital.

The detection of harm and harmful events is not solely the province of delivery-based healthcare workers and managers. Although many of these individuals do not provide direct patient care, they can and **DO** make a contribution to keep patients safe. The professional monopoly in the evaluation of medical work to the exclusion of non-professional groups in the management of technical performance is recognised in the literature (Friedson, 1970; Allsop and Mulcahy, 1996; Rosenthal, 1999; Lupton, 2002). PSLWR not only invited these groups to participate but included them in the team discussions with professionals' managers, Executives and clinicians. Despite all the difficulties of engaging with a large workforce, patient safety is important to

healthcare staff as they focus on creating safer healthcare systems (Scottish Government, 2010).

10.4.1 Developing Safer Systems

The principle activity in PSLWR is for senior executives to go ‘looking for harm’. Westrum (1996) and Parker’s (2006) models, presented in Chapter 3, suggested that organisations promoting such practices can improve safety. In line with these models, PSLWR match the more mature organisational stages of the ‘proactive’ and ‘generative’ steps of organisational safety. Evidence from my empirical work shows that NHS Tayside has, at least, reached Parker’s (2006) ‘proactive’ stage of understanding patient safety demonstrated in the narratives of the participants. My hypothesis is based on the participants’ discussions that show through PSLWR, their ability to anticipate safety problems before they arise.

My empirical work suggests NHS Tayside was ‘ready for action’ in relation to patient safety improvement. A view recently validated by Burnett (2010) in her work reviewing the impact of the SPI considering an organisations ‘readiness’ to improve safety to produce positive results. The willingness of the participants at all levels from executive level to the non professionals; to take part demonstrates a level of ‘bravery’ to discuss and address some of the most difficult issues in healthcare provision; harming patients instead of healing them. Another example is that, PSLWR enabled, and perhaps even gave NHS Tayside employees the confidence to openly discuss harm and not just rely on the information that is easily, though only fragmentarily, available to some (through formal reports).

Overall, the Executives and frontline staff in NHS Tayside were very positive about the introduction and implementation of the PSLWR. I believe this unusual unanimity, in relation to a change process in healthcare, was down to key features in the case study organisation:

- the Senior Executive team's commitment of the to patient safety
- the willingness of the staff to engage and trust the PSLWR system as a safe place to talk about 'drifting into error' and the mistakes that they made
- the organisations voluntary participation in UK SPI programme to improve patient safety including the financial support given to the organisation to improve patient safety
- the albeit subtle element of competition to succeed within the SPI programme with the other 3 UK hospitals taking part in NI , England and Wales
- recognition that the level of harm within the organisation was relatively unknown
- recognition that adverse incidents are not just 'harmful events' but each has an impact on individual patients and their families

10.4.2 Harmful Events are People

In this thesis, I have developed a lens, through which harm can be discovered, through the vignette presentations of patients' cases, in Chapter 2, and the 'story telling' emerging through the PSLWR discussions. Many of the events revealed in PSLWR caused relatively minor harm, such as an extended stay in hospital or a repeated treatment or procedure. However, some were much worse. What often lies beneath is sometimes considered by staff as minor events but these events cause increased suffering, pain and anguish for patients. In addition, there are the devastating effects on the families whose relatives die as a result of being harmed in a healthcare environment. In such cases there can be a sense of loss and helplessness that they might never recover from (Watcher, 2004).

Yet, most patients and relatives do not want financial compensation or to punish those involved, they simply seek a process of learning in order that the events are not repeated and further harm is prevented (SPSO, 2010). In healthcare, the voice of the patient and their family can be a powerful way to change. I recognise that. The small sample of 3 patients that I involved in PSLWR was merely exploratory. Nevertheless, they brought a whole new dynamic to the process from three perspectives; patients can give a personal 'bird's eye view' of the systems that they access; they can tell a story of what happened to them from their perspective and they can often bring a 'reality check' to staff often caught up in the repetitive nature of the tasks of service provision.

A particularly powerful story from my empirical work is the recollection of a patient following a lower limb amputation and the difficulties that the individual had in accessing bathroom facilities. He had to crawl on the floor because the toilet door did not allow wheelchair access. The management teams were aware of the issue (several requests for minor alterations to the door were made) and yet the repairs were not prioritised for action. The example above demonstrates Reason's (2003) latent conditions theory in action showing the 'guilty knowledge' (an awareness that something is wrong that you choose to ignore). Although several reports and promises were made to address the issue, it was not resolved until the patient raised the issue during the PSLWR. The patient's concerns shocked the visiting executives not only because of the infection control issues that were highlighted but more seriously, the potential to breach the individual's basic human rights and legally; a failure to comply with the Disability Discrimination Act, Scotland (1995). Seeking out information in this way was a completely new activity within NHS Tayside introduced by my PSLWR research design.

10.5 Design and Method

My research is about people those who are harmed in hospital and those who contribute to it. As a result, a phenomenological approach enabled me to take a 'deep dive' into the organisational processes and practices (Denzin and Lincoln, 2005). In addition, my second level of analysis; using semi structured interviews allowed me to explore with participants their thoughts and feelings about patient safety and the introduction of the PSLWR process as a mechanism to improve safety in healthcare.

I selected a single case study design (Yin, 2003) embedded within several unique and ever more focussed contexts: **first** the opportunity study the PSLWR in the NHS; **secondly** within NHS Scotland; **thirdly** within a territorial NHS board in Scotland, and **finally** within a University teaching hospital system with even more contextual layers. In Chapter 8, Part 1 of my results, I highlighted the contextual issues as described in Reason's (2008) 3 Buckets Model, in the context of safety. Key elements from the PSLWR design in NHS Tayside is aligned with Reason's (2008) positive 'context' bucket which seeks to provide clear instructions, good teamwork, dedicated time for safety and the ability to question behaviors within the current systems.

Given my position of studying real life in the natural environment of healthcare, I agree with Winch (1990) and Bowling (2002) who suggest that, a researcher needs to understand what they are studying. As a result, my 30 years experience was useful when planning the PSLWR process. My extensive knowledge of the organisation enabled the design and method of my research to be sensitive to the local NHS context. Mindful of the work of Gummesson (2000), I propose that the notion of pre understanding and pre knowledge brought depth and rigor to the context and design of my research process. The PSLWR required all staff available to participate, the initial design and format was tested out in 4 hospital areas considered to be 'general hospital teams'. This testing allowed the research tools to be altered and adjusted to create a '*good fit*' to achieve the research objectives (Denzin and Lincoln, 2005). I considered 'acceptability' as a key issue to encourage employees to take part.

The usefulness or 'relative advantage' and application of innovations in healthcare is emphasised by several authors as being critical to embedding change in practice (Plesek and Greenhalgh, 2001; Grol and Wensing, 2010). The open collective nature of the PSLWR process as I designed it, encouraged disclosure of the relative frequency of staffs' ability to 'drift into error', the like of which did not exist before the use of the PSLWR process.

As a key component of my PSLWR research design was that, a degree of training was introduced for the executives in relation to asking questions and keeping the discussion focused on patient safety. Other challenges included:

- Responding to the vocal individual who could monopolise the PSLWR for their own favourite patient safety subject throughout the conversation
- Local tension when staff suggested more than 3 patient safety for action. In the spirit of pragmatism, I applied a rule that only 3 key issues would be agreed by all participants to limit the actions somewhat to make the progress achievable.
- The introduction of a pre PSLWR briefing meeting, for less than 10 minutes, immediately before entering the PSLWR area to be visited. The purpose of the short discussion was to ensure the executive team were aware of any of the local specific patient safety issues

10.6 Participation and Disclosure

Senior executives, non-clinical staff: porters; cleaners and administrators demonstrated a level of deep organisational 'intelligence' about everyday practices affecting patient safety. Prior to PSLWR, the Executive Directors might only have gone to the front line when a crisis had happened. Even then much of the detail they received would be in formal written reports. The Executives Directors participation was essential; without their attendance the PSLWR could not take place. Thus, all Senior Executives took part and I would suggest one element that influenced their decision to dedicate diary time to the PSLWR were the commitments of both the

CEO and COO to participate at least once per month. As the most senior leaders in the NHS Tayside system, their commitment to do so on so regular sent strong messages to the organisation that patient safety was important to them. As a result, the remainder of the executive team also followed suit, perhaps, influenced no doubt, by their leader's example. This commitment demonstrates that my research design can be used as a means of informing both local and national policy and practice regarding leadership to improve patient safety.

Most of the teams within healthcare are assembled vertically through disciplines: nursing; medical staff; senior managers etc or by area of work: wards; laboratories; administration medical staff; porters and cleaners, or horizontally through management. Led by the Executives, the PSLWR process created a **new** mix of individuals together to focus on safety; based on the goal of the outcome rather than the organisational position. Executives planned to take action jointly with cleaners; senior medical staff with managers; nurses with laboratory staff, all engaged by the mechanism of PSLWR and most importantly on the goal of safer care.

Despite the lack of empirical evidence, leadership advice for senior healthcare managers to enhance patient safety has been published by high profile agencies on both sides of the Atlantic (Botwinick *et al*, 2006; NPSA, 2004; DoH, 2008). Leape and Berwick (2000) suggested a decade ago that, leadership involvement in patient safety is crucial to success. The idea that leaders need to be involved in looking for harm and new information about patient safety within the organisation is supported by Parker (2006). During my research, the executive team of NHS Tayside had given the issue of leadership for patient safety, considerable thought, by emphasising the following points at each PSLWR:

- patient safety is a team sport and requires the collective efforts of the workforce to improve and reduce harmful events
- PSLWR were a brand new activity for the organisation

- The aim of PSLWR discussions was to encourage disclosure of WHY mistakes happen and in what circumstances NOT to identify WHO made the mistake.

To heighten awareness of the PSLWR programme throughout the entire organisation, the executives planned a special edition of the organisational in-house magazine (Spectra) explaining the PSLWR process. The article was published one month before launching the PSLWR process. The article highlighted PSLWR as:

“a new opportunity to address safety together.”

(NHS Tayside Spectra 2005:6)

One of the roles of the Executive Directors (senior leaders) in the PSLWR was to reassure participants that it was ‘safe to talk’ about ‘drifting into error’ and harm. To emphasise that point at the beginning of the PSLWR a briefing was held to describe the ‘ground rules’ and explain how the PSLWR would run. In addition, the PSLWR leaflet sent to the department prior to the visit emphasised the focus: as a conversation to discover where harm happens and address the gaps and **NOT** to apportion blame.

Having become involved in the process, the Senior Executives in particular demonstrated a real will to succeed, evident in their enthusiasm to take part. The universal will to improve by the executives and senior managers might be linked to the fact that many of senior staff have worked in the organisation for a number of years and lived through the ‘darker times’ of the Parliamentary Audit Enquiry where the organisation’s governance arrangements came under public scrutiny.

10.6.1 Involving Local Managers

One of the issues that emerged from the PSLWR process was the potential for tension between visiting Executive Directors and the local managers, regarding issues that that should have been addressed previously by the local manager. By using the PSLWR as a method to find harm, there was a real sense of acceptance from the

managers, that failure (at some time) is inevitable (Beck, 1999; Noy and Ellis, 2003) from the discussions. What came across as a sub theme, within the discussions, were the manager's strong understanding of RM and the inevitability of risk in healthcare. The Organisational history (Chapter 6) of successfully introducing risk management techniques on a wide scale may have set the tone for individuals to focus on failure and how to learn from adverse incidents (Westrum, 1996; Parker, 2006; CNORIS, 2000).

With reference to the actual PSLWR process, I wanted to hear directly from those taking part; what they thought about PSLWR to find out if it was useful to them and helped them to deal with the difficulties of sharing any patient safety concerns that they had. The semi-structured interviews illuminated how individuals felt about the process, showing that PSLWR were warmly accepted by those taking part. Indeed, the majority of participants expressed explicitly their enthusiasm for the process and welcomed the new practice as an additional means to improve safety. Key issues were raised by the participants and the interviewees in relation to the PSLWR process and outcomes:

- Although at least one doctor took part in each of the PSLWR in the sample (n=38) there was a perception among those interviewed that they would like more doctors to join the discussions
- Involvement of staff in training was an unexpected benefit and produced an additional check level; or at least another view of safety in the clinical workplace. Involving and encouraging learners to disclose errors and unsafe conditions improved the teaching of patient safety within clinical practice. Interviewees also recognised the value of learners as a redundancy factor to enable practitioners to have a second pair of eyes on patient safety. For example learners brought a new perspective of the working environment constantly questioning and reminding staff of the patient safety concerns they had.

- One critical point that may have influenced their decision to participate is that, a degree of anonymity was maintained during the PSLWR by only recording the designation of those taking part
- Participants in the semi structured interviews expressed a willingness to include all disciplines in PSLWR as an opportunity to get a range of different views on safety
- Staff were critical of the current hospital patient safety systems but not PSLWR perhaps because they saw the process as a new opportunity to deal with safety in a different way.
- Before PSLWR, many staff had had never met the senior executives or had a discussion with any of them about anything, including patient safety

10.6.2 Involvement of Staff in Training and Non Clinical Staff

The potential benefits for staff in training were realised through the PSLWR process. Junior and staff in training made valuable contributions and suggestions help to reduce harm during the PSLWR discussions. PSLWR *also* made a connection for learners regarding patient safety between ‘real life’ practice at the bedside and the learning environment of the University, drawing together and closing the theory practice gaps (Evans and Quinn, 2009). The last line of defence in patient safety terms are the junior frontline staff in direct contact with the patient. These groups of employees, considered as being ‘hard to reach’ (Vincent, *et al* 2010) in safety terms and difficult to engage (Hunt, 2008) in formal safety activity were eager to take part and to share their knowledge and ideas.

Moving on to non clinical staff, around 20% (n=280) of the NHS Tayside ancillary workforce has no email access and as such, no independent means to formally record an adverse incident. One significant result from my empirical work was the extent to which the PSLWR enabled non-professional, ancillary members in PSLWR to share patient safety information. As the discussion of my results in the previous two

chapters demonstrated, they did this enthusiastically. Perhaps more important than that, the level of ‘organisational intelligence’ they shared through their open and candid conversations was remarkable. The high value of this untapped dimension; a group normally isolated from the patient safety improvement agenda was recognised by the executives as one of the most important outcomes of the PSLWR process.

10.6.3 Disclosure

It could be argued that talking about patient safety, with senior managers, is more difficult (Wu *et al*, 2009) than sending a report (Pronovost *et al*, 2003). Revealing and/or ‘confessing’ to errors that have caused or have the potential to cause actual harm is a complex area to address, particularly, when a culture of blame still pervades the NHS in general (Flin and Yule, 2004). The ability of my PSLWR system to encourage ‘difficult conversations’ (Mayer *et al*, 2009) upholds Wheatley’s work of over a decade ago recommending the harvesting of information from new sources is essential to enable the organisation to learn and adapt (1999):

“Information must actively be sought from everywhere, from places and sources people never thought to look before. And then it must circulate freely so that many people can interpret it. The intent of this new information is to keep the system off-balance, alert to how it might need to change. An open organization doesn’t look for information that makes it feel good, that verifies the past and validates its present. It is deliberately looking for information that might threaten its stability, knock it off balance, and open it to growth.”

(Wheatley, 1999: 83)

For healthcare employees to disclose something terrible that has happened another person requires a high level of trust and one that is based upon without fear of reprisal. Trust is an essential foundation for disclosing patient safety (Hall, 2005; Smith, 2005). The level of disclosure and the freedom of speech articulated by the interviewees in my empirical work suggest that, PSLWR established a high level of trust and imply that the process creates a feeling of ‘it is safe’ for staff to share patient safety concerns.

I had anticipated that the conversations might be guarded due to the hierarchical nature of the group of staff brought together and the pressure on staff to 'say the right thing' in front of managers in 'guarded conversations' (Baker *et al*, 2002). The converse happened and staff demonstrated a real empowerment by engaging in the PSLWR. During the interviews many of the interviewees commented on the participant's ability to share their fears and thoughts about safe and unsafe situations and events.

The discussion above demonstrates my achievement of the first two objectives to update and extend the limited existing data on the use and implementation of the PSLWR processes.

10.6.4 Drifting into Error

We all make mistakes. As a component of this thesis, I was drawn to the theories that help us to understand how we do that. The literature, including the early work of Beck, (1992) Giddens, (1999), and more recent work by Reason (2003); Vincent (2005) and Amalberti *et al*, (2003), highlight the inevitable nature of mistakes and errors in the everyday world of healthcare provision.

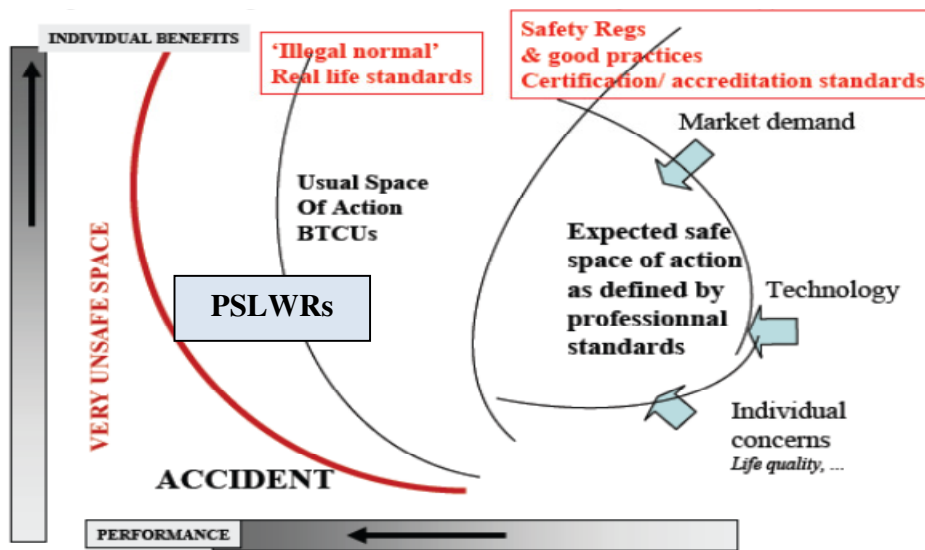
The idea of 'drifting into error' was central to this thesis. Key theorists in the field are Rasmussen (2003) and Amalberti *et al*, (2006). Several participants recognised and articulated their personal experience of 'drifting into error' (Amalberti *et al*, 2003) by describing and sharing shortcuts that they believed they had to take on a daily basis. Many participants recognised why 'they had to take' such shortcuts, e.g. working in extreme circumstances, requiring split second decisions and lack of proper implements to do their job as stipulated it should be done. The events discussed were not recorded in the formal adverse incidents system of the organisation and were therefore revealed for the very **first** time during PSLWR. Staff seemed to understand that, they are working in a system that is unsafe for patients and it is also unsafe for them. Almost complacent to the fact that they 'just need to get on with it' taking risks repeatedly often on a daily basis, having little opportunity to change. I believe that

PSLWR changed that and my empirical work demonstrated through staff participation and discussion increased awareness of the risks, to both themselves and the patients.

The interesting issue here is the increasing level of risk that we as individuals begin to tolerate, sometimes, with disastrous consequences. In healthcare, by 'drifting into error' individual practitioners tolerate increasingly risky situations. Several PSLWR participants shared examples of where departmental conditions influence their own personal drift into 'illegal normal' behaviours on a regular basis. From the dispensing of medications to the marking of the wrong limb for an operation, key examples demonstrated that the theory of drift is alive, well and flourishing in NHS Tayside healthcare practice. More worryingly, Amalberti *et al*, (2006) and colleagues suggest that the more we do it; without consequence; the greater our tolerance becomes and the more risk we take; drawn into a vicious circle of harmful behaviour. As a result of this 'drift into error' the unsafe behaviour becomes our '*illegal normal*' area of practice (Rasmussen and Amalberti, 2003:11).

A reminder of the model is presented in Figure 10.2 Systematic Migration to Boundaries. In PSLWR, a high level of tolerance was repeatedly shown by the participants' through their comments related to the shortcuts they frequently 'had' to take to get the job done. For the Executives of the organisation these discussions revealed; often routine acceptance of staff considering it safe to practice 'unsafely'. One assumption of why they do this is that nothing has happened as a consequence of their '*illegal normal*' practice either positive or negative and in some cases it actually helps them to achieve the local targets.

Figure 10.2 Systematic Migration to Boundaries



(Rasmussen and Amalberti, 2003:11)

Moving on to the discussions regarding the complexity of healthcare and the tension of improving quality of healthcare delivery versus the speed at which staff have to work to achieve governmental targets. Participants agreed with Kohn (2001); McGlynn (2003); Leatherman and Sutherland (2004), that providing reliable and safe care to every patient every time is fraught with difficulty and it is not easy *'to do the right thing every time'* due to the pressures within a complex adaptive system (Lewin, 1992). In PSLWR, during such conversations Executive Directors acknowledged the difficulties and explore with staff the particulars of such complex situations and dilemmas. PSLWR offered the opportunity for them to see firsthand how the political targets materialise into pressures in the clinical provision of care, compromising safety as a result. These conversations inevitably lead to the questions about short cuts (or drifting into error) to *'get the job done'*.

Participants revealed examples of slips, lapses and mistakes as presented in Reason's (1999) Human Factors Unsafe Acts model (see Section 3.11 and Figure 3.4). For example; there were disclosures of slips relating to medication errors, lapses (Botvnick and Bylsma, 2005): memory failures (McDowell *et al*, 2009) linked to

pressures of time and interruptions (Walsh, 2009). The routine ‘unsafe acts’ that participants discussed relates to the empirical work of McGlynn (2003) and Leatherman and Sutherland (2004). The examples highlighted the way in which clinicians missed out elements of care and make mistakes by disabling safety defences such as an IV alarm system to make sure that they complete the task in time.

10.6.5 New Issues Identified

One of my research objectives focused on updating the methods of detecting harm. Within NHS Tayside, I was interested in the issues relating to patient safety that were not previously recorded or acknowledged in any way outside of the PSLWR process. A specific question was asked during the PSLWR around the issue of ‘officially’ recording the patient safety issues discussed. The staff participating in NHS Tayside’s PSLWR identified similar safety issues related to equipment and workforce as reported in a study by Frankel *et al* (2005).

However, several new issues in relation to medication errors, delays in care and, infection issues were revealed within the NHS Tayside PSLWR including:

- At least one event that caused harm was identified in all PSLWR discussions over 50% of these had not been formally recorded in the adverse incidents system
- Over 90 % of all the issues raised during discussion had not formally been recorded in the local incident reporting system previous to the PSLWR
- ‘Near misses’ were regularly mentioned and participants seemed to have a high tolerance of such events particularly if the patient was completely unharmed. (Rasmussen and Amalberti, 2006)
- During the course of the study, over 500 new items relating to patient safety, risk or harm were identified using PSLWR

My research also revealed similar adverse incidents to the HMPS (1989) over 20 years ago revealing a range of adverse incidents including; potential wrong site surgery; delays in treatments; medication errors and treating the wrong patient. It is somewhat concerning given all the progress in medical treatments and in patient safety in past 20 years that the same errors are continuing to happen. These findings confirm the theories of Watcher (2004) and Vincent (2008) recommending that critical review of the safety interventions is crucial to ensure the research evidence is applied in practice to improve patient safety. Watcher's criticism focused on safety interventions in the American health systems and Vincent proposed more recently in the UK that, further research on evaluating patient safety is urgent.

10.7 Conclusions and Implications

Policy reviews and advice have highlighted the causes of error and harm are complex. Increased activity around adverse incidents does not necessarily equate with reductions of harm (NAO, 2005; DoH, 2008; House of Commons, 2009). Beginning with Chapter 2, a range of policy guidance documents have emphasised the need to count and rigorously review adverse incidents (NAO, 2006; DoH, 2009). Despite several years of guidance from America (IOM 2000) and the UK (DoH, 2006b, SGHD, 2010) this approach has not stemmed the error rate. Similar safety events have continued to occur (Kennedy, 2001; House of Commons, 2009) we just know more about them. Yet, the need for contemporaneous information regarding adverse incidents is essential to take action quickly, most importantly to offer the patient and their family an explanation of the harm caused (DoH 2010).

The salient issue regarding reported events versus the PSLWR information is one of anticipation and the ability of the PSLWR discussion to identify potentially risky or harmful behaviour **before** it happens. I would argue, PSLWR bring a new proactive method to go looking for harm. Relying on adverse incidents reports will, by definition, always lead to dealing with the matter of harm **after** it has happened (Reason, 2003; Vincent, 2008).

The fact that the aftermath has had to be dealt with has not necessarily triggered changes in behaviour, practice or procedure. Even where it does, any such changes cannot bring back lost lives or reverse life-changing levels of harm.

10.8 Summary

In summary, the introduction of the PSLWR as a component part of the SPI presented a unique opportunity for me to design, implement and research the PSLWR process within a UK context. The 'translational' aspect was important as the healthcare systems using the PSLWR process were, up to that point all based in America and designed to suit American healthcare systems. The language and contextual issues of the sparse literature to support implementation required a complete redesign and was critical to the start up of PSLWR in NHS Tayside. My empirical work was purposely designed to achieve the research objectives and produced the following key findings.

- The staff were eager to participate demonstrated by their attendance in large numbers (n = 218) in 38 PSLWR
- All grades of staff both professional and ancillary took part liberating otherwise unheard voices
- Considerable detail of prospective patient safety issues and adverse incidents were revealed during the process of face to face discussion facilitated by the PSLWR process in NHS Tayside
- Thematic analysis revealed 5 main themes of discussion:
 - The influence of the busy and complex nature of work
 - Infection control issues
 - Physical environment issues
 - Incomplete information regarding patient safety
 - Drifting into error
- Establishing an organisational PSLWR system in NHS Tayside appeared to be relatively simple with some caveats; reliant upon core contextual conditions being present and used for a certain purpose; a good organiser is essential as is a committed Executive Team

- Management and frontline staff agreed to take action and address 3 patient safety issues at each of the PSLWR
- Both Executives and frontline staff found in NHS Tayside found it easy to participate in and found the system useful in helping them to discuss and share patient safety issues
- Those participating believed that disclosure of harmful events through this method happened as a direct result of the PSLWR discussions and might otherwise be unknown
- At least one adverse incident was highlighted for further action during each PSLWR. None of these events were official recorded in the formal adverse incidents system.
- The opportunity to participate in PSLWR was open to all staff but the reality of wide participation across all disciplines was not fully achieved particularly in relation to:
 - Medical staff where more need to be involved
 - Non-clinical staff where more need to be involved
 - Patients and their families who need to be involved henceforth

Despite several key studies (Lilford *et al*, 2003; Vincent, 2006, Olsen *et al*, 2007; Sari *et al*, 2007), it has not been possible to determine the true level of harm in hospital systems; there is no one method able to detect all harm (Thomas and Pederson, 2003; NAO, 2009). As a result of my research, development of PSLWR in Scotland, their introduction through my practice, and interpretation through my research adds an innovative yet straightforward method for the detection and mitigation of adverse incidents. The positive results, as demonstrated in this thesis offers more hope than has been seen so far in this area of work. One of the most important elements of the PSLWR system is that it can involve **all** staff, regardless of position in the hierarchy, and brings to bear the policy intent (SGHD, 2010) that ‘patient safety is everyone’s job’. Having successfully ‘tested’ the adapted the PSLWR model within NHS Tayside, my empirical work strongly suggests that, at the very least, PSLWR could sensibly be applied as a routine system, within the wider UK Hospital systems to

inform both local and national policy and practice. As demonstrated in my results, this may be in part reliant on certain core contextual conditions being present (Powell *et al*, 2009). Important conclusions can be drawn from my work including:

- PSLWR could be used in all UK systems to enhance data and understanding of harm in healthcare in the UK
- My empirical work provides specific detail for the implementation of PSLWR within the UK and other health systems
- my design of PSLWR created new opportunities for all levels of the hierarchy to take part
- PSLWR can reduce harm within healthcare environments proactively
- my PSLWR design engaged staff more readily in safety conversations making it easier for them to participate revealing otherwise ‘unheard voices’ in patient safety
- my design and results demonstrate action and feedback can be taken quickly (Vincent (2005))
- The range of systems available to detect and address errors in NHS Tayside (and in most hospitals) is not integrated (NAO, 2005).
- my empirical research on PSLWR contributes in part to help resolve the challenge of medical engagement (Huehns and Fletcher 2010) as more medical staff engaged in PSLWR than in a formal incident reporting system during the year I gathered my empirical data (2006). Over 42 medical staff took part in the 38 PSLWR.

The PSLWR offered a chance to learn and take action on potentially harmful latent conditions. The extant literature has shown over the years that this has been an impossible task (House of Commons, 2009; Mid Staffordshire Report, 2010). One of the most important findings of my study is the level of participation and disclosure using PSLWR and I would suggest this is linked to the individual employees’ trust in the local PSLWR design. Each participant demonstrated a level of ownership of the issue of patient safety by taking part. ‘Ownership’ is recognised in the literature as a

fundamental part of any change process (Locock, 2003; Gollop *et al*, 2004; Williams *et al*, 2009).

The methods of a comprehensive case analysis, such as is presented in this thesis, will go some way to providing another view, to proactively seek out harm and address latent factors before harm could occur (or reoccur?). In sum, the methods I designed achieved a new level of engagement in patient safety, revealing a real consensus from those interviewed that the participants all demonstrated a willingness to share and disclose safety issues; and, as importantly, that some examples of what was shared were revelatory in nature. As a consequence, I would suggest that I have extended the methods of detecting error and harm in healthcare in this way.

This chapter has drawn the thesis together by highlighting: my research objectives; how they were addressed; discussing the methods used and the key findings of my empirical work. The next chapter (Chapter 11) summarises the contributions that my empirical work makes to the use of PSLWR, with a particular focus on the contributions my work makes to policy and practice in patient safety.

Chapter 11

Contributions

“I just realised today that patient safety is what MY job is all about. Seeing the problem 'in situ' was very helpful. Before [PSLWR] I would usually only see a written report. The discussions helped to describe patient safety issues in a different way that brought a three dimensional view and more detail of the adverse events and potential patient safety issues...a kind of 'what's wrong with this picture' view perhaps, even bringing a new perspective to the patient safety problems altogether.”

Director of Workforce Planning

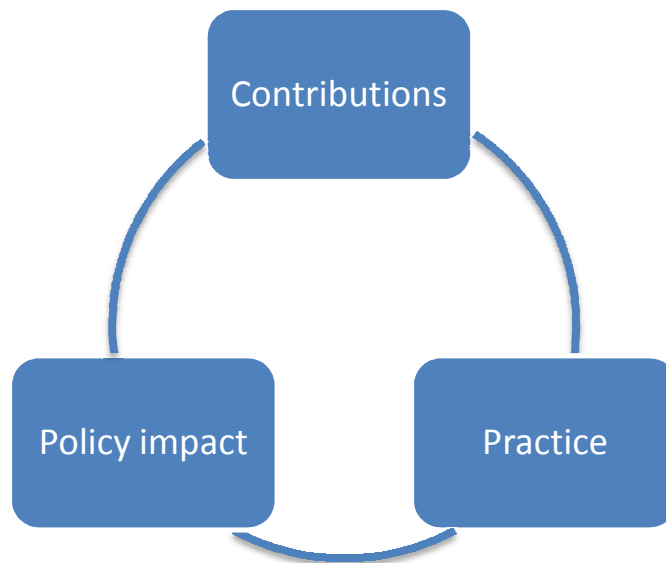
11.1 Introduction

In 2010, Watcher claimed that ten years on from the IOM report (the sentinel report for safety, Chapter 1) there are still troubling gaps. In Ovretveit's (2009) meta-analysis of improvement and safety research, he agreed and emphasised the crucial role that leaders need to play in improving safety, claiming it is yet to be realised. He suggested healthcare leaders are often missing in safety improvement programmes and not directly involved and called for more interpretive research of leadership and safety and engagement. My PSLWR research goes some way to demonstrate such involvement and provides details of methodologies of design and implementation to involve leadership in improvement in patient safety. More recently, Dixon-Woods in her recent review of ethnography, in 2010, suggested that patient safety is hard to improve as frontline staff and leaders report differing goals and accounts. Through my application of PSLWR in this research, I have been able to close that gap and bring together divergent staff groups, at all levels in the organisation in the common cause to improve safety. I would contend that, the real value of my empirical work lies in the ability of this study to simplify PSLWR to encourage widespread use in practice to discuss detect and prevent harm.

Having conducted a critically engaged literature review focussed on: the policy approaches to addressing patient safety, the application of theories on risk reduction in healthcare, detection of error and harm in Chapters 2, 3 and 4, I continued in

Chapter 5 and 6 to set patient safety in the NHS, in context, at national and local level. In Chapter 7, I presented the methodology and methods used, I engaged in my empirical work leading to the results offered in the Chapters 8 and 9. In Chapter 10, a number of conclusions and implications of my work were presented. In this Chapter (Chapter 11) I will explore the contributions my thesis makes framed around 3 key themes (Figure 11.1 below).

Figure 11.1 Chapter 11 Discussion Themes



To date there are few empirical examples of the use of PSLWR as a routine tool to improve safety. Key studies and their findings include:

- Several American healthcare systems have used PSLWR as an intervention to improve the safety culture of the organisation with positive results. In particular 3 studies were used PSLWR as an instrument to improve the safety climate(Frankel *et al*, 2003; Graham *et al*, 2005 and Frankel *et al*, 2008).
- Al Buhairain (2008) Implemented PSLWR as a policy instrument with limited impact. Summary conclusions cite a lack of understanding of the PSLWR process within the teams with a failure to take cognisance of the context in which the PSLWR were used. The PSLWR process was ill defined.

- Benn *et al*, (2009) in their review of patient safety interventions commented that PSLWR may be a safety tool that could improve feedback on safety issues.
- Woodward *et al*, (2010) used PSLWR as an intervention to reduce medical error involving only doctors. Their conclusions suggest that their example and context there was not enough evidence to demonstrate the benefits of doctors giving up the time to take part.

My study adds to the literature by providing a simplified method to engage large numbers of staff in patient safety discussions, encouraging disclosure of local patient safety issues. My unique design, methods and findings have particular significance for the improvement of both patient safety practice and policy.

11.2 Practice Contributions

It is clear from the dialogue presented in my thesis that, staff at the frontline and the senior executives were engaged and liberated by the PSLWR process, to share sensitive safety information. Such engagement demonstrates the success of my research design to achieve the research objectives only to collect preliminary data on PSLWR within a Scottish system but to extend the limited existing data on the PSLWR process. My successful application, to the Health Foundation's Safer Patients Initiative (SPI), attracted £1 million, to set up a dedicated patient safety programme in NHS Tayside. As a part of that programme this resource enabled me to design a specific research study for PSLWR.

As a result, I was able to adapt an American-orientated model for PSLWR and, to run the adaptation as a test introduction in a UK context. Thus, my research, on which this thesis is based, tested the impact of PSLWR in practice within a large teaching hospital system. My success not only in PSLWR but the Safer Patients Initiative achieved a reduction in adverse events in NHS Tayside by 63% in two years; a 30% improvement in surgical site infections and a 91% improvement in medicines safety in the acute admissions ward (SPI, 2008). These results were recognised by the

Scottish Government in October 2006 when the NHS Tayside patient safety team won the NHS Scotland, Patient Safety Top Team Award.

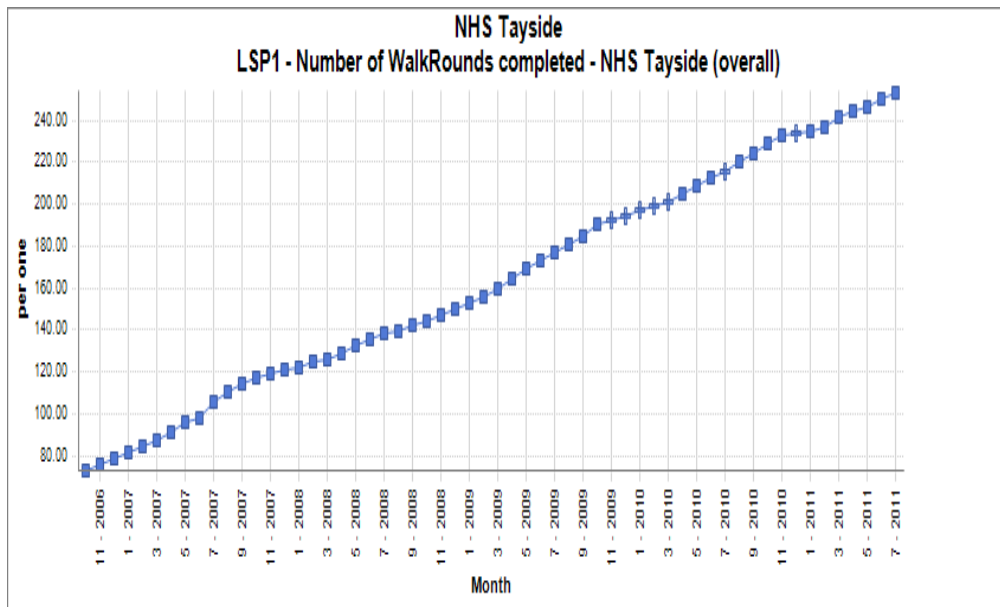
The results of my study, contribute to support both professional and policy guidance for practice regarding 'being open' and sharing patient safety concerns (NPSA, 2005; GMC, 2006; NMC, 2010; Mid Staffordshire, 2010). Key contributions to practice include:

- **the design and implementation of a simplified proactive method for PSLWR** that has devised a new system for widespread use in practice that goes looking for harm and can involve everyone in a discussion about patient safety.
- **liberating unheard voices.** My PSLWR design encouraged conversations from a socially shared silence between staff to reveal latent conditions (Lowe 2003, Reason 2003) and issues that compromise patient safety in hospital.
- **the attention of leadership to patient safety** on a routine basis in dedicated patient safety discussions (Flin *et al*, 2008).
- **new information regarding patient safety issues** within the hospital setting that was not recorded by any other means (Graham *et al* 2005 and Frankel *et al* 2008)
- **the opportunity to share good practice in relation to patient safety** interventions creating a vehicle to spread solutions throughout hospital departments. For example
 - safety briefing
 - local pictorial induction manuals for the use of technical equipment
 - check lists
 - memory aids
- **rapid feedback** on the action taken as a result of PSLWR. If nothing is done as a result of a safety reports, staff are less likely to do anything about a similar event in the future. (Benn 2009). This ability to respond quickly, begins to address some of the issues in the literature that suggest other systems such as adverse events lack the ability to feedback (Vincent, 2006) in

a timely manner (Bates and Gawande, 2003; Benn, 2009) to those who report safety concerns.

- NHS Tayside has **sustained PSLWR as a tool to help reduce harm and improve safety**. PSLWR continue within the Organisation on a weekly basis completing over 258 to date (July 2011 see figure 11.2 below). I would suggest the continuation of the PSLWR process **demonstrates the robust nature of my design** and the usefulness of the PSLWR system based on my empirical work.

Figure 11.2 NHS Tayside Number of Complete PSLWR July 2011



11.3 Policy Contributions

NHS policy is routinely developed from within NHS Government departments with minimal frontline staff input. The Safer Patients' Initiative and my patient safety work in NHS Tayside in particular, caused the opposite effect. The patient safety results in practice influenced new policy developments. My study has generated a number of broad implications for policy and practice and future research. These are listed as bullets below. They are not listed in any order of importance:

- I have produced the **first exploratory case study of PSLWR** as a new method of detecting harm within one Scottish NHS Hospital system.
- In June 2006, visit from the Chief Medical Officer for England, Wales and Northern Ireland to undertake a PSLWR was followed by **the inclusion of the my PSLWR model in the English *Safety First* (DoH 2009) Campaign.** Leadership and the PSLWR were the focus of the *Safety First* campaign launched in June 2009.
- **In March 2007, the Scottish Patient Alliance** was launched from NHS Tayside based on the patient safety work with NHS Tayside including PSLWR.
- **The Scottish Patient Safety Program was launched by the Deputy First Minister for Scotland/ Cabinet Secretary for Health in January 2007 based on NHS Tayside safety work.** The patient safety programme based on SPI, involves 5 work streams of activity in: Peri-operative care; Intensive care; General ward care; Medicines management and Leadership. The programme is underway in 37 acute hospital systems in Scotland and PSLWR are a compulsory component of the leadership work stream activity.
- In April 2008, the influence of the practice based results drew attention from the British Medical Journal and as a result a presentation at the European Quality and Safety Forum including a contribution from **my empirical work was presented by the Scottish Government titled 'From Practice to Policy' to over 150 senior European Healthcare leaders.**

- **A National review of the senior charge nurse role was undertaken** as a result of an issue raised by a senior nurse, in Tayside, during PSLWR and escalated to Government level (SGHD2008).

National policy influences and advises healthcare organisations and therefore, executive leaders to undertake patient safety improvements as demonstrated above.

11.4 Theoretical Contributions

My study adds to the theoretical debates in relation to extending the methods of detecting error and harm in healthcare. My results will contribute to the 5% of empirical studies examine the relationship between leaders and patient safety (Øvretveit 2009) in the following ways:

- my research provides **a critical review of the implementation of PSLWR**; providing a deep understanding of the contextual and conceptual realities of safety and harm through conversations about patient safety (Vincent, 2009; Øvretveit, 2009)
- from Chapter 4 **my research design for PSLWR enabled enhanced teamwork and communication for improving patient safety** adding to the Bennett and Stewart (2007)
- enhancing Frankel *et al*, (2006) model of PSLWR **beyond the use of culture measurement with contextual detail applied to the UK NHS**
- my results add to Wu's (2010) overviews of patient safety suggesting PSLWR **is a promising intervention that requires further research.**
- My contribution presented in Table 11.1 below offers the addition of PSLWR **as a method of detecting harm**, with advantages and disadvantages, framed within the model from Thomson and Pederson's (2003) as shown in Chapter 2, Table 2.2.

Table 11.1 PSLWR Contribution to Thomas and Peterson’s (2003) work

Contribution to Thomas and Petersons model of methods of detecting harm in healthcare		
Study Method	Advantage	Disadvantage
PSLWRs	Multiple views Invites all staff executives, frontline staff and patients Shares the responsibilities for action and improvement Can be proactive Easy for individuals take part Requires minimal executive training Focuses on all patient safety events Connected to all levels of the hospital system Can provide new information otherwise unknown Quickly demonstrates action taken as a result	Needs organisational administration support Requires a structured implementation framework Hindsight bias In large hospital systems can take a long time to visit all areas Cannot address all issues raised

(Adapted from Thomas and Petersons 2003)

11.5 Summary

In conclusion, my empirical work has used PSLWR, as a means, for the senior leaders in the organisation to go looking for harm; to share the burden of patient safety and to work collectively with all staff, regardless of role and status, to achieve improvements in the provision of safer patient care.

I am aware that *my* interpretations of the data and the conclusions I offer might not be those of another. I hope that, should other researchers read this thesis, they may be able to follow my research journey and propose alternative approaches to finding solutions to reduce harm for the one in ten patients admitted to hospital today who are harmed. The final chapter will offer some recommendations from this research and reflect on my personal research experience.

Chapter 12

Recommendations and Reflections

“Organisations fail to learn, in terms of patient safety, due to their inability to create a climate that inhibits speaking up about questions and concerns”.

Edmondson (2004:ii3)

12.1 Introduction

Looking back over my thesis the journey to completion has been filled with, highs and lows along the way. My tenacity got me to the end. Central to my drive to complete this work, was the idea that, working in patient safety, offers the opportunity to prevent unnecessary pain and suffering and improve patients' lives. This thesis makes a contribution to that cause. Yet, the issue of causing harm to patients during care and treatment remain. Many areas of patient safety have hardly been examined at all. Understanding the causes of harm and error is still relatively primitive (Vincent, 2010) and we do not yet have, a clear conceptual plan of how to integrate the various safety interventions together, to create a logical approach to improve safety. Patient safety in healthcare is such big problem and the causes so complex and diverse, it seemed at the beginning, as if my individual research could do little to influence the overall system of care.

Although the challenge was immense, and the cause is worthy, I do believe my empirical work makes a unique contribution to the patient safety agenda particularly, to the UK NHS. Based on the findings, this chapter will offer some recommendations for further consideration for future patient safety research, including suggestions for clinical practice. Finally, a personal reflection of the research and the research process will complete the thesis.

12.2 Recommendations

Clearly, there is scope to repeat or follow-up elements of this study at a later stage as much of the data here, have been captured, at one specific point in time. Equally, the data could be extended to include a wider range, or a larger number of NHS staff; and to include other hospitals and healthcare settings in the UK or other countries, for comparative purposes. Patient safety research is a relative new discipline and much is still to be discovered about patient harm and the means by which NHS staff can prevent that harm. Based on the conclusions in detailed in Chapter 11 there are several recommendations that I would offer future researchers considering the area of patient safety and the use of PSLWR. The recommendations are presented below in no particular order of priority.

12.2.1 Repeat the study in NHS Tayside

Given the length of time since the empirical work was undertaken it may be beneficial to repeat the study within the case study Organisation. The findings from this empirical work were overwhelming positive. I would suggest, that might be related to the initial implementation of PSLWR and 4 years on, the ‘novelty’ may have worn off. I have no empirical or anecdotal evidence to suggest this, quite the contrary; NHS Tayside continues to carry out at least one PSLWR per week completing 258 to date (July 2011). Nevertheless, a repeat study would offer longitudinal data comparison regarding PSLWR in NHS Tayside and may provide insight into the safety issues that remain and those eliminated by a range of interventions in the Scottish Patient Safety Programme (SPSP).

12.2.2 Repeat the study in all acute hospitals in Scotland

In January 2008, the SPSP was launched to begin safety improvement interventions in all of the 37 acute hospitals throughout the country. The programme includes PSLWR. Critically examining each hospitals’ approach and results from their PSLWR activity would provide a national overview of the contribution that PSLWR make to the patient safety agenda. A multi-centred (perhaps multiple case study) research design might also provide insight into the unique challenges and benefits of

PSLWR in different organisations. Examining a whole country's approach to PSLWR, throughout a diverse range of services would provide an in-depth analysis of the adaptability, utility and effectiveness of the PSLWR method, as a tool to improve safety. This type of study would provide new knowledge on the use of PSLWR in different healthcare settings as many NHS Scotland hospitals are very different in size and structure and culture. For example: Island Boards have around 300 staff, and Greater Glasgow and Clyde over 40,000 employees. As demonstrated in this thesis, contextual is important when addressing patient safety.

12.2.3 Repeat the study in the NHS within the four countries of the UK

Each devolved Government in the UK has a program to improve patient safety within the NHS. All of the programmes advise organisations to undertake PSLWR. Evaluating PSLWR implementation throughout the UK might provide valuable empirical evidence as to the usefulness and transferability of PSLWR to a range of NHS settings.

12.2.4 Inclusion of all staff groups

Although my study design was able to include some groups of staff (porters, cleaners medical staff and students) normally disengaged or excluded from the safety agenda, more of these individuals could be included PSLWR. Aside from Doctors and Nurses, many other disciplines provide healthcare and as a result will be involved in patient safety and conversely patient harm. Future studies might want to consider specific engagement with these groups. The inclusion of middle level managers could be expanded and PSLWR could be focused to include specific disciplines and groups. In addition, recently in NHS Tayside the inclusion of Non-Executive Directors (lay individuals) has brought a new perspective from the NHS Board room and connected the 'governors' of health directly with those dealing with patient safety issues.

12.2.5 Capture patients and family perspective

I did not intend to include patients and their families in my empirical work. However, three patients came forward and volunteered to take part. The patient's perspective on patient safety is fundamental to reducing harm; after all, they and their families are the ones who have to live with the consequences of iatrogenic injuries. Consideration should be given to the ways in which patients and their families could take part in PSLWR. A blanket adoption to involve patients might not be appropriate due to the confidential nature of the discussions. Another concern might be, the disclosure of patient safety issues within the department that they are receiving treatment in might cause alarm. However, patients and their families can play a critical role in patient safety and their participation in PSLWR (for those who wish to take part) could be designed.

12.2.6 Triangulation of PSLWR data with other patient safety information

As demonstrated in Chapters 2 and 6, NHS organisations have limited robust data regarding errors, harm and patient safety. A convergence of data and information sources could be considered, to understand the gaps and challenges in the level of harm within NHS care. Further consideration also needs to be given to review the spread of the actions taken as a result of the PSLWR discussions, as sustainable interventions to reduce harm

In summary, I would contend that the current empirical focus on PSLWR as a tool to measure organisational culture alone is naive. PSLWR have the potential to improve safety beyond the questions, answers and actions taken, but can also be used as a tool simply to begin a conversation about safety, in a non-threatening way. I have demonstrated that PSLWR were useful to NHS Tayside staff as an easy way for them to engage in patient safety and reduce harm in local services. However, there is a health warning that comes with such an approach- PSLWR are not a panacea to eradicate harm in healthcare. There are limitations.

12.3 Limitations

No research programme would be complete without the identification of the limitations of both, the findings of the research and the research methods. This section will offer a personal insight into the boundaries of my empirical work.

In one respect, I brought to my research considerable knowledge of; the complex history of the organisation; a lifetime experience and my own cultural professional bias; the same as every other researcher. As a participant observer, moving between the world of researcher and employee, there were personal challenges, as I attempted to balance my full-time work as a senior manager and that of a part-time researcher.

I recognise that, my research has limited scope as the study was carried out within one NHS organisation and the preliminary nature of this research necessitates future replication. The findings might not be replicable in other NHS organisations, but I would contend the methods are transferable to all NHS hospital settings

Patient harm can occur anywhere in healthcare. My research was restricted to a single case study within a single acute healthcare system. Primary care and other health systems could productively be included. This study would endorse the need for further research to include a range of cases and not just those, where patient safety was a voluntary pursuit, as in the case of NHS Tayside, as a member of the SPI programme.

12.3.1 Methods

In terms of methods used, these could be extended to include more observational or ethnographic data to ensure that some of the complex interactions and behaviours are fully appreciated. I was aware that maintaining independence would be difficult, therefore, my belief was that any conflict of interest could be acknowledged with participants to minimise the effects on the research design. The levels of disclosure and participation, suggest that, at least in part, I was successful. Given a larger sample and a wider range of staff groups, the results might be different. Further testing of the

research instruments in other SPI hospitals could have assisted a multi site research design.

12.3.2 PSLWR design

NHS Tayside is a large organisation with hospital services spread over a considerable geographical area. Visiting all departments within the organisation can take more than one year. As a result, return visits are likely to involve, different groups of staff and executives. I also acknowledge that a short 30 to 45 minute visit, with a limited number of staff cannot, capture all of the safety issues within a hospital department. The view from above (by the executives) may be very different from the view from below (frontline staff) with respect to error and harm.

PSLWR can 'fix' some safety issues but not all. Large scale changes such as hospital bed replacements throughout the entire organisation and the purchase of medical equipment over the value of £100,000, requires diversion to the normal 'queuing' system within the capital plan, for estates and maintenance. In addition the, PSLWR mechanism only works if there is action taken to address the issues that, frontline staff raised during discussion.

Participants were highly reluctant to 'whistle blow' on others. I would contend that, this might be because they appreciate how easy it is to make a mistake in the circumstances in which they work.

Participants regularly dismissed the safety issues they faced as 'system' problems. This deflective behaviour demonstrates the use of fundamental attribution error theory; where individuals blame others; ignoring the situational or environmental factors influencing the error (Jones and Harris, 1967; Ross, 1977). Individual disclosures regarding latent conditions within the organisation were important to the executive team as they are responsible for design and implementation of the systems issues. Executives responsible for policy making often have little idea of how those policies are implemented and to what extent the policy is practiced for every patient

every time. The ability to detect and address latent conditions is another area for future consideration.

In summary, the notions of sustainability and adaptability of PSLWR are open to wider scrutiny. On reflection, as a clinician, I know only too well that discussing safety can be a sensitive and difficult issue for staff to disclose. PSLWR presented an appreciation of an alternative method of dealing with mistakes or patient safety problems in a relatively less, combative manner and perhaps less formal one that others will need to test. In the final section of the thesis, I will conclude, with a personal reflection of my research journey so far.

12.3 Reflections

When I first started to consider the idea of a PhD it was merely a notion in my head and in all honesty I believed PhD's were only for the 'clever people' in the world, which certainly, did not include me. Now after nine years, of constant struggle, listening and learning about research and developing my own research design, I have a thesis. My empirical work represents a passage for me, into a world of research that I have been on the outside of, for most of my career. I believe, one the most critical aspects of undertaking a new educational endeavour, is to, once complete, step back and reflect, what I would do differently, in the hope that, others can learn from my learning and like patient safety, my mistakes.

12.4.1 The Research Topic

In the beginning, the supervisor suggested, that I choose a research a topic area. For the first two years of my studies, my research area was to be risk management and the application of risk analysis in practice, at that time recently introduced to the NHS (2000). As the supervisor warned me 'there will be many blind alleys and wrong turns in a PhD'. A major change of focus was on the horizon.

Following my successful application to the Health Foundation in June 2004 to join the SPI programme, the scope and responsibilities of my professional role changed dramatically. Almost overnight, I had a responsibility for patient safety through the

entire organisation. Not only did I have to change the way I worked, my research studies lay on fallow ground. With good advice and very little wisdom, I applied to the St Andrews Post Graduate Research Committee to consider my request, to change my research area to patient safety. The moral of the story is: have the courage of your convictions and if the direction of travel feels correct to you, as the researcher, then it is!

The new direction of travel required a great deal of effort to re-visit the literature and scope out a new research design. The research objectives were simple to develop as I had considerable knowledge of the organisation and the intentions of the PSLWR process.

12.4.2 The Research Process

For those coming after me and considering Doctorate level studies, I would offer the following personal reflections from my research:

The difficulties other researchers faced in respect of ethical approval, for me, were non-existent. I completed the forms, followed the instructions, and applied to the local Ethics Committee. Within 3 weeks approval was granted!

Writing: It took me a long time to find a writing style required for a thesis. My examiners will be the judge as to whether I have achieved that. My advice would be: write all the time. I did not and I deeply regret that. The only way to get over the fear (and insecurity of the value of the writing) is by writing anything, even if you do not consider a worthy draft. It will come eventually.

Keep going and focused on the goal of a completed thesis. It **will** be all worthwhile in the end. Undertaking a part-time PhD with a full time job was a huge challenge. At various times over the past few years each priority of either work or my research was fraught with personal challenges. Be careful what you wish for. Due to the remarkable results from the patient safety work as part of the SPI programme I was

seconded to the Scottish Government as the National Patient Safety Advisor to oversee the implementation of the Scottish Patient Safety Programme. Just what I needed, more work. Add in the ‘variety of life’ and things became very interesting **but** the PhD became almost the ‘safest’ place to keep moving forward.

12.4.3 The PSLWR Design

As a participant observer, I am privileged to have had the opportunity to discuss patient safety with frontline staff. Their skill and expertise (despite the alarming patient safety statistics), is remarkable. Listening to, and reflecting on, their disclosures around patient safety were enlightening. In the spirit of collaboration, I would involve them in an action research model for PSLWR next time.

My assumption was the Clinical Directors, (Nurse/Medical), with their lifetime of clinical, managerial expertise would be attracted to the PSLWR process, and they were. However, I was taken completely by surprise by the dedication and enthusiasm of the Non-Clinical Directors attending PSLWR. They were viewed as ‘patient safety champions’ by the frontline clinical staff. Testing a model where the non-clinical staff at all levels are involved in the research design process could shed new light on the ‘how to prevent harm’. I would also design a teaching programme for senior leaders as to how to ‘lead’ the PSLWR process. Many are good strategic thinkers but lack facilitation skills to encourage disclosure from frontline staff. Overall, primacy needs to be given to encouraging frontline healthcare teams for multidisciplinary reflection and dialogue to detect and recognise failures early.

12.5 In Summary

I believe that, this thesis has already made a significant impact, not only, on the lives of the patients within Tayside, and those working for the organisation, but has created an opportunity for everyone to get involved in improving patient safety.

The public view of NHS treatments is that they will heal, and not harm. Due in part to my empirical work, there is a real political and empirical interest in what the circumstances are that, cause patient harm in NHS Scotland and a real determination to find solutions (SGHD, 2008 and 2010). Other patient safety researchers will be able to identify with the route I have taken on my empirical journey, although, they may well take a different path. I hope my work provides encouragement and insight into some elements of patient safety research.

Finally, I want my thesis, to be thought provoking for anyone who reads it. For you the reader and me, the author, regardless of our current health status; we will be patients in the future. I hope you are *safe* in the knowledge that healthcare researchers and staff are committed to high quality patient care and the eradication of harm from our services. I want this thesis to help healthcare staff to think about patient safety and the prevention of harm with their local context.

“Simple errors can lead to the most, dire of consequences – the death of a patient. These errors should not be happening in a modern day health service. The fact that they do, is frightening for staff and patients.”

(O’Connor, 2010:93)

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Literature Search Method Map

My research topic is Patient Safety and the use of PSLWR. I focused on the literature relating to Policy Guidance and empirical work in the UK, USA, Canada, Australia, and Europe including the 'grey literature'.

I was particularly interested in studies using that included the use of:

- Qualitative approaches
- Case study method
- Participant observation
- Semi Structured Interviews

Key research phrases were used such as:

- Patient Safety, patient safety solutions including PSLWR, patient safety improvements,
- Patient harm, error in healthcare, adverse incidents /events
- Risk management, risk analysis, risk and safety
- Systems theory/ human factors/ reliability
- Short cuts /rule violations, drifting into error
- Safety culture/ leadership for patient safety/ trust and blame in healthcare

My search focused on the following web sites, search engines and journals:

www.emeraldinsight.com

www.scirus.com

www.ehealthcarebot.com

www.dh.gov.uk

www.npsf.org

www.nao.org.uk

www.evidence.nhs.uk

www.show.scot.nhs.uk

www.ncbi.nlm.nih.gov

www.who.int/entity/patientsafety/research/en/

List of Journals

Agency for Healthcare Research and Quality

Annals of Internal Medicine

British Journal of Health Care Management

British Journal of Nursing

British Journal of Management

British Medical Journal

Clinical Governance International Journal

Clinical Performance

Clinical Risk

Healthcare Management

Healthcare Risk Report

Implementation Science

International Journal of Healthcare quality assurance

Journal of Advanced Nursing

Journal of Clinical Nursing

Journal of Health Organisation Management

Journal of Health Services Research and Policy

Journal of Health Policy

Journal of Healthcare Organisation and Management

Journal of Medical Safety

Journal of Nursing Care Quality

Journal of Nurse Management

Journal of Patient Safety

Journal of Patient Safety in Surgery

Journal of the American Medical Association

Journal of the Royal Society of Medicine

Journal on Quality and Patient Safety

Leadership in Health Services

New England Journal of Medicine

Patient Safety and Quality in Healthcare

Quality and Safety in Healthcare

Summary Staff Groups

Allied Health Professionals

Chiropody

Dietetics

Operating department

Orthotics

Occupational therapy

Physiotherapist

Prosthetics

Psychology

Psychotherapy

Administration

Catering

Clinical Support Staff

Doctors

Estates

Laboratory

Laundry

Midwives

Nurses

Pharmacists

Porter

Radiographer

Radiology

Speech and Language

Tayside Acute Services

Women and
Childrens
Services

Specialist
services

Othropaedics
and A &E

Medicine

Support
Services

Critical Care

Surgery
Oncology

Appendix 6.1

NHS Tayside - Acute Services Division

Date: 31 January 2006
Completed by: Risk Management Team



	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06 SPI completed
PERIOPERATIVE MANAGEMENT												
DVT Prophylaxis												
IHI Expectation	Yellow	Yellow	Green									Green
Trust	Yellow	Yellow	Green									Green
Beta Blocker Use												
IHI Expectation	Yellow	Yellow	Red									Green
Trust	Yellow	Yellow	Red									Green
SSI Bundle												
IHI Expectation	Yellow	Yellow	Yellow	Yellow								Green
Trust	Yellow	Yellow	Yellow	Yellow								Green
SBAR												
IHI Expectation	Green	Green	Yellow									Green
Trust	Green	Green	Yellow									Green
Safety Briefings												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
MEDICINES MANAGEMENT												
Reconciliation (all points)												
IHI Expectation	Yellow	Yellow	Yellow	Yellow	Yellow							Green
Trust	Yellow	Yellow	Yellow	Yellow	Yellow							Green
Anticoagulation Management												
IHI Expectation	Yellow	Yellow	Yellow	Yellow								Green
Trust	Yellow	Yellow	Yellow	Yellow								Green
FMEA of High Risk Process												
IHI Expectation	Green	Green	Yellow									Green
Trust	Green	Green	Yellow									Green
CRITICAL CARE												
Ventilator Bundle												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
Central Line Bundle												
IHI Expectation	Yellow	Yellow	Yellow	Green								Green
Trust	Yellow	Yellow	Yellow	Green								Green
Multidisc Rounds												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
Daily Goal Sheets												
IHI Expectation	Yellow	Yellow	Yellow	Yellow								Green
Trust	Yellow	Yellow	Yellow	Yellow								Green
INFECTION CONTROL/MRSA												
Isolation/Cohorting												
IHI Expectation	Red											Green
Trust	Not applicable											Green
Hand Hygiene												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
Prevalence Survey												
IHI Expectation	Yellow	Yellow	Yellow	Yellow								Green
Trust	Not applicable											Green
LEADERSHIP												
WalkRounds												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
GENERAL WARD												
Safety Huddles												
IHI Expectation	Green	Green	Green	Green								Green
Trust	Green	Green	Green	Green								Green
SBAR												
IHI Expectation	Green	Green	Yellow									Green
Trust	Green	Green	Yellow									Green
Early Warning System/RRT												
IHI Expectation	Yellow	Yellow	Yellow	Yellow								Green
Trust	Yellow	Yellow	Yellow	Yellow								Green
MEASUREMENT SYSTEM												
IHI Expectation	Green	Green	In place for all interventions									Green
Trigger tool	Green	Green	Used to measure harm throughout Trust									Green
Legend												
Red	Tested and implemented on only one ward											
Yellow	Tested and implemented on one half of the wards or eligible patients											
Green	Tested and fully implemented on all wards or all eligible patients											

Appendix 6.2

An action research case study of the implementation of Patient Leadership Walk Rounds as an instrument of change in NHS Tayside's Acute Hospitals as a component of the Safer Patient's Initiative.

*Patricia O'Connor
Head of Risk Management
NHS Tayside*

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

Table of Content

Introduction	3
Study Rationale	4
Study Aim	5
Primary Objective	5
Secondary Objective	5
Study Design and Methods	5
Data Collection methods	6
Sample Population and Size	6
Data Collection Form	7
Data Analysis	7
Regulatory and Ethical Consideration.	7
Tayside R&D Consortium	8
School of Management	8

Appendices:

- 1 Patient safety letter of introduction**
- 2 Letter of Sponsor**
- 3 Patient safety leadership walkround leaflet**
- 4 Consent form**
- 5 Follow up action report**
- 6 Structured questions for focus group**
- 7 Example Schedule of walkrounds**
- 8 University Supervisor Letter and CV**

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

Introduction.

Patient safety:

Every healthcare system in the world has the opportunity to improve safety for the patients it cares for. Within the United States the catalyst for improvement in patient safety was the publication of the Institute of Medicine Report- Too err is Human: Building a Safer Healthcare System²⁸. The report described the gap in quality and safety in the provision of healthcare and suggested that approximately 10% of in patients are harmed as a direct result of the healthcare they receive rather than any underlying disease. The response in the UK was led by Sir Liam Donaldson the Chief Medical Officer for the Department of Health in the publication Organisation with a Memory³ declaring that the UK spent in excess of £2billion on patient harm urged organisations to rise to the challenge of the patient safety agenda. A strategy for implementation Building a Safer NHS⁴ was issued to encourage disclosure of adverse patient events and improve reporting mechanisms. The document focused on system failures and was launched by National Patient Safety Agency⁵.

The National Health Service in Scotland is not yet linked to the NPSA.

The Health Foundation called for proposals May 2004 for UK Acute NHS organisations to develop patient safety activities in hospitals. This is the first initiative within the UK to make hospitals safer for patients. The award focuses on the identified need to improve patient safety and close the gap in patient safety systems.

NHS Tayside are one of only four UK organisations successful in their bids for funding to improve patient safety within acute services. The award consists of funding approx. £1M per organisation.

Working together the Institute of Healthcare Improvement, the Health Foundation and the Acute Hospitals on the 4 sites have a tailored programme to develop patient safety goals, monitor and measure their progress. The award focuses on multiple changes throughout the organisation with the intention that each organisation becomes an exemplar in patient safety practice.

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

The programme of activities will include 4 major pillars of change

- Care Processes to increase scientific knowledge or results in practice.
- Measuring change robustly over time demonstrating the impact on the hospital safety culture. The program will use micro system incremental change piloting individual projects spreading to other services over time.
- Structural components how safety concerns are spread from the Board to all departments. How action is taken as a result?
- Impact on Culture and leadership. Absolute commitment from the CEO connected to leaders at the front line of services.

A component of the initiative is the implementation of the Patient Safety Leadership Walk rounds.

Currently the Researcher is the project Director for the Scottish site (NHS Tayside) of the NHS UK Safer Patient's Initiative.

Study Rationale

The Institute of Healthcare Improvement have implemented the Patient Safety Leadership Walkrounds in over 50 hospitals in the United States of America. Key outcomes of the research so far are:

Executives witness first hand the effects of budgetary decisions on actual operations

The concept of latent failures is more fully understood by staff

Direct actions taken by the team collectively can constitute a powerful inducement to changes in practice.

The implementation of safety walkrounds has not been tested or evaluated in the UK.

This research could provide evidence that will contribute to the knowledge regarding the transferability and sustainability of patient safety change management programs. Using Qualitative case study methods of focus group discussions and semi structured interviews . to examine the executive directors and middle managers views of the walk round processes.

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

Study Aim

The aim of the study is to determine the impact and outcomes of the patient safety leadership walk rounds on the services, staff and safety culture of NHS Tayside Acute Hospital services.

Primary research question

Can the methodology of the Patient Safety Leadership Walk rounds be transposed to a UK, Scottish Healthcare organisation and demonstrate improved patient safety outcomes?

Secondary research questions

This research will seek to

- analyse the outcomes of the process on actual changes in practice to make the care Processes, systems or environment safer for patients
- evaluate the effectiveness of establishing the walk round process within NHS Tayside
- evaluate staff engagement and perception of value in the process?
- analyse the types of issues raised error themes disclosed during issues discussed

Study Design and Methods

This study intends to use action research²⁸ within a case study²⁷ to evaluate the implementation of the implementation of patient safety leadership walkrounds.

This research will use the following methods:

Action Research-method is selected to explore the introduction of these walkrounds as a new process and one that is subject to change. This method is considered appropriate as an effective way of bringing about a change in the partially controlled environment of NHS Tayside by improving patient safety communications between Senior Executive leaders and frontline staff.

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

Case study is selected as a method to explore the implementation of the leadership walkround within NHS Tayside Acute Division. This method is chosen to determine the impact of the introduction of this process within a variety of departments involving many different staff groups within one organisation. Each department will receive an invitation letter inviting the department staff to participate (Appendix 1). Each member of staff will be given a leaflet introducing the safety walkround process (Appendix 2). A follow-up telephone call to the ward area confirms the safety walkround schedule.

Data collection methods

One or two members of the Executive team of NHS Tayside Acute Division, the Head of Risk Management (the principal researcher) and visit the department and conduct a focus group. Semi-structured interview questions (Appendix 3) will be used in the focus group setting. The meeting will take place at the most convenient location within the department as determined by the local staff. The discussions will be digitally recorded

Follow up interviews with the Executive directors (n=11) and senior leaders (n=7) and front line staff (n= 50) will be undertaken using semi-structured to evaluate the opinions of leaders and local staff in re Data collection will commence once all relevant Ethics Committees have granted approval. Potential start date June 2005 through to May 2006. The Safer Patients Initiative Steering Group (Appendix 4) have considered the protocol and agreed the research.

The Researcher acknowledges the potential for reactivity and the “*Hawthorne Effect*”³⁰ introducing a change in the behaviour of studies participants.

Sample Population and Size

This study will use purposive sample 50 walkrounds performed within NHS Tayside Acute services Division departments from May 2005 to June 2006.

All of executive directors involved in the walk round process will be interviewed (n=7). A purposive sample of seven senior managers will also be obtained to explore the managers perspective.

Patient Safety Leadership Walk Rounds

Protocol 20th May 2005

Data collection form:

By using a structured data collection process following and recording the discussions the researcher is attempting to provide a degree of objectivity and a systematic process to the collection of scientific data for this study

Data Analysis

The responses to the focus group questions will digitally recorded then entered into NHS Tayside E walk program

Regulatory and Ethical Consideration.

Relevant Ethics Committees approval will be sought prior to the commencement of this proposed study.

The Researcher has also sought and received permission to perform this study from the Professor W.J.Wells, Chief Executive, of NHS Tayside. (Appendix 7)

The Information Officer of NHS Tayside has been informed of the study and the data holding procedures (Appendix 8).

Tayside R&D Consortium

The Researcher has submitted all relevant study documents to the Tayside R&D Consortium for ethical approval, in accordance with the regulatory requirements, prior to the commencement of this study.

School of Management, St Andrews University

The post-graduate research committee of St Andrews University School of Management will also monitor the progress of this study. A letter from the supervisor is enclosed

NHS TAYSIDE EXECUTIVE PATIENT SAFETY WALK ROUND QUESTIONS

- 1. Were you able to care for your patients this week as safely as possible? If not, why not?**
- 2. Can you think of any events in the past few days or weeks that have harmed a patient or increased length of stay?**
- 3. When you are busy are there ever any circumstances when you need to take shortcuts – explain?**
- 4. Do patients and families voice concerns about patient safety?**
- 5. When errors are made how are they recorded, managed, shared and discussed?**
- 6. Communication is a key factor in safety. Can you describe the local teams processes and abilities to act as a team? (enhancing or inhibiting practices)**
- 7. Spreading good practice is a part of the walkround process. Can you highlight any local examples or specific practices you have that may prevent error e.g. memory aids, double checking**
- 8. What do you think this unit could do on a regular basis to improve patient safety?**
- 9. What specific action could the leadership team take to help improve safety for patients?**

Remember to ask them to tell at least 2 more people!!!

Appendix 7.1

Patient Safety Executive Walk Rounds – Comment Report

This is a list of comments collected at Patient Safety Executive Walkrounds during our visit to Ward 323. If you have any corrections or additions (now or in the future) to these, please let us know! Contact S. Afer on Extension 12344. The action items listed here are forwarded to senior leadership. We will provide you with ongoing follow-up as we try to address these issues. If you have any more questions about patient safety or related issue, please don't hesitate to contact us

(Date 5/4/2006) – (Ward X), A. Hospital

Present at the Round: Medical Director	Head of risk Management
Consultant	Pharmacist
Risk Management Co-ordin	Senior Charge Nurse
Senior Staff Nurse	Healthcare Assistant

Action Item Developed from This Round's Comments:

Resolve Issues in infection control

Responsible for Follow-Up: Medical Dir to contact Head of Support Services by 12/4/05

Comments Collected Relating to This Action Item:

- Patients and families voice concerns regarding cleanliness ward areas in areas a,b, c
- Schedule of cleaning limited due to staff shortages
- Domestic staff untrained to deal with such instances.

Action Item Developed from This Round's Comments:

Protocol required for changing method of drug administration

Responsible for Follow-Up: Medical Director to contact local Clinical Leader by 12/4/05

Comments Collected Relating to This Action Item:

- Staff believe too many patients are on IV antibiotics and remain on these for too long.
- No policy or protocol available for removing patients from IV .
- Impacts upon patient care at particular times throughout the day.
- In breach of antibiotic stewardship policy

Action Item Developed from This Round's Comments:

Resolve operational issues in relation to gents toilets door opening in both directions and having alarms installed in ladies washroom.

Responsible for Follow-Up: R M Co-ordinator to contact Head of Estates 12/4/05

Comments Collected Relating to This Action Item:

- Gents toilet door only opens in one direction restricting access with wheelchairs.
- Patients requiring assistance cannot alert staff due to lack of alarms in washroom.

General Issues also raised:

- Availability of monitoring equipment noted as being problematic.
- Risk to patients when staff quota depleted due to transfers to theatre/x-ray etc.
- Insufficient levels of support available when new staff commence work.

Tayside Committee on Medical Research Ethics B
Level 9
Ninewells Hospital & Medical School
DUNDEE
DD1 9SY
Telephone Number: 01382 632701
Fax Number: 01382 496207
www.nhstayside.scot.nhs.uk



Mrs Patricia O'Connor
Head of Risk Management
Safer Patients Initiative Project Director
NHS Tayside Board Headquarters
Kings Cross
Cleington Road
DUNDEE
DD3 8EA

Date 14 June 2005
Your Ref
Our Ref NFB/FB/05/S1402/41
Enquiries to Mr Nigel F Brown
Extension 32701
Direct Line 01382 632701
Email nigel.brown@tuht.scot.nhs.uk
or
fiona.bain@tuht.scot.nhs.uk

Dear Mrs O'Connor

Full title of study: An evaluation of the impact of the Institute of Healthcare Improvement's (IHI) Patient Safety Leadership Walkarounds as an instrument of change within the Safer Patients Initiative in NHS Tayside.
REC reference number: 05/S1402/41

The Research Ethics Committee reviewed the above application at the meeting held on 10 June 2005.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation. They wish, however, to make two points which you might care to take on board:

1. It is noted that you do not intend to tape record the focus groups and will use only a single scribe. You have offered to give feedback to the focus group participants, but it is suggested that you should state specifically that they will be asked to verify the accuracy of the notes that were taken (otherwise good practice would be to verify this by using two scribes for comparison).
2. You indicate the use of SPSS to manage the thematic analysis of your data. Please note that better systems exist and that the N-Vivo package is recommended for this purpose.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Application		19 May 2005
Investigator CV	Supervisor CV	(None Specified)
Investigator CV		20 May 2005
Protocol		20 May 2005



Headquarters
Kings Cross, Cleington Road, Dundee DD3 8EA

Chairperson, Mr Peter Bates
Chief Executive, Professor Tony Wells

Document	Version	Date
Letter from Sponsor		29 April 2005
Copy of Questionnaire	1	19 May 2005
Copies of Advertisements	1	19 May 2005
Letters of Invitation to Participants	1	19 May 2005
Participant Information Sheet	1	19 May 2005
Other	Case analysis	01 July 2001
Other	Walkaround schedule - 1	19 May 2005
Other	Patient Safety Executive	19 May 2005
	WalkRounds Comment sheet - 1	
Other	Letter to Information & Security Officer NHS Tayside	02 May 2005
Other	Letter from academic supervisor	22 April 2005

Management approval

The study should not commence within Tayside until you have obtained final management approval from the NHS Tayside R&D.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Notification of other bodies

The Committee Administrator will notify the research sponsor and NHS Tayside R&D that the study has a favourable ethical opinion.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

05/S1402/41

Please quote this number on all correspondence

Yours sincerely



N.F.P.
for Chair

Enclosures: Attendance at Committee meeting
Conditions of approval

Headquarters
Kings Cross, Clepington Road, Dundee DD3 8EA

Chairperson, Mr Peter Bates
Chief Executive, Professor Tony Wells



LC/LH

28 June 2005

Mrs Patricia O'Connor
Head of Risk Management
NHS Tayside Board Headquarters
Kingscross
Cleington Road
DUNDEE
DD3 8EA

Dear Mrs O'Connor,

R&D Project ID: 2005HE10

Title: An evaluation of the impact of the Institute of Healthcare Improvement's (IHI) Patient Safety Leadership Walkarounds as an instrument of change within the Safer Patients Initiative in NHS Tayside.

Congratulations on receiving support for your research. We have registered the project on the R&D Database ensuring you and your department receive full credit for your achievement.

To ensure that we do not release any sensitive information I enclose the project summary we propose to submit to the CSO for download onto the UK National Research Register. Please check this information and if you would like any changes please return it with the amendments and we will alter the database entry. If we have not had a reply within 14 days we will presume you are agreeable to this information being used.

Please note:

- It is important that all amendments to the project protocol, personnel involved and funding be notified to the R&D office as this data is required to comply with the Research Governance Framework and to ensure the Trust is aware of the research activity and status for insurance purposes.
- All research studies involving human subjects, &/or their samples, &/or their data, &/or NHS Tayside resources, &/or NHS Tayside funded personnel, all require to be registered with, &/or costed for NHS Support for Science funds by the NHS Tayside R&D office on Level 9, Ninewells Hospital & Medical School.

Kind regards

Elizabeth Coote
Non-Commercial
Research & Development Manager

Enc.

SAFER PATIENTS INITIATIVE

The Safer Patients Initiative is funded by the Health Foundation in collaboration with the Institute of Healthcare Improvement. The initiative is designed to improve patient safety in UK hospitals. The four UK sites involved are Luton and Dunstable, Down Lisburn (Ireland) and Conwy and Denbeighshire (Wales) and NHS Tayside.

The Patient Safety Leadership Walk Round process is a part of our activities within the Safer Patients Initiative. Exemplar patient safety organisations are those that are able to:

- achieve a dramatic 50 per cent reduction in adverse events
- demonstrate a system of leadership that reflects safety as a strategic priority throughout the organisational structure and takes responsibility for spreading improvement throughout the organisation and beyond
- adopt leadership roles that provide guidance and support, removing barriers and developing people to improve patient safety practices
- conduct thorough and ongoing assessments of organisational safety and act on those assessments
- establish a measurement system that reflects current safety performance
- create a culture that puts patient safety at the centre of everything they do
- demonstrate competence and capability in improvement methodologies
- spread knowledge and expertise

PATIENT SAFETY LEADERSHIP WALK ROUNDS MAY 2005



**Call 01382 424169
or Ext 71169 for more
information**

References

Frankel, A., E. Graydon-Baker, C. Nepl, T. Simmonds, M. Gustafson and T. K. Gandhi 2003 "Patient Safety Leadership Walkrounds" *Joint Commission Journal on Quality and Safety* 29 (1):16-26

Leonard M, Frankel A., Simmonds T., Vega K. *Achieving Safe and Reliable Healthcare Strategies and Solutions 2004*. Health Administration Press. Chicago IL

For further information contact

Safer Patients Initiative Project Director

Pat. O'Connor

NHS Tayside Kings Cross, Clepington Road
Dundee, DD3 8EA

Phone 01382 424169 or Int 71169

Email: pat.oconnor@thb.scot.nhs.uk

PATIENT SAFETY LEADERSHIP WALK ROUNDS

WHAT IS THE AIM OF THE WALK ROUNDS?

Dr Allan Frankel an anaesthetist from Boston, USA, designed the idea of Patient Safety Leadership Walk Rounds. Dr Frankel is also a member of the Faculty at the Institute of Healthcare Improvement. The aim of the walkround process is to

- 1.** Increase the awareness of safety issues among all clinicians
- 2.** Make safety a priority for senior leaders by spending a dedicated time promoting a safety culture
- 3.** Educate staff about patient safety concepts such as incident reporting
- 4.** Obtain and act on information gathered that identifies areas for improvement

WHO IS INVOLVED?

You and members of the Executive Team: Chief Executive, Director of Human Resources, Director of Nursing, Medical Director and the Director of Facilities. One or two members of the of the executive team will visit each area accompanied by the Head of Risk Management and a scribe to record key issues discussed.

CONSENT

All members of staff available during the visit are welcome to participate. We appreciate that this will depend on the level of patient activity and availability of staff during the walkround period. All staff that choose to participate must consent to the collection of the data for research ,learning and academic purposes.

Consent involves recording your signature and designation on a formal consent form in agreement to your responses to the questions being analysed for key patient safety themes. This information will be used for research and organisational learning purposes. No individual participant will be named.. The data will be coded to identify only the department and the designation of the responder. All members of staff have the opportunity not to participate without prejudice.

If you do wish to participate on the day please just let us know.

WHERE DOES THE WALK ROUND TAKE PLACE?

The executive team and the staff can meet and hold the discussions in any area that suits the clinical ward or department. This may be in the patient areas or in a quiet room of within the main clinical area.

WHAT HAPPENS AT THE WALK ROUND?

A member of the walk round team will explain and introduce the process including the rules for confidentiality, anonymity, and patient safety disclosures. Members of the visiting walk round team will then ask a series of structured questions. All staff participating are encouraged to respond and have their responses recorded. What will we discuss together

Your key patient safety concerns

What can we do together to improve?

Teamwork how do your local teams operate?

Communication

How can leadership help?

Incident reporting

At the end of the process we will agree at least 3 key actions to be taken forward to make the area safer for patients.

WHAT WILL HAPPEN TO THE INFORMATION WE GATHER?

We will respond to the local team within 48 hours thanking all individuals for their participation and highlighting the main areas discussed and actions to be undertaken.

Semi-Structured Interview Questions

Patient Safety Walk Rounds (PSLWR)

1. Explain the purpose of the interview confirm and obtain consent
2. Confirmation of participation in PSLWR
3. What do you consider is the purpose of the PSLWR?
4. Tell me about your experience on the PSLWRS
5. Could this the patient safety information be gather in another way?
6. Give examples
7. What did the staff talked about?
8. Why do you say that?
9. Are there any benefits of PSLWR?
10. Are there any challenges?
11. Are you aware of any shortcuts the staff discussed
12. Can you give examples?
13. Is the Time taken to long..... too shortjust right
- 13 Of the walkrounds you have been involved is their a representative group of staff participating?
- 14 If no how that could be changed?
- 15 Have you used the information from the \PSLWR process?
- 16 In what way?
- 17 Which walk round do you remember most in the past year
- 18 Why?
- 19 Are there any changes you would like to see in the PSLWR process?

May 2006

Patient Walk Round System - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://kinnoull.tayside.scot.nhs.uk:8302/ewalk_live/ewalk.cfm?CFID=347989&CFTOKEN=99215958

Tayside Patient Walk Round Safety System

WALK ROUND OVERVIEW

April 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 Walk No.21 (Completed)	2
3	4	5 Walk No.22 (Completed) Walk No.32 (Completed)	6	7	8	9
10	11	12	13	14 Walk No.23 (Completed)	15	16
17	18	19 Walk No.24 (Completed)	20	21	22	23
24	25 Walk No.25 (Completed)	26	27	28	29	30

Login again

Start Staffnet Business System... Patient Walk Round 5... NHS Tayside WalkRounds First Visit Questions - Mic...

Example Screen shot from Ewalk Walkrounds Scheduled for April 2005

Tayside NHS Board

Risk Management
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Date	6 th May 2005
	Pat.Oconnor
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Dear Staff Member

Patient Safety Leadership Walk Rounds

Patient safety is everyone's concern and we all have a role in trying to improve care for our patients. As part of the Safer Patient Initiative, NHS Tayside is implementing Patient Safety Leadership Walk Round as part of that programme. Senior executives will visit patient units and departments engaging the staff in a conversation about patient safety. The intention of Walk Rounds is to:

- Hear directly from you the concerns and issues you deal with every day that compromise patient safety
- Increase awareness of safety issues by all clinicians
- Make safety a high priority for everyone
- Allow the organisation to obtain and act on information generated from staff about safety problems and issues.

All staff available on the day, are invited to attend. As part of my research at St Andrews University, I would like to study the conversations taking place during the walkrounds. To do that, I will invite each person taking part in the Walk Round to consent to the conversation being recorded and used for research purposes. You can also choose not to take part.

In return we'd like you to tell two other people you work with about the concepts we discuss during the walk round to encourage everyone to get involved. However, anyone taking part should be reassured that all information discussed is strictly confidential and peer review protected. The organisation is interested in systems issues, not blaming individuals.

The schedule of Walk rounds will be rolled during May 2005 and units and departments will receive advance notice to enhance staff's availability to participate. We'll be going to the patient care units as well as departments that support patient services like the labs, pharmacy ,radiology and the porters to name a few. It includes all sites and we'll be visiting on all of the shifts, not just the day time! So stay tuned for when Patient Safety Leadership Walkround comes to your area.

Yours sincerely



Pat O'Connor
Head of Safety, Governance & Risk
NHS Tayside

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Departments

Date
Your Ref
Our Ref

Enquiries to
Extension
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Dear

Executive Patient Safety Walk Rounds (Research)

Thank you for taking the time to participate in the Patient Safety Walk Round held on *****
The input we received during this round was wonderful, and it helps us identify what we need to focus on in improving the safety of our patients and reducing possibilities for error.

The formal record of the discussion taken during the visit will be sent to you within 48 hours. Please check the information for accuracy and return any comments by email or just give me a call. In the meantime, if you have any more questions about patient safety or related issues for you or your department, please do not hesitate to contact me. Thanks again for your participation and support.

Yours sincerely

Pat O'Connor

***Head of Risk Management
NHS Tayside***



Headquarters
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Chairperson, Mr Sandy Watson OBE DL
Chief Executive – Professor Tony Wells
Tayside NHS Board is the common name of Tayside Health Board